TOSHIBA

# SEMICONDUCTOR GENERAL CATALOG
# 半導体製品総覧表2019年1月版

## Optical Semiconductor Devices
## 光半導体

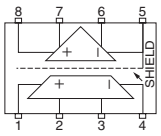
Photocouplers / フォトカプラ
Photorelays / フォトリレー
Photocouplers for Automotive / 車載用フォトカプラ
Fiber-Coupler (TOSLINK™) / ファイバカプラ（トスリンク®）

SCA0004O

# Photocouplers / フォトカプラ

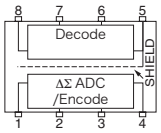
## Isolation Amplifier / アイソレーションアンプ

(Analog output) /（アナログ出力）

| Part Number | Pin Configuration | Package | Features | Gain error Ta = 25℃ | Non Linearity $NL_{200}$ Ta = 25℃ | Input offset Voltage | Supply Current Input ($I_{DD1}$)/ Output ($I_{DD2}$) (mA) | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Rank Max | Typ. | Typ. | Max | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP7820 |  | SO8L (LF4) | Analog output Isolation amplifier Gain = 8.2 (typ.) Topr (max) 105℃ | ±0.5% ±1% ±3% | 0.02% | 0.9 mV | 12/10 | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP7920 | | DIP8 | Analog output Isolation amplifier Gain = 8.2 (typ.) Topr (max) 105℃ | | | 0.73 mV | | | ○ | ○ | ○ | ○ | ○ |
| TLP7920F | | DIP8 Type F | | | | | | | | | | | |

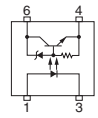
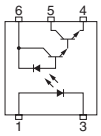
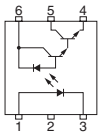
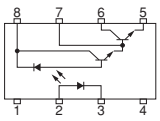
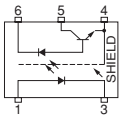
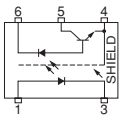
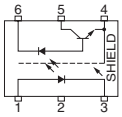
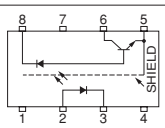
Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113 をご参照ください。

(Digital output) /（デジタル出力）

| Part Number | Pin Configuration | Package | Features | SNDR Ta = 25℃ | SNR Ta = 25℃ | INL (LSB) | Supply Current Input ($I_{DD1}$)/ Output ($I_{DD2}$) (mA) | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Typ. | Typ. | Typ. | Max | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP7830 |  | SO8L (LF4) | 1 bit Digital & CLK output Isolation amplifier Topr (max) 105℃ | 75 dB | 80 dB | 4 | 12/8.0 | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP7930 | | DIP8 | 1 bit Digital & CLK output Isolation amplifier Topr (max) 105℃ | | | | | | ○ | ○ | ○ | ○ | ○ |
| TLP7930F | | DIP8 Type F | | | | | | | | | | | |

Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113 をご参照ください。

## IC Output / IC出力
### (High Speed Communications) /（高速通信用）

| Part Number | Pin Configuration | Package | Features | Data Rate (Typ. @NRZ) | Output/CTR | @$I_{F(IN)}$ (mA) | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP2301 |  | 4 pin SO6 | Reinforced insulation<br>Low input drive current<br>Analog signal output | 20k bit/s | 50% Min | 1 | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP2701 | | 4 pin SO6L | SO6L version of the TLP2301 | 20k bit/s | 50% Min | 1 | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP2303 |  | 5 pin SO6 | Reinforced insulation<br>Low input drive current<br>Topr (max) 125℃<br>Analog signal output | 100k bit/s | 900% Min | 0.5 | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP2703 |  | SO6L | SO6L version of the TLP2303 | 100k bit/s | 900% Min | 0.5 | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP2403 |  | SO8 | SO8 version of the TLP2303 | 300k bit/s | 400% Min | 0.5 | 3750 | ○ | ○ | ○ | | |
| TLP109 |  | 5 pin SO6 | Reinforced insulation<br>Topr (max) 125℃<br>Analog signal output | 1M bit/s | 20% Min | 16 | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP2309 |  | 5 pin SO6 | Reinforced insulation<br>3.3-V/5-V power supplies<br>Topr (max) 110℃<br>Analog signal output | 1M bit/s | 15% Min | 10 | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP2719 * |  | SO6L | Reinforced insulation<br>$V_{CC}$ = 4.5 to 20 V<br>Topr (max) 100℃<br>Analog signal output | 1M bit/s | 15% Min<br>55% Max | 16 | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP2719 (LF4) * | | SO6L (LF4) | | | | | | | | | | |
| TLP2709 ** | | SO6L | Reinforced insulation<br>$V_{CC}$ = 4.5 to 20 V<br>Topr (max) 125℃<br>Direct drive of an IPM | 1M bit/s | 15% Min | 10 | 5000 | ○ | ○ | ○ | ○ | △ |
| TLP2709 (LF4) ** | | SO6L (LF4) | | | | | | | | | | |
| TLP2409 |  | SO8 | SO8 version of the TLP109 | 1M bit/s | 20% Min | 16 | 3750 | ○ | ○ | ○ | | |

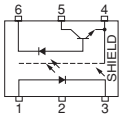
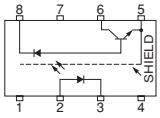
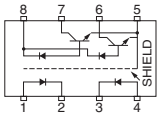
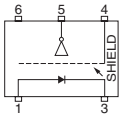
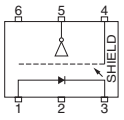
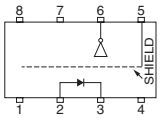
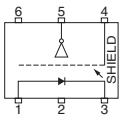
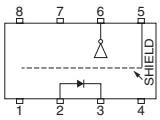
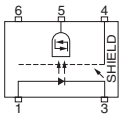
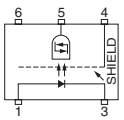
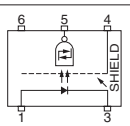
Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113 をご参照ください。

*: New product / 新製品

**: Under development / 開発中

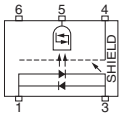
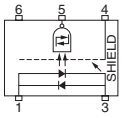
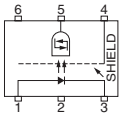
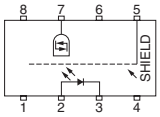
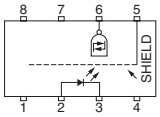
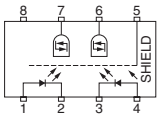
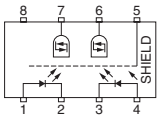
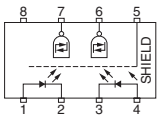
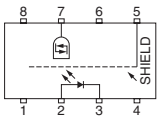
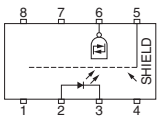
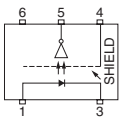
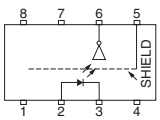
## IC Output / IC出力

(High Speed Communications) /（高速通信用）

| Part Number | Pin Configuration | Package | Features | Data Rate (Typ. @NRZ) | Output/CTR | @$I_{F(IN)}$ (mA) | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP719 |  | SDIP6 | Direct drive of an IPM<br>Analog signal output | 1M bit/s | 20% Min | 16 | 5000 | ○ | ○ | ○ | ○ | |
| TLP719F | | SDIP6 Type F | | | | | | | | | | |
| TLP759 |  | DIP8 | Analog signal output | 1M bit/s | 20% Min | 16 | 5000 | ○ | ○ | ○ | ○ | |
| TLP759F | | DIP8 Type F | | | | | | | | | | |
| TLP2530 |  | DIP8 | Dual channel<br>Analog signal output | 1M bit/s | 7% Min | 16 | 2500 | ○ | ○ | | | |
| TLP2531 | | DIP8 | Dual channel<br>Analog signal output | 1M bit/s | 19% Min | 16 | 2500 | ○ | ○ | | | |
| TLP2304 * |  | 5 pin SO6 | Reinforced insulation<br>Topr (max) 125℃<br>Direct drive of an IPM | 1M bit/s | Open-collector output<br>(Inverter logic) | $I_{FHL}$ = 5 (max) | 3750 | ○ | ○ | ○ | ○ | △ |
| TLP2704 |  | SO6L | SO6L version of the TLP2304 | 1M bit/s | Open-collector output<br>(Inverter logic) | $I_{FHL}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP2704 (LF4) | | SO6L (LF4) | | | | | | | | | | |
| TLP2404 |  | SO8 | SO8 version of the TLP2304 | 1M bit/s | Open-collector output<br>(Inverter logic) | $I_{FHL}$ = 5 (max) | 3750 | ○ | ○ | ○ | | |
| TLP714 |  | SDIP6 | Direct drive of an IPM | 1M bit/s | Open-collector output<br>(Inverter logic) | $I_{FHL}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | |
| TLP714F | | SDIP6 Type F | | | | | | | | | | |
| TLP754 |  | DIP8 | Direct drive of an IPM | 1M bit/s | Open-collector output<br>(Inverter logic) | $I_{FHL}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | |
| TLP754F | | DIP8 Type F | | | | | | | | | | |
| TLP2310 |  | 5 pin SO6 | Reinforced insulation<br>Topr (max) 125℃<br>Ultra low consumption | 5M bit/s | Totempole output<br>(Buffer logic) | $I_{FLH}$ = 1.0 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP2355 |  | 5 pin SO6 | Reinforced insulation<br>$V_{CC}$ = 3.0 to 20 V<br>Topr (max) 125℃<br>Direct drive of an IPM<br>Low input current | 5M bit/s | Totempole output<br>(Buffer logic) | $I_{FLH}$ = 1.6 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP2358 |  | 5 pin SO6 | Reinforced insulation<br>$V_{CC}$ = 3.0 to 20 V<br>Topr (max) 125℃<br>Direct drive of an IPM<br>Low input current | 5M bit/s | Totempole output<br>(Inverter logic) | $I_{FHL}$ = 1.6 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |

Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113をご参照ください。

*: New product / 新製品

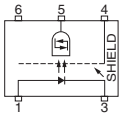
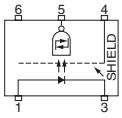
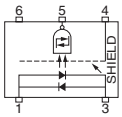
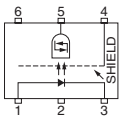
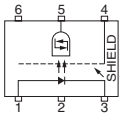
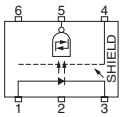
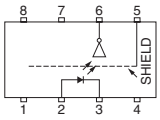
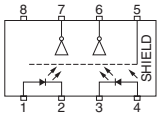
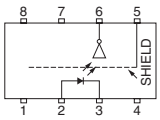
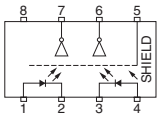
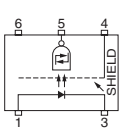
| Part Number | Pin Configuration | Package | Features | Data Rate (Typ. @NRZ) | Output/CTR | @$I_{F(IN)}$ (mA) | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP2395 |  | 5 pin SO6 | AC input version of the TLP2355 | 5M bit/s | Totempole output (Buffer logic) | $I_{FLH}$ = ±2.3 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP2398 |  | 5 pin SO6 | AC input version of the TLP2358 | 5M bit/s | Totempole output (Inverter logic) | $I_{FHL}$ = ±2.3 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP2710 |  | SO6L | SO6L version of the TLP2310 | 5M bit/s | Totempole output (Buffer logic) | $I_{FLH}$ = 1.0 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP2710 (LF4) * | | SO6L (LF4) | | | | | | | | | | |
| TLP2405 |  | SO8 | SO8 version of the TLP2355 | 5M bit/s | Totempole output (Buffer logic) | $I_{FLH}$ = 1.6 (max) | 3750 | ○ | ○ | ○ | | |
| TLP2408 |  | SO8 | SO8 version of the TLP2358 | 5M bit/s | Totempole output (Inverter logic) | $I_{FHL}$ = 1.6 (max) | 3750 | ○ | ○ | ○ | | |
| TLP2110 |  | SO8 | Dual channel version of the TLP2310 | 5M bit/s | Totempole output (Buffer logic) | $I_{FLH}$ = 1.0 (max) | 2500 | ○ | ○ | ○ | | |
| TLP2105 |  | SO8 | Dual channel version of the TLP2355 | 5M bit/s | Totempole output (Buffer logic) | $I_{FLH}$ = 1.6 (max) | 2500 | ○ | ○ | ○ | | |
| TLP2108 |  | SO8 | Dual channel version of the TLP2358 | 5M bit/s | Totempole output (Inverter logic) | $I_{FHL}$ = 1.6 (max) | 2500 | ○ | ○ | ○ | | |
| TLP2955 |  | DIP8 | Low input current $V_{CC}$ = 3.0 to 20 V Direct drive of an IPM | 5M bit/s | Totempole output (Buffer logic) | $I_{FLH}$ = 1.6 (max) | 5000 | ○ | ○ | ○ | ○ | |
| TLP2955F | | DIP8 Type F | | | | | | | | | | |
| TLP2958 |  | DIP8 | Low input current $V_{CC}$ = 3.0 to 20 V Direct drive of an IPM | 5M bit/s | Totempole output (Inverter logic) | $I_{FHL}$ = 1.6 (max) | 5000 | ○ | ○ | ○ | ○ | |
| TLP2958F | | DIP8 Type F | | | | | | | | | | |
| TLP2362 |  | 5 pin SO6 | Reinforced insulation Topr (max) 125℃ | 10M bit/s | Open-collector output (Inverter logic) | $I_{FHL}$ = 5 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLPN137 |  | DIP8 | High-speed | 10M bit/s | Open-collector output (Inverter logic) | $I_{FHL}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | |

Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113 をご参照ください。

*: New product / 新製品

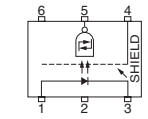
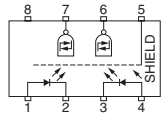
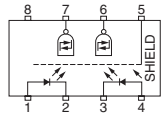
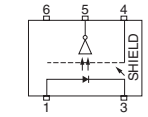
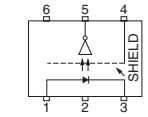
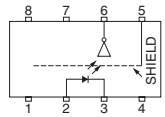
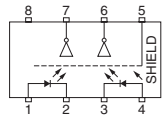
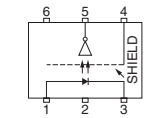
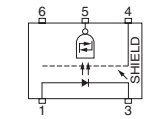
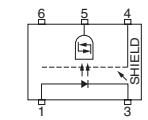
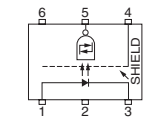
## IC Output / IC出力

(High Speed Communications) /（高速通信用）

| Part Number | Pin Configuration | Package | Features | Data Rate (Typ. @NRZ) | Output/CTR | @$I_{F(IN)}$ (mA) | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP2345 |  | 5 pin SO6 | Reinforced insulation<br>Topr (max) 110℃<br>Direct drive of an IPM | 10M bit/s | Totempole output<br>(Buffer logic) | $I_{FLH}$ = 1.6 (max) | 3750 | ○ | ○ | ○ | ○ | |
| TLP2348 |  | 5 pin SO6 | Reinforced insulation<br>Topr (max) 110℃<br>Direct drive of an IPM | 10M bit/s | Totempole output<br>(Inverter logic) | $I_{FHL}$ = 1.6 (max) | 3750 | ○ | ○ | ○ | ○ | |
| TLP2391 |  | 5 pin SO6 | AC input version of the TLP2361 | 10M bit/s | Totempole output<br>(Inverter logic) | $I_{FHL}$ = ±2.5 (max) | 3750 | ○ | ○ | ○ | ○ | |
| TLP2735 * |  | SO6L | Reinforced insulation<br>Topr (max) 125℃<br>Direct drive of an IPM<br>With UVLO function | 10M bit/s | Totempole output<br>(Buffer logic) | $I_{FLH}$ = 3.0 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP2745 |  | SO6L | SO6L version of the TLP2345 | 10M bit/s | Totempole output<br>(Buffer logic) | $I_{FLH}$ = 1.6 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP2745 (LF4) * | | SO6L (LF4) | | | | | | | | | | |
| TLP2748 |  | SO6L | SO6L version of the TLP2348 | 10M bit/s | Totempole output<br>(Inverter logic) | $I_{FHL}$ = 1.6 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP2748 (LF4) * | | SO6L (LF4) | | | | | | | | | | |
| TLP2418 |  | SO8 | Topr (max) 125℃ | 15M bit/s | Open-collector output<br>(Inverter logic) | $I_{FHL}$ = 5 (max) | 3750 | ○ | ○ | ○ | | |
| TLP2118E |  | SO8 | Dual channel version of the TLP2418 | 15M bit/s | Open-collector output<br>(Inverter logic) | $I_{FHL}$ = 5 (max) | 2500 | ○ | ○ | ○ | | |
| TLP2962 |  | DIP8 | 3.3-V/5-V power supplies | 15M bit/s | Open-collector output<br>(Inverter logic) | $I_{FHL}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | |
| TLP2962F | | DIP8 Type F | | | | | | | | | | |
| TLP2662 |  | DIP8 | Dual channel version of the TLP2962 | 15M bit/s | Open-collector output<br>(Inverter logic) | $I_{FHL}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | |
| TLP2662F | | DIP8 Type F | | | | | | | | | | |
| TLP2361 |  | 5 pin SO6 | Reinforced insulation<br>3.3-V/5-V power supplies<br>Topr (max) 125℃<br>Low input current<br>Low power consumption | 15M bit/s | Totempole output<br>(Inverter logic) | $I_{FHL}$ = 1.6 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |

Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113をご参照ください。

*: New product / 新製品

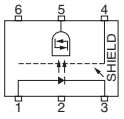
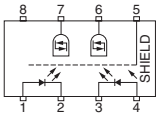
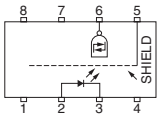
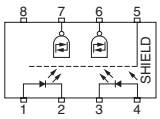
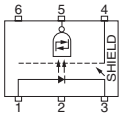
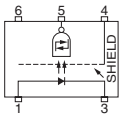
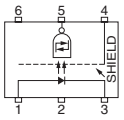
| Part Number | Pin Configuration | Package | Features | Data Rate (Typ. @NRZ) | Output/CTR | @$I_{F(IN)}$ (mA) | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP2761 |  | SO6L | SO6L version of the TLP2361 | 15M bit/s | Totempole output (Inverter logic) | $I_{FHL}$ = 1.6 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP2761 (LF4) * | | SO6L (LF4) | | | | | | | | | | |
| TLP2261 |  | SO8L (LF4) | SO8L dual version of the TLP2361 | 15M bit/s | Totempole output (Inverter logic) | $I_{FHL}$ = 1.6 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP2161 |  | SO8 | SO8 dual version of the TLP2361 | 15M bit/s | Totempole output (Inverter logic) | $I_{FHL}$ = 1.6 (max) | 2500 | ○ | ○ | ○ | | |
| TLP2368 |  | 5 pin SO6 | Reinforced insulation Topr (max) 125℃ | 20M bit/s | Open-collector output (Inverter logic) | $I_{FHL}$ = 5 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP2768A |  | SO6L | SO6L version of the TLP2368 | 20M bit/s | Open-collector output (Inverter logic) | $I_{FHL}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP2768A (LF4) * | | SO6L (LF4) | | | | | | | | | | |
| TLP2468 |  | SO8 | SO8 version of the TLP2368 | 20M bit/s | Open-collector output (Inverter logic) | $I_{FHL}$ = 5 (max) | 3750 | ○ | ○ | ○ | | |
| TLP2168 |  | SO8 | SO8 dual version of the TLP2368 | 20M bit/s | Open-collector output (Inverter logic) | $I_{FHL}$ = 5 (max) | 2500 | ○ | ○ | ○ | | |
| TLP2768 |  | SDIP6 | 3.3-V/5-V power supplies | 20M bit/s | Open-collector output (Inverter logic) | $I_{FHL}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | |
| TLP2768F | | SDIP6 Type F | | | | | | | | | | |
| TLP2366 |  | 5 pin SO6 | Reinforced insulation 3.3-V/5-V power supplies Topr (max) 125℃ | 20M bit/s | Totempole output (Inverter logic) | $I_{FHL}$ = 3.5 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP2370 |  | 5pin SO6 | Reinforced insulation 3.3-V/5-V power supplies Topr (max) 125℃ Ultra Low input current Ultra Low consumption | 20M bit/s | Totempole output (Buffer logic) | $I_{FLH}$ = 1.0 (max) | 3750 | ○ | ○ | ○ | ○ | |
| TLP2766A * |  | SO6L | SO6L version of the TLP2366 | 20M bit/s | Totempole output (Inverter logic) | $I_{FHL}$ = 3.5 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP2766A (LF4) * | | SO6L (LF4) | | | | | | | | | | |

Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113 をご参照ください。

*: New product / 新製品

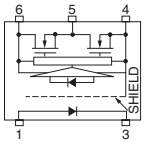
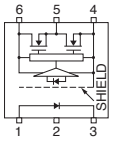
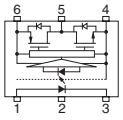
## IC Output / IC出力

(High Speed Communications) /（高速通信用）

| Part Number | Pin Configuration | Package | Features | Data Rate (Typ. @NRZ) | Output/CTR | @$I_{F(IN)}$ (mA) | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP2770 |  | SO6L | SO6L version of the TLP2370 | 20M bit/s | Totempole output (Buffer logic) | $I_{FLH}$ = 1.0 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP2270 |  | SO8L (LF4) | SO8L dual version of the TLP2370 | 20M bit/s | Totempole output (Buffer logic) | $I_{FLH}$ = 1.0 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP2466 |  | SO8 | SO8 version of the TLP2366 | 20M bit/s | Totempole output (Inverter logic) | $I_{FHL}$ = 3.5 (max) | 3750 | ○ | ○ | ○ | | |
| TLP2160 |  | 2 channels in SO8 | SO8 dual version of the TLP2366 | 20M bit/s | Totempole output (Inverter logic) | $I_{FHL}$ = 3.5 (max) | 2500 | ○ | ○ | ○ | | |
| TLP2766 |  | SDIP6 | 3.3-V/5-V power supplies | 20M bit/s | Totempole output (Inverter logic) | $I_{FHL}$ = 3.5 (max) | 5000 | ○ | ○ | ○ | ○ | |
| TLP2766F | | SDIP6 Type F | | | | | | | | | | |
| TLP2367 |  | 5 pin SO6 | Reinforced insulation 3.3-V/5-V power supplies Topr (max) 125℃ | 50M bit/s | Totempole output (Inverter logic) | $I_{FHL}$ = 4 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP2767 |  | SO6L | SO6L version of the TLP2367 | 50M bit/s | Totempole output (Inverter logic) | $I_{FHL}$ = 4 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |

Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113をご参照ください。

## (IGBT / MOSFET Gate Drive) /（IGBT / MOSFET出力用）

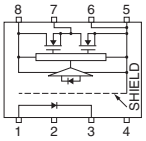
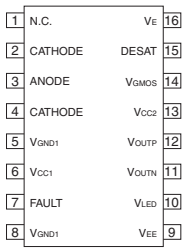
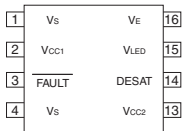
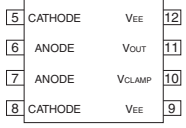
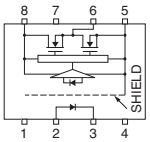
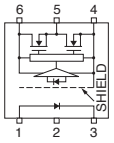
| Part Number | Pin Configuration | Package | Features | Data Rate (Typ. @NRZ) | Output/ CTR | @$I_{F(IN)}$ (mA) | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP151A |  | 5 pin SO6 | Reinforced insulation<br>Topr (max) 110℃<br>Direct drive of a small-power IGBT/MOSFET | Propagation delay time 0.5 μs (max) | Peak output current: ±0.6 A (max) | $I_{FLH}$ = 5 (max) | 3750 | ○ | ○ | ○ | ○ | |
| TLP155E | | 5 pin SO6 | Reinforced insulation<br>Topr (max) 100℃<br>Direct drive of a small-power IGBT/MOSFET | Propagation delay time 0.2 μs (max) | Peak output current: ±0.6 A (max) | $I_{FLH}$ = 7.5 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP152 | | 5 pin SO6 | Reinforced insulation<br>Topr (max) 100℃<br>Direct drive of a medium-power IGBT/MOSFET | Propagation delay time $t_{pHL}$ = 0.19 μs (max)<br>$t_{pLH}$ = 0.17 μs (max) | Peak output current: ±2.5 A (max) | $I_{FLH}$ = 7.5 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP5701 |  | SO6L | Direct drive of a medium-power IGBT/MOSFET<br>SO6L version of the TLP351A<br>Topr (max) 110℃ | Propagation delay time 0.5 μs (max) | Peak output current: ±0.6 A | $I_{FLH}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP5701 (LF4) * | | SO6L (LF4) | | | | | | | | | | |
| TLP5702 | | SO6L | Direct drive of a medium-power IGBT/MOSFET<br>Low power dissipation<br>SO6L version of the TLP352<br>Topr (max) 110℃ | Propagation delay time 0.2 μs (max) | Peak output current: ±2.5 A | $I_{FLH}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP5702 (LF4) * | | SO6L (LF4) | | | | | | | | | | |
| TLP5711H ** |  | SO6L | Direct drive of a medium-power IGBT/MOSFET<br>Rail to Rail output<br>Topr (max) 125℃<br>With glitch filter function | Propagation delay time 0.38 μs (max) | Peak output current: +2.0 A −1.0 A | $I_{FLH}$ = 2.5 (max) | 5000 | ○ | ○ | ○ | ○ | △ |
| TLP5751 | | SO6L | Direct drive of a medium-power IGBT/MOSFET<br>Rail to Rail output<br>Topr (max) 110℃ | Propagation delay time 0.15 μs (max) | Peak output current: ±1.0 A | $I_{FLH}$ = 4 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP5751 (LF4) * | | SO6L (LF4) | | | | | | | | | | |
| TLP5752 | | SO6L | Direct drive of a medium-power IGBT/MOSFET<br>Rail to Rail output<br>Topr (max) 110℃ | Propagation delay time 0.15 μs (max) | Peak output current: ±2.5 A | $I_{FLH}$ = 4 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP5752 (LF4) * | | SO6L (LF4) | | | | | | | | | | |
| TLP5754 | | SO6L | Direct drive of a medium-power IGBT/MOSFET<br>Rail to Rail output<br>Topr (max) 110℃ | Propagation delay time 0.15 μs (max) | Peak output current: ±4.0 A | $I_{FLH}$ = 4 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP5754 (LF4) * | | SO6L (LF4) | | | | | | | | | | |
| TLP5771 | | SO6L | Direct drive of a medium-power IGBT/MOSFET<br>$V_{CC}$ = 10 V (min),<br>Topr (max) 110℃<br>Rail to Rail output | Propagation delay time 0.15 μs (max) | Peak output current: ±1.0 A | $I_{FLH}$ = 2 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP5771 (LF4) * | | SO6L (LF4) | | | | | | | | | | |
| TLP5772 | | SO6L | Direct drive of a medium-power IGBT/MOSFET<br>$V_{CC}$ = 10 V (min),<br>Topr (max) 110℃<br>Rail to Rail output | Propagation delay time 0.15 μs (max) | Peak output current: ±2.5 A | $I_{FLH}$ = 2 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP5772 (LF4) * | | SO6L (LF4) | | | | | | | | | | |
| TLP5774 | | SO6L | Direct drive of a medium-power IGBT/MOSFET<br>$V_{CC}$ = 10 V (min),<br>Topr (max) 110℃<br>Rail to Rail output | Propagation delay time 0.15 μs (max) | Peak output current: ±4.0 A | $I_{FLH}$ = 2 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP5774 (LF4) * | | SO6L (LF4) | | | | | | | | | | |

Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113 をご参照ください。

*: New product / 新製品

**: Under development / 開発中

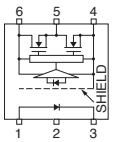
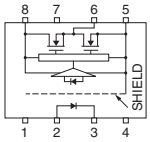
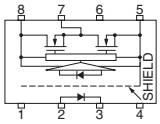
# IC Output / IC出力
## (IGBT / MOSFET Gate Drive) /（IGBT / MOSFET出力用）

| Part Number | Pin Configuration | Package | Features | Data Rate (Typ. @NRZ) | Output/ CTR | @$I_{F(IN)}$ (mA) | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP5832 |  | SO8L | Direct drive of a mediumpower IGBT/MOSFET<br>Low Power dissipation<br>Topr (max) 110℃<br>SO8L version of the TLP5702 | Propagation delay time 0.2 μs (max) | Peak output current: ±2.5 A | $I_{FLH}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | |
| TLP5231 ** |  | SO16L | Smart gate drive photocoupler<br>Dual power output stages with active timing control<br>Overcurrent protection<br>Soft shutdown<br>Topr (max) 110℃<br>Rail to Rail output | Propagation delay time 0.3 μs (max) | Peak output current: ±1.0 A | $I_{FLH}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | △ |
| TLP5214 |  | SO16L | Smart gate drive photocoupler<br>Overcurrent protection<br>Soft shutdown<br>Direct drive of a medium-power IGBT/MOSFET<br>Topr (max) 110℃<br>Rail to Rail output<br>Active miller clamp | Propagation delay time 0.15 μs (max) | Peak output current: ±4.0 A | $I_{FLH}$ = 6 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP5214A * |  | SO16L | Smart gate drive photocoupler<br>Overcurrent protection<br>Feature with DESAT leading edge blanking time, filtering time<br>Soft shutdown<br>Direct drive of a mediumpower IGBT/MOSFET<br>Topr (max) 110℃<br>Rail to Rail output<br>Active miller clamp | Propagation delay time 0.15 μs (max) | Peak output current: ±4.0 A | $I_{FLH}$ = 6 (max) | 5000 | ○ | ○ | ○ | ○ | |
| TLP2451A |  | SO8 | Direct drive of a small-power IGBT/MOSFET<br>Low power dissipation<br>Topr (max) 125℃<br>SO8 version of the TLP351A | Propagation delay time 0.5 μs (max) | Peak output current: ±0.6 A (max) | $I_{FLH}$ = 5 (max) | 3750 | ○ | ○ | ○ | | |
| TLP701A |  | SDIP6 | Direct drive of a small-power IGBT/MOSFET<br>Low power dissipation<br>SDIP version of the TLP351A | Propagation delay time 0.5 μs (max) | Peak output current: ±0.6 A (max) | $I_{FLH}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | |
| TLP701AF | | SDIP6 Type F | | | | | | | | | | |
| TLP701H | | SDIP6 | Direct drive of a small-power IGBT/MOSFET<br>Low power dissipation<br>Topr (max) 125℃<br>SDIP version of the TLP351H | Propagation delay time 0.7 μs (max) | Peak output current: ±0.6 A (max) | $I_{FLH}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | |
| TLP701HF | | SDIP6 Type F | | | | | | | | | | |
| TLP705A | | SDIP6 | Direct drive of a small-power IGBT/MOSFET<br>High-speed<br>Low power dissipation | Propagation delay time 0.2 μs (max) | Peak output current: ±0.6 A (max) | $I_{FLH}$ = 7.5 (max) | 5000 | ○ | ○ | ○ | ○ | |
| TLP705AF | | SDIP6 Type F | | | | | | | | | | |

Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113をご参照ください。

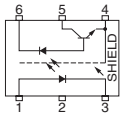
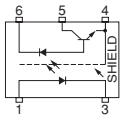
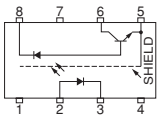
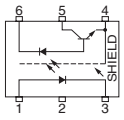
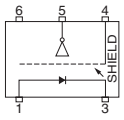
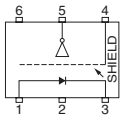
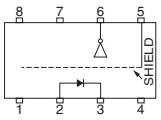
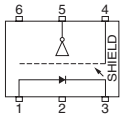
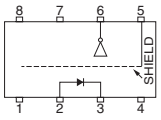
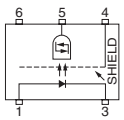
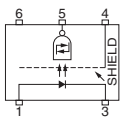
*: New product / 新製品

**: Under development / 開発中

| Part Number | Pin Configuration | Package | Features | Data Rate (Typ. @NRZ) | Output/ CTR | @$I_{F(IN)}$ (mA) | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP700A |   | SDIP6 | Direct drive of a medium-power IGBT/MOSFET SDIP version of the TLP352 | Propagation delay time 0.2 μs (max) | Peak output current: ±2.5 A (max) | $I_{FLH}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP700AF | | SDIP6 Type F | | | | | | | | | | |
| TLP700H | | SDIP6 | Direct drive of a medium-power IGBT/MOSFET Low power dissipation Topr (max) 125℃ SDIP version of the TLP350H | Propagation delay time 0.5 μs (max) | Peak output current: ±2.5 A (max) | $I_{FLH}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | |
| TLP700HF | | SDIP6 Type F | | | | | | | | | | |
| TLP351A | | DIP8 | Direct drive of a small-power IGBT/MOSFET Low power dissipation | Propagation delay time 0.5 μs (max) | Peak output current: ±0.6 A (max) | $I_{FLH}$ = 5 (max) | 3750 | ○ | ○ | ○ | ○ | |
| TLP351AF | | DIP8 Type F | | | | | | | | | | |
| TLP351H | | DIP8 | Direct drive of a small-power IGBT/MOSFET Low power dissipation Topr (max) 125℃ | Propagation delay time 0.7 μs (max) | Peak output current: ±0.6 A (max) | $I_{FLH}$ = 5 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP351HF | | DIP8 Type F | | | | | | | | | | |
| TLP250H |   | DIP8 | Direct drive of a medium-power IGBT/MOSFET Wide $V_{CC}$ 10 to 30 V Topr (max) 125℃ | Propagation delay time 0.5 μs (max) | Peak output current: ±2.5 A (max) | $I_{FLH}$ = 5 (max) | 3750 | ○ | ○ | ○ | ○ | |
| TLP250HF | | DIP8 Type F | | | | | | | | | | |
| TLP350H | | DIP8 | Direct drive of a medium-power IGBT/MOSFET Low power dissipation Topr (max) 125℃ | Propagation delay time 0.5 μs (max) | Peak output current: ±2.5 A (max) | $I_{FLH}$ = 5 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP350HF | | DIP8 Type F | | | | | | | | | | |
| TLP352 | | DIP8 | Direct drive of a medium-power IGBT/MOSFET Low power dissipation Topr (max) 125℃ | Propagation delay time 0.2 μs (max) | Peak output current: ±2.5 A (max) | $I_{FLH}$ = 5 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP352F | | DIP8 Type F | | | | | | | | | | |
| TLP358H |   | DIP8 | Direct drive of a medium-power IGBT/MOSFET Low power dissipation Topr (max) 125℃ | Propagation delay time 0.5 μs (max) | Peak output current: ±6 A (max) | $I_{FLH}$ = 5 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP358HF | | DIP8 Type F | | | | | | | | | | |

Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113 をご参照ください。

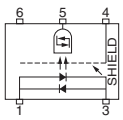
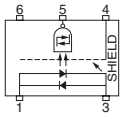
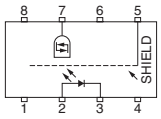
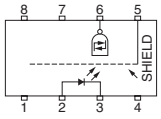
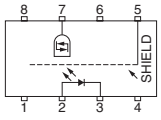
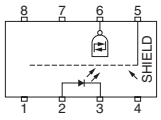
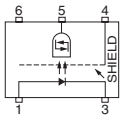
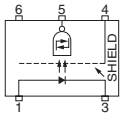
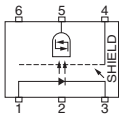
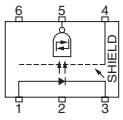
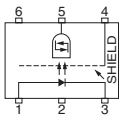
## IC Output / IC出力
### (IPM Drive) /（IPM駆動用）

| Part Number | Pin Configuration | Package | Features | Data Rate (Typ. @NRZ) | Output/CTR | @$I_{F(IN)}$ (mA) | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP2719 * |  | SO6L | Reinforced insulation $V_{CC}$ = 4.5 to 20 V Topr (max) 100℃ Analog signal output | Propagation delay time 2 μs (max) | 15% Min 55% Max | 16 | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP2719 (LF4) * | | SO6L (LF4) | | | | | | | | | | |
| TLP2709 ** | | SO6L | Reinforced insulation $V_{CC}$ = 4.5 to 20 V Topr (max) 125℃ Direct drive of an IPM | Propagation delay time 1 μs (max) | 15% Min | 10 | 5000 | ○ | ○ | ○ | ○ | △ |
| TLP2709 (LF4) ** | | SO6L (LF4) | | | | | | | | | | |
| TLP109 (IGM) |  | 5 pin SO6 | Reinforced insulation Topr (max) 125℃ Direct drive of an IPM | Propagation delay time 0.8 μs (max) | 25% Min | 10 | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP2409 |  | SO8 | SO8 version of the TLP109 | Propagation delay time 0.8 μs (max) | 20% Min | 16 | 3750 | ○ | ○ | ○ | | |
| TLP719 |  | SDIP6 | Direct drive of an IPM Analog signal output | Propagation delay time 0.8 μs (max) | 20% Min | 16 | 5000 | ○ | ○ | ○ | ○ | |
| TLP719F | | SDIP6 Type F | | | | | | | | | | |
| TLP2304 * |  | 5 pin SO6 | Reinforced insulation Topr (max) 125℃ Direct drive of an IPM | Propagation delay time 550 ns (max) | Open-collector output (Inverter logic) | $I_{FHL}$ = 5 (max) | 3750 | ○ | ○ | ○ | ○ | △ |
| TLP2704 |  | SO6L | SO6L version of the TLP2304 | Propagation delay time 550 ns (max) | Open-collector output (Inverter logic) | $I_{FHL}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP2704 (LF4) | | SO6L (LF4) | | | | | | | | | | |
| TLP2404 |  | SO8 | SO8 version of the TLP2304 | Propagation delay time 550 ns (max) | Open-collector output (Inverter logic) | $I_{FHL}$ = 5 (max) | 3750 | ○ | ○ | ○ | | |
| TLP714 |  | SDIP6 | Direct drive of an IPM | Propagation delay time 550 ns (max) | Open-collector output (Inverter logic) | $I_{FHL}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | |
| TLP714F | | SDIP6 Type F | | | | | | | | | | |
| TLP754 |  | DIP8 | Direct drive of an IPM | Propagation delay time 550 ns (max) | Open-collector output (Inverter logic) | $I_{FHL}$ = 5 (max) | 5000 | ○ | ○ | ○ | ○ | |
| TLP754F | | DIP8 Type F | | | | | | | | | | |
| TLP2355 |  | 5 pin SO6 | Reinforced insulation $V_{CC}$ = 3.0 to 20 V Topr (max) 125℃ Direct drive of an IPM Low input current | Propagation delay time 250 ns (max) | Totempole output (Buffer logic) | $I_{FLH}$ = 1.6 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP2358 |  | 5 pin SO6 | Reinforced insulation $V_{CC}$ = 3.0 to 20 V Topr (max) 125℃ Direct drive of an IPM Low input current | Propagation delay time 250 ns (max) | Totempole output (Inverter logic) | $I_{FHL}$ = 1.6 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |

Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113をご参照ください。

*: New product / 新製品

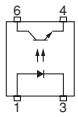
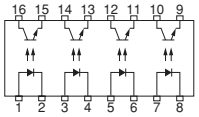
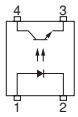
**: Under development / 開発中

| Part Number | Pin Configuration | Package | Features | Data Rate (Typ. @NRZ) | Output/CTR | @$I_{F(IN)}$ (mA) | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP2395 |  | 5 pin SO6 | AC input version of the TLP2355 | 5M bit/s | Totempole output (Buffer logic) | $I_{FLH}$ = ±2.3 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP2398 |  | 5 pin SO6 | AC input version of the TLP2358 | 5M bit/s | Totempole output (Inverter logic) | $I_{FHL}$ = ±2.3 (max) | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP2405 |  | SO8 | SO8 version of the TLP2355 | Propagation delay time 250 ns (max) | Totempole output (Buffer logic) | $I_{FLH}$ = 1.6 (max) | 3750 | ○ | ○ | ○ | | |
| TLP2408 |  | SO8 | SO8 version of the TLP2358 | Propagation delay time 250 ns (max) | Totempole output (Inverter logic) | $I_{FHL}$ = 1.6 (max) | 3750 | ○ | ○ | ○ | | |
| TLP2955 |  | DIP8 | Low input current $V_{CC}$ = 3.0 to 20 V Direct drive of an IPM | Propagation delay time 250 ns (max) | Totempole output (Buffer logic) | $I_{FLH}$ = 1.6 (max) | 5000 | ○ | ○ | ○ | ○ | |
| TLP2955F | | DIP8 Type F | | | | | | | | | | |
| TLP2958 |  | DIP8 | Low input current $V_{CC}$ = 3.0 to 20 V Direct drive of an IPM | Propagation delay time 250 ns (max) | Totempole output (Inverter logic) | $I_{FHL}$ = 1.6 (max) | 5000 | ○ | ○ | ○ | ○ | |
| TLP2958F | | DIP8 Type F | | | | | | | | | | |
| TLP2345 |  | 5 pin SO6 | Reinforced insulation Topr (max) 110℃ Direct drive of an IPM | Propagation delay time 120 ns (max) | Totempole output (Buffer logic) | $I_{FLH}$ = 1.6 (max) | 3750 | ○ | ○ | ○ | ○ | |
| TLP2348 |  | 5 pin SO6 | Reinforced insulation Topr (max) 110℃ Direct drive of an IPM | Propagation delay time 120 ns (max) | Totempole output (Inverter logic) | $I_{FHL}$ = 1.6 (max) | 3750 | ○ | ○ | ○ | ○ | |
| TLP2745 |  | SO6L | SO6L version of the TLP2345 | Propagation delay time 120 ns (max) | Totempole output (Buffer logic) | $I_{FLH}$ = 1.6 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP2745 (LF4) * | | SO6L (LF4) | | | | | | | | | | |
| TLP2748 |  | SO6L | SO6L version of the TLP2348 | Propagation delay time 120 ns (max) | Totempole output (Inverter logic) | $I_{FLH}$ = 1.6 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP2748 (LF4) * | | SO6L (LF4) | | | | | | | | | | |
| TLP2735 |  | SO6L | Reinforced insulation Topr (max) 125℃ Direct drive of an IPM With UVLO function | Propagation delay time 100 ns (max) | Totempole output (Buffer logic) | $I_{FLH}$ = 3.0 (max) | 5000 | ○ | ○ | ○ | ○ | ○ |

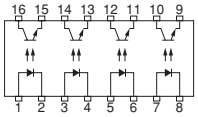
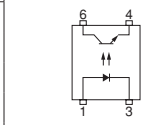
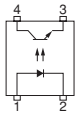
Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113 をご参照ください。

*: New product / 新製品

## Transistor Output / トランジスタ出力
(DC Input) /（DC入力）

| Part Number | Pin Configuration | Package | Features | CTR | | | | $V_{CEO}$ (V) | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Rank | Min (%) | Max (%) | @$I_F$ / $V_{CE}$ (mA) (V) | | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP183 |  | 4 pin SO6 | Reinforced insulation<br>Low input drive current<br>Topr = 125℃ (max) | — | 50 | 600 | 0.5/5 | 80 | 3750 | ○ | ○ | ○ | ○ | ○ |
| | | | | Y | 50 | 150 | | | | | | | | |
| | | | | YH | 75 | 150 | | | | | | | | |
| | | | | GR | 100 | 300 | | | | | | | | |
| | | | | GRL | 100 | 200 | | | | | | | | |
| | | | | GRH | 150 | 300 | | | | | | | | |
| | | | | GB | 100 | 600 | | | | | | | | |
| | | | | BL | 200 | 600 | | | | | | | | |
| | | | | BLL | 200 | 400 | | | | | | | | |
| TLP185 (SE | | 4 pin SO6 | Reinforced insulation<br>General-purpose | — | 50 | 600 | 5/5 | 80 | 3750 | ○ | ○ | ○ | ○ | ○ |
| | | | | Y | 50 | 150 | | | | | | | | |
| | | | | YH | 75 | 150 | | | | | | | | |
| | | | | GR | 100 | 300 | | | | | | | | |
| | | | | GRL | 100 | 200 | | | | | | | | |
| | | | | GRH | 150 | 300 | | | | | | | | |
| | | | | GB | 100 | 600 | | | | | | | | |
| | | | | BL | 200 | 600 | | | | | | | | |
| | | | | BLL | 200 | 400 | | | | | | | | |
| TLP188 | | 4 pin SO6 | Reinforced insulation<br>High $V_{CEO}$<br>$V_{CEO}$ = 350 V | — | 50 | 600 | 5/5 | 350 | 3750 | ○ | ○ | ○ | ○ | ○ |
| | | | | GB | 100 | | | | | | | | | |
| TLP291-4 |  | SO16 | 4-channel version<br>equivalent of the TLP291<br>Lead pitch: 1.27 mm | — | 50 | 400 | 5/5 | 80 | 2500 | ○ | ○ | ○ | | ○ |
| | | | | GB | 100 | 400 | | | | | | | | |
| TLP291 (SE |  | SO4 | Reinforced insulation<br>Lead pitch: 1.27 mm | — | 50 | 600 | 5/5 | 80 | 3750 | ○ | ○ | ○ | ○ | ○ |
| | | | | Y | 50 | 150 | | | | | | | | |
| | | | | YH | 75 | 150 | | | | | | | | |
| | | | | GR | 100 | 300 | | | | | | | | |
| | | | | GRL | 100 | 200 | | | | | | | | |
| | | | | GRH | 150 | 300 | | | | | | | | |
| | | | | GB | 100 | 600 | | | | | | | | |
| | | | | BL | 200 | 600 | | | | | | | | |
| | | | | BLL | 200 | 400 | | | | | | | | |
| TLP293 | | SO4 | Reinforced insulation<br>Low input drive current<br>Topr = 125℃ (max) | — | 50 | 600 | 0.5/5 | 80 | 3750 | ○ | ○ | ○ | ○ | ○ |
| | | | | Y | 50 | 150 | | | | | | | | |
| | | | | YH | 75 | 150 | | | | | | | | |
| | | | | GR | 100 | 300 | | | | | | | | |
| | | | | GRL | 100 | 200 | | | | | | | | |
| | | | | GRH | 150 | 300 | | | | | | | | |
| | | | | GB | 100 | 600 | | | | | | | | |
| | | | | BL | 200 | 600 | | | | | | | | |
| | | | | BLL | 200 | 400 | | | | | | | | |

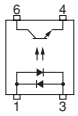
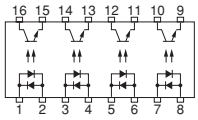
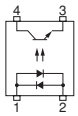
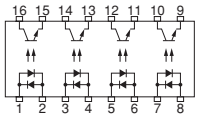
Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113をご参照ください。

| Part Number | Pin Configuration | Package | Features | CTR | | | | $V_{CEO}$ (V) | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Rank | Min (%) | Max (%) | @$I_F$ / $V_{CE}$ (mA) (V) | | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP293-4 |  | SO16 | Reinforced insulation<br>4-channel version equivalent of the TLP293<br>Lead pitch: 1.27 mm<br>Low input drive current<br>Topr = 125℃ (max) | LA | 50 | 600 | 0.5/5 | 80 | 3750 | ○ | ○ | ○ | ○ | ○ |
| | | | | LGB | 100 | | | | | | | | | |
| TLP383 |  | 4 pin SO6L | Guarantees a creepage and clearance distance of 8 mm (min)<br>Low input drive current<br>Topr = 125℃ (max) | — | 50 | 600 | 0.5/5 | 80 | 5000 | ○ | ○ | ○ | ○ | ○ |
| | | | | Y | 50 | 150 | | | | | | | | |
| | | | | YH | 75 | 150 | | | | | | | | |
| | | | | GR | 100 | 300 | | | | | | | | |
| | | | | GRL | 100 | 200 | | | | | | | | |
| | | | | GRH | 150 | 300 | | | | | | | | |
| | | | | GB | 100 | 600 | | | | | | | | |
| | | | | BL | 200 | 600 | | | | | | | | |
| | | | | BLL | 200 | 400 | | | | | | | | |
| TLP385 | | 4 pin SO6L | Guarantees a creepage and clearance distance of 8 mm (min) | — | 50 | 600 | 5/5 | 80 | 5000 | ○ | ○ | ○ | ○ | ○ |
| | | | | Y | 50 | 150 | | | | | | | | |
| | | | | YH | 75 | 150 | | | | | | | | |
| | | | | GR | 100 | 300 | | | | | | | | |
| | | | | GRL | 100 | 200 | | | | | | | | |
| | | | | GRH | 150 | 300 | | | | | | | | |
| | | | | GB | 100 | 600 | | | | | | | | |
| | | | | BL | 200 | 600 | | | | | | | | |
| | | | | BLL | 200 | 400 | | | | | | | | |
| TLP388 | | 4 pin SO6L | Reinforced insulation<br>High $V_{CEO}$<br>$V_{CEO}$ = 350 V | — | 50 | 600 | 5/5 | 350 | 5000 | ○ | ○ | ○ | ○ | ○ |
| | | | | GB | 100 | | | | | | | | | |
| TLP785 |  | DIP4 | High isolation voltage | — | 50 | 600 | 5/5 | 80 | 5000 | ○ | ○ | ○ | | ○ |
| | | | | Y | 50 | 150 | | | | | | | | |
| | | | | YH | 75 | 150 | | | | | | | | |
| | | | | GR | 100 | 300 | | | | | | | | |
| | | | | GRL | 100 | 200 | | | | | | | | |
| TLP785F | | DIP4 Type F | | GRH | 150 | 300 | | | | | | | | |
| | | | | GB | 100 | 600 | | | | | | | | |
| | | | | BL | 200 | 600 | | | | | | | | |
| | | | | BLL | 200 | 400 | | | | | | | | |

Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113 をご参照ください。

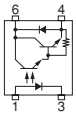
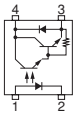
## Transistor Output / トランジスタ出力

### (AC Input) /（AC入力）

| Part Number | Pin Configuration | Package | Features | CTR | | | | $V_{CEO}$ (V) | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Rank | Min (%) | Max (%) | @$I_F$ / $V_{CE}$ (mA) (V) | | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP182 |  | 4 pin SO6 | Reinforced insulation<br>Low input drive current<br>Topr = 125℃ (max) | — | 50 | 600 | ±0.5/5 | 80 | 3750 | ○ | ○ | ○ | ○ | ○ |
| | | | | Y | 50 | 150 | | | | | | | | |
| | | | | GR | 100 | 300 | | | | | | | | |
| | | | | GB | 100 | 600 | | | | | | | | |
| | | | | BL | 200 | 600 | | | | | | | | |
| TLP184 (SE | | 4 pin SO6 | Reinforced insulation | — | 50 | 600 | ±5/5 | 80 | 3750 | ○ | ○ | ○ | ○ | ○ |
| | | | | Y | 50 | 150 | | | | | | | | |
| | | | | GR | 100 | 300 | | | | | | | | |
| | | | | GB | 100 | 600 | | | | | | | | |
| | | | | BL | 200 | 600 | | | | | | | | |
| TLP290-4 |  | SO16 | 4-channel version equivalent of the TLP290<br>Lead pitch: 1.27 mm | — | 50 | 400 | ±5/5 | 80 | 2500 | ○ | ○ | ○ | | ○ |
| | | | | GB | 100 | | | | | | | | | |
| TLP290 (SE |  | SO4 | Reinforced insulation<br>Lead pitch: 1.27 mm | — | 50 | 600 | ±5/5 | 80 | 3750 | ○ | ○ | ○ | ○ | ○ |
| | | | | Y | 50 | 150 | | | | | | | | |
| | | | | GR | 100 | 300 | | | | | | | | |
| | | | | GB | 100 | 600 | | | | | | | | |
| | | | | BL | 200 | 600 | | | | | | | | |
| TLP292 | | SO4 | Reinforced insulation<br>Low input drive current<br>Topr = 125℃ (max) | — | 50 | 600 | ±0.5/5 | 80 | 3750 | ○ | ○ | ○ | ○ | ○ |
| | | | | Y | 50 | 150 | | | | | | | | |
| | | | | GR | 100 | 300 | | | | | | | | |
| | | | | GB | 100 | 600 | | | | | | | | |
| | | | | BL | 200 | 600 | | | | | | | | |
| TLP292-4 |  | SO16 | 4-channel version equivalent of the TLP292<br>Lead pitch: 1.27 mm<br>Low input drive current<br>Topr = 125℃ (max) | LA | 50 | 600 | ±0.5/5 | 80 | 3750 | ○ | ○ | ○ | ○ | ○ |
| | | | | LGB | 100 | | | | | | | | | |

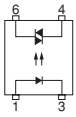
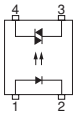
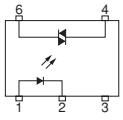
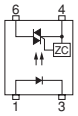
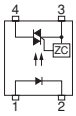
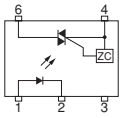
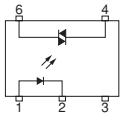
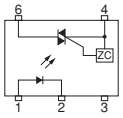
Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113をご参照ください。

### (Darlington Transistor Output) /（ダーリントントランジスタ出力）

| Part Number | Pin Configuration | Package | Features | CTR | | $V_{CE(sat)}$ | | $V_{CEO}$ (V) | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Min (%) | @$I_F$ / $V_{CE}$ (mA) (V) | Max (V) | @$I_C$ / $I_F$ (mA) | | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP187 |  | 4 pin SO6 | Reinforced insulation<br>High $V_{CEO}$ | 1000 | 1/1 | 1.2 | 100/10 | 300 | 3750 | ○ | ○ | ○ | ○ | ○ |
| TLP387 | | 4 pin SO6L | Reinforced insulation<br>High $V_{CEO}$ | 1000 | 1/1 | 1.2 | 100/10 | 300 | 5000 | ○ | ○ | ○ | ○ | ○ |
| TLP627 |  | DIP4 | High $V_{CEO}$ | 1000 | 1/1 | 1.2 | 100/10 | 300 | 5000 | ○ | ○ | ○ | | |

Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113をご参照ください。

## Triac Output / トライアック出力

| Part Number | $V_{DRM}$ (V) | Output Type | Pin Configuration | Package | $I_{FT}$ (mA) | | $V_{TM}$ (V) | | BVs 1 Minute (Vrms) | Features | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Max | Rank | Max | @$I_{TM}$ (mA) | | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP265J | 600 | NZC |  | 4pin SO6 | 10 | — | 2.8 | 70 | 3750 | (A) | ○ | ○ | ○ | ○ | ○ |
| | | | | | 7 | IFT7 | | | | | | | | | |
| TLP267J | | | | | 3 | — | 2.8 | 70 | 3750 | (A) | ○ | ○ | ○ | ○ | ○ |
| | | | | | 2 | IFT2 | | | | | | | | | |
| TLP360J | | |  | DIP4 | 10 | — | 3.0 | 100 | 5000 | | ○ | ○ | ○ | ○ | ○ |
| | | | | | 7 | IFT7 | | | | | | | | | |
| TLP360JF | | | | DIP4 Type F | 10 | — | 3.0 | 100 | 5000 | | ○ | ○ | ○ | ○ | ○ |
| | | | | | 7 | IFT7 | | | | | | | | | |
| TLP3052A * | | |  | 5pin DIP6 | 10 | — | 3.0 | 100 | 5000 | | ○ | ○ | ○ | ○ | ○ |
| TLP3052AF * | | | | 5pin DIP6 Type F | | | | | | | | | | | |
| TLP266J | | ZC |  | 4pin SO6 | 10 | — | 2.8 | 70 | 3750 | (A) | ○ | ○ | ○ | ○ | ○ |
| | | | | | 7 | IFT7 | | | | | | | | | |
| TLP268J | | | | | 3 | — | 2.8 | 70 | 3750 | (A) | ○ | ○ | ○ | ○ | ○ |
| | | | | | 2 | IFT2 | | | | | | | | | |
| TLP163J | | | | 4pin MFSO6 (cut) | 10 | — | 2.8 | 70 | 2500 | (C) | ○ | ○ | | | |
| TLP361J | | |  | DIP4 | 10 | — | 3.0 | 100 | 5000 | | ○ | ○ | ○ | ○ | ○ |
| | | | | | 7 | IFT7 | | | | | | | | | |
| TLP363J | | | | | 10 | — | 3.0 | 100 | 5000 | (C) | ○ | ○ | ○ | ○ | ○ |
| TLP361JF | | | | DIP4 Type F | 10 | — | 3.0 | 100 | 5000 | | ○ | ○ | ○ | ○ | ○ |
| | | | | | 7 | IFT7 | | | | | | | | | |
| TLP363JF | | | | | 10 | — | 3.0 | 100 | 5000 | (C) | ○ | ○ | ○ | ○ | ○ |
| TLP3062A * | | |  | 5pin DIP6 | 10 | — | 3.0 | 100 | 5000 | | ○ | ○ | ○ | ○ | ○ |
| TLP3062AF * | | | | 5pin DIP6 Type F | | | | | | | | | | | |
| TLP3064(S) | | | | 5pin DIP6 (cut) | 3 | — | 3.0 | 100 | 5000 | | ○ | ○ | ○ | ○ | |
| TLP3064F(S) | | | | 5pin DIP6 (cut) Type F | | | | | | | | | | | |
| TLP3073 * | 800 | NZC |  | 5pin DIP6 | 5 | — | 3.0 | 100 | 5000 | | ○ | ○ | ○ | ○ | ○ |
| TLP3073F * | | | | 5pin DIP6 Type F | | | | | | | | | | | |
| TLP3083 * | | ZC |  | 5pin DIP6 | 5 | — | 3.0 | 100 | 5000 | | ○ | ○ | ○ | ○ | ○ |
| TLP3083F * | | | | 5pin DIP6 Type F | | | | | | | | | | | |

Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113 をご参照ください。

*: New product / 新製品

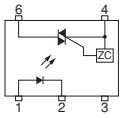
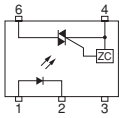
(A): Reinforced insulation / 強化絶縁対応

NZC: Non Zero Cross

(C): Impulse noise immunity $V_{IN}$ = 2000 V (typ.) / インパルスノイズ耐量 $V_{IN}$ = 2000 V (typ.)

ZC: Zero Cross

## Triac Output (Product for Japan) / トライアック出力（日本国内向け製品）

| Part Number | $V_{DRM}$ (V) | Output Type | Pin Configuration | Package | $I_{FT}$ (mA) | | $V_{TM}$ (V) | | BVs (Vrms) @1min. | Features | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Max | Rank | Max | @$I_{TM}$ (mA) | | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP663J(S) | 600 | ZC |  | 5pin DIP6 (cut) | 10 | — | 3.0 | 100 | 5000 | (C) | ○ | ○ | ○ | ○ | |
| TLP668J(S) | | | | | 3 | — | 3.0 | 100 | 5000 | | ○ | ○ | ○ | ○ | |
| TLP663JF(S) | | | | 5pin DIP6 (cut) Type F | 10 | — | 3.0 | 100 | 5000 | (C) | ○ | ○ | ○ | ○ | |
| TLP668JF(S) | | | | | 3 | — | 3.0 | 100 | 5000 | | ○ | ○ | ○ | ○ | |
| TLP669L(S) | 800 | ZC |  | 5pin DIP6 | 10 | — | 3.0 | 100 | 5000 | (B) | ○ | ○ | ○ | ○ | |
| | | | | | 5 | IFT5 | | | | | | | | | |
| TLP669LF(S) | | | | 5pin DIP6 Type F | 10 | — | 3.0 | 100 | 5000 | (B) | ○ | ○ | ○ | ○ | |
| | | | | | 5 | IFT5 | | | | | | | | | |

Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113をご参照ください。

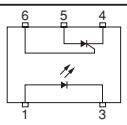
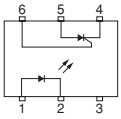
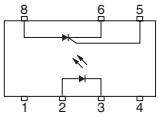
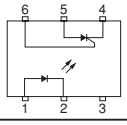
NZC: Non Zero Cross

ZC: Zero Cross

(B): Impulse noise immunity $V_{IN}$ = 1500 V (typ.) / インパルスノイズ耐量 $V_{IN}$ = 1500 V (typ.)

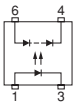
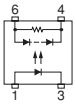
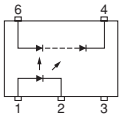
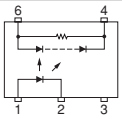
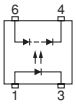
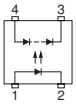
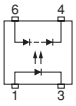
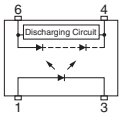
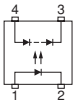
(C): Impulse noise immunity $V_{IN}$ = 2000 V (typ.) / インパルスノイズ耐量 $V_{IN}$ = 2000 V (typ.)

## Thyristor Output / サイリスタ出力

| Part Number | Pin Configuration | Package | Features | Trigger LED Current, $I_{FT}$ | Peak On-State Voltage, $V_{TM}$ | | Off-State Output Terminal Voltage $V_{DRM}$ (V) | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Max (mA) | Max (V) | @$I_{TM}$ (mA) | | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP148G |  | 5 pin MFSOP6 | General-purpose | 10 | 1.45 | 100 | 400 | 2500 | ○ | ○ | | | |
| TLP548J |  | DIP6 | General-purpose Low trigger current | 7 | 1.45 | 100 | 600 | 2500 | ○ | | | | |
| TLP549J |  | 7 pin DIP8 | Long anode-cathode distance (SCR) | 7 | 1.45 | 100 | 600 | 2500 | ○ | | | | |
| TLP748J |  | DIP6 | | 10 | 1.45 | 100 | 600 | 4000 | ○ | ○ | ○ | | |
| TLP748JF | | DIP6 Type F | | | | | | | | | | | |

Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113をご参照ください。

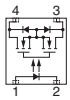
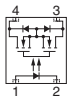
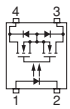
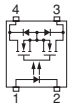
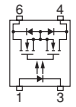
## Photovoltaic Output / フォトボル出力

| Part Number | Pin Configuration | Package | Features | Short-Circuit Current (μA) | | | Open Voltage $V_{OC}$ (V) | | BVs 1 Minute (Vrms) | Safety Standards (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Rank | Min | @$I_F$ (mA) | Min | @$I_F$ (mA) | | UL 1577 (2) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
| TLP190B |  | 4 pin MFSOP6 | | — | 12 | 10 | 7 | 10 | 2500 | ○ | ○ | | | |
| | | | | C20 | 20 | | | | | | | | | |
| TLP191B |  | 4 pin MFSOP6 | Built-in shunt resistor | — | 24 | 20 | 7 | 20 | 2500 | ○ | ○ | | | |
| TLP590B |  | 5 pin DIP6 (cut) | General-purpose | — | 12 | 10 | 7 | 10 | 2500 | ○ | | | | |
| | | | | C20 | 20 | | | | | | | | | |
| TLP591B |  | 5 pin DIP6 (cut) | Built-in shunt resistor | — | 24 | 20 | 7 | 20 | 2500 | ○ | | | | |
| TLP3902 |  | 4 pin MFSOP6 | General-purpose | — | 5 | 10 | 7 | 10 | 2500 | ○ | ○ | | | |
| TLP3904 |  | SSOP4 | General-purpose | — | 5 | 10 | 7 | 10 | 1500 | ○ | | | | |
| TLP3905 |  | 4 pin SO6 | General-purpose<br>Topr (max) 125℃ | — | 12 | 10 | 7 | 10 | 3750 | ○ | ○ | ○ | ○ | |
| | | | | C20 | 20 | | | | | | | | | |
| TLP3906 |  | 4 pin SO6 | General-purpose<br>Topr (max) 125℃<br>Built-in Discharging Circuit | — | 12 | 10 | 7 | 10 | 3750 | ○ | ○ | ○ | ○ | |
| | | | | C20 | 20 | | | | | | | | | |
| TLP3914 |  | SSOP4 | High output | — | 20 | 10 | 7 | 10 | 1500 | ○ | | | | |
| TLP3924 | | SSOP4 | High open-circuit voltage | — | 4 | 10 | 30 | 10 | 1500 | ○ | | | | |

Note (1),(2),(4),(5),(6),(7): Please refer to page 113. / P.113 をご参照ください。

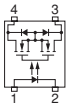
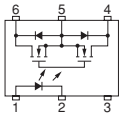
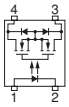
# Photorelays / フォトリレー

## 1-Form-A / 1a接点シリーズ

| Part Number | Pin Configuration | Package | $V_{OFF}$ (V) Min | $I_{ON}$ (A) Max | $R_{ON}$ (Ω) Max | $R_{ON}$ (Ω) @$I_F$ (mA) | $I_{FT}$ (mA) Max | $C_{OFF}$ (pF) Typ. | BVs 1 Minute (Vrms) | Safety Standards (1) UL 1577 (2) | UL 508 (3) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TLP3440S * |  | S-VSON4T | 40 | ±0.12 | 14 | 5 | 3 | 0.45 | 500 | | | | | | |
| TLP3406S * | | S-VSON4 | 30 | ±1.5 | 0.2 | 5 | 3 | 120 | 500 | | | | | | |
| TLP3475S * | | | 60 | ±0.4 | 1.5 | 5 | 3 | 12 | 500 | | | | | | |
| TLP3407S * | | | | ±1.0 | 0.3 | 5 | 3 | 80 | 500 | | | | | | |
| TLP3409S * | | | 100 | ±0.65 | 0.6 | 5 | 3 | 50 | 500 | | | | | | |
| TLP3450 |  | VSON4 | 20 | ±0.2 | 5 | 5 | 3 | 0.8 | 500 | | | | | | |
| TLP3431 | | | | ±0.45 | 1.2 | 5 | 3 | 5 | 500 | | | | | | |
| TLP3403 | | | | ±1 | 0.22 | 5 | 3 | 40 | 500 | | | | | | |
| TLP3442 | | | 40 | ±0.1 | 20 | 5 | 3 | 0.3 | 500 | | | | | | |
| TLP3440 | | | | ±0.12 | 14 | 5 | 3 | 0.45 | 500 | | | | | | |
| TLP3441 | | | | ±0.14 | 10 | 5 | 3 | 0.7 | 500 | | | | | | |
| TLP3475 | | | 50 | ±0.3 | 1.5 | 5 | 3 | 12 | 500 | | | | | | |
| TLP3451 | | | 60 | ±0.12 | 15 | 5 | 3 | 0.7 | 500 | | | | | | |
| TLP3412 | | | | ±0.4 | 1.5 | 5 | 3 | 20 | 500 | | | | | | |
| TLP3417 | | | 80 | ±0.12 | 12 | 5 | 3 | 5 | 500 | | | | | | |
| TLP3419 | | | | ±0.2 | 8 | 5 | 3 | 6.5 | 500 | | | | | | |
| TLP3420 | | | 100 | ±0.1 | 14 | 5 | 3 | 6 | 500 | | | | | | |
| TLP3330 |  | USOP4 | 20 | ±0.16 | 8 | 5 | 3 | 1 | 500 | ○ | | | | | |
| TLP3350 | | | | ±0.2 | 5 | 5 | 3 | 0.8 | 500 | ○ | | | | | |
| TLP3303 | | | | ±0.9 | 0.22 | 5 | 3 | 40 | 500 | ○ | | | | | |
| TLP3342 | | | 40 | ±0.1 | 20 | 5 | 3 | 0.3 | 500 | ○ | | | | | |
| TLP3340 | | | | ±0.12 | 14 | 5 | 3 | 0.45 | 500 | ○ | | | | | |
| TLP3341 | | | | ±0.14 | 10 | 5 | 3 | 0.7 | 500 | ○ | | | | | |
| TLP3315 | | | | ±0.3 | 1.5 | 5 | 3 | 10 | 500 | ○ | | | | | |
| TLP3375 | | | 50 | ±0.3 | 1.5 | 5 | 3 | 12 | 500 | ○ | | | | | |
| TLP3351 | | | 60 | ±0.12 | 15 | 5 | 3 | 0.7 | 500 | ○ | | | | | |
| TLP3312 | | | | ±0.4 | 1.5 | 5 | 3 | 20 | 500 | ○ | | | | | |
| TLP3306 | | | 75 | ±0.4 | 1.5 | 5 | 3 | 30 | 500 | ○ | | | | | |
| TLP3317 | | | 80 | ±0.12 | 12 | 5 | 3 | 5 | 500 | ○ | | | | | |
| TLP3319 | | | | ±0.2 | 8 | 5 | 3 | 6.5 | 500 | ○ | | | | | |
| TLP3320 | | | 100 | ±0.1 | 14 | 5 | 3 | 6 | 500 | ○ | | | | | |
| TLP3230 |  | SSOP4 | 20 | ±0.16 | 8 | 5 | 4 | 1 | 1500 | ○ | | | | | |
| TLP3250 | | | | ±0.2 | 5 | 5 | 3 | 0.8 | 1500 | ○ | | | | | |
| TLP3231 | | | | ±0.45 | 1.2 | 5 | 4 | 5 | 1500 | ○ | | | | | |
| TLP3203 | | | | ±0.9 | 0.22 | 5 | 3 | 40 | 1500 | ○ | | | | | |
| TLP3216 | | | 40 | ±0.12 | 15 | 5 | 4 | 1 | 1500 | ○ | | | | | |
| TLP3240 | | | | | 14 | 5 | 3 | 0.45 | 1500 | ○ | | | | | |
| TLP3241 | | | | ±0.14 | 10 | 5 | 3 | 0.7 | 1500 | ○ | | | | | |
| TLP3214 | | | | ±0.25 | 3 | 5 | 4 | 5 | 1500 | ○ | | | | | |
| TLP3215 | | | | ±0.3 | 1.5 | 5 | 4 | 10 | 1500 | ○ | | | | | |
| TLP3275 | | | 50 | ±0.3 | 1.5 | 5 | 3 | 12 | 1500 | ○ | | | | | |
| TLP3212 | | | 60 | ±0.4 | 1.5 | 5 | 5 | 20 | 1500 | ○ | | | | | |
| TLP3217 | | | 80 | ±0.12 | 12 | 5 | 5 | 5 | 1500 | ○ | | | | | |
| TLP3220 | | | 100 | ±0.08 | 14 | 10 | 5 | 6 | 1500 | ○ | | | | | |
| TLP175A |  | 4pin SO6 | 60 | ±0.1 | 50 | 2 | 1 | 10 | 3750 | ○ | | ○ | ○ | ○ | ○ |
| TLP176AM * | | | | ±0.7 | 2 | 5 | 3 | 100 | 3750 | ○ | ○ | ○ | | | |
| TLP3122A | | | | ±1.4 | 0.25 | 5 | 3 | 100 | 3750 | ○ | ○ | ○ | ○ | | |
| TLP172GM | | | 350 | ±0.11 | 50 | 5 | 3 | 30 | 3750 | ○ | ○ | ○ | ○ | | |
| TLP172GAM | | | 400 | ±0.11 | 65 | 5 | 3 | 30 | 3750 | ○ | | ○ | ○ | | |

Note (1),(2),(3),(4),(5),(6),(7): Please refer to page 113. / P.113をご参照ください。

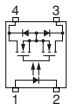
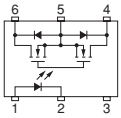
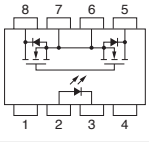
*: New product / 新製品

| Part Number | Pin Configuration | Package | $V_{OFF}$ (V) Min | $I_{ON}$ (A) Max | $R_{ON}$ (Ω) Max | $R_{ON}$ (Ω) @$I_F$ (mA) | $I_{FT}$ (mA) Max | BVs 1 Minute (Vrms) | Safety Standards (1) UL 1577 (2) | UL 508 (3) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TLP3146 * |  | 2.54SOP4 | 30 | ±3.3 | 0.05 | 5 | 3 | 1500 | ○ | | ○ | | | |
| TLP3123 | | | 40 | ±1 | 0.13 | 5 | 3 | 1500 | ○ | | ○ | ○ | | |
| TLP170A | | | 60 | ±0.4 | 2 | 2 | 1 | 1500 | ○ | | ○ | ○ | | |
| TLP171A | | | | | 2 | 0.5 | 0.2 | 1500 | ○ | | ○ | ○ | | |
| TLP3122 | | | | ±1 | 0.7 | 5 | 3 | 1500 | ○ | | ○ | ○ | | |
| TLP3127 | | | | ±1.7 | 0.13 | 5 | 3 | 1500 | ○ | | ○ | | | |
| TLP3147 * | | | | ±2.5 | 0.1 | 5 | 3 | 1500 | ○ | | ○ | | | |
| TLP3149 * | | | 100 | ±1.5 | 0.2 | 5 | 3 | 1500 | ○ | | ○ | | | |
| TLP179D | | | 200 | ±0.05 | 50 | 5 | 3 | 1500 | ○ | | ○ | | | |
| TLP170D | | | | ±0.2 | 8 | 2 | 1 | 1500 | ○ | | ○ | ○ | | |
| TLP171D | | | | | 8 | 0.5 | 0.2 | 1500 | ○ | | ○ | ○ | | |
| TLP176D | | | | | 8 | 5 | 3 | 1500 | ○ | | ○ | ○ | | |
| TLP3145 | | | | ±0.4 | 2 | 5 | 3 | 1500 | ○ | | ○ | | | |
| TLP170G | | | 350 | ±0.1 | 50 | 2 | 1 | 1500 | ○ | | ○ | ○ | | |
| TLP174G | | | | ±0.12 | 35 | 5 | 3 | 1500 | ○ | | ○ | | | |
| TLP176G | | | | | 35 | 5 | 3 | 1500 | ○ | | ○ | ○ | | |
| TLP171GA | | | 400 | ±0.1 | 35 | 0.5 | 0.2 | 1500 | ○ | | ○ | ○ | | |
| TLP174GA | | | | ±0.12 | 35 | 5 | 3 | 1500 | ○ | | | | | |
| TLP176GA | | | | | 35 | 5 | 3 | 1500 | ○ | | | ○ | | |
| TLP171J | | | 600 | ±0.07 | 60 | 0.5 | 0.2 | 1500 | ○ | | ○ | ○ | | |
| TLP170J | | | | ±0.09 | 60 | 2 | 1 | 1500 | ○ | | ○ | ○ | | |
| TLP3100 |  | 2.54SOP6 | 20 | ±2.5 | 0.05 | 5 | 3 | 1500 | ○ | | ○ | | | |
| TLP3106 | | | 30 | ±4.0 | 0.04 | 5 | 3 | 1500 | ○ | | ○ | | | |
| TLP3102 | | | 40 | ±2.5 | 0.06 | 5 | 3 | 1500 | ○ | | ○ | | | |
| TLP192A | | | 60 | ±0.4 | 2 | 5 | 3 | 1500 | ○ | | ○ | | | |
| TLP3103 | | | | ±2.3 | 0.07 | 5 | 3 | 1500 | ○ | | ○ | | | |
| TLP3107 | | | | ±3.3 | 0.06 | 5 | 3 | 1500 | ○ | | ○ | | | |
| TLP3105 | | | 100 | ±1.4 | 0.2 | 5 | 3 | 1500 | ○ | | ○ | | | |
| TLP3109 | | | | ±2.0 | 0.07 | 5 | 3 | 1500 | ○ | | ○ | | | |
| TLP199D | | | 200 | ±0.05 | 50 | 5 | 3 | 1500 | ○ | | ○ | | | |
| TLP192G | | | 350 | ±0.11 | 50 | 5 | 3 | 1500 | ○ | | ○ | | | |
| TLP197G | | | | ±0.12 | 35 | 5 | 3 | 1500 | ○ | | ○ | ○ | | |
| TLP197GA | | | 400 | ±0.12 | 35 | 5 | 3 | 1500 | ○ | | | | | |
| TLP3553 |  | DIP4 | 20 | ±3 | 0.08 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP3553A * | | | 30 | ±3.5 | 0.05 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP241A | | | 40 | ±2.0 | 0.15 | 5 | 3 | 5000 | ○ | | ○ | ○ | | |
| TLP241AF | | DIP4 Type F | | | | | | | | | | | | |
| TLP3554 | | DIP4 | | ±2.5 | 0.15 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP222A | | | 60 | ±0.5 | 2 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP240A | | | | | 2 | 5 | 3 | 5000 | ○ | ○ | ○ | ○ | | ○ |
| TLP240AF | | DIP4 Type F | | | | | | | | | | | | |
| TLP3555 | | DIP4 | | ±2 | 0.2 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP3555A * | | | | ±3 | 0.09 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP3556 | | | 100 | ±1 | 0.7 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP3556A * | | | | ±2 | 0.2 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP3558A * | | | 200 | ±0.7 | 2 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP240D | | | | ±0.25 | 8 | 5 | 3 | 5000 | ○ | ○ | ○ | ○ | | ○ |
| TLP240DF | | DIP4 Type F | | | | | | | | | | | | |
| TLP222D | | DIP4 | | ±0.3 | 8 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP240G | | | 350 | ±0.1 | 50 | 5 | 3 | 5000 | ○ | ○ | ○ | ○ | | ○ |
| TLP240GF | | DIP4 Type F | | | | | | | | | | | | |
| TLP222G | | DIP4 | | ±0.12 | 50 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP224G | | | | | 35 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP228G | | | | | 50 | 5 | 3 | 2500 | ○ | | ○ | | | |

Note (1),(2),(3),(4),(5),(6),(7): Please refer to page 113. / P.113をご参照ください。

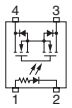
*: New product / 新製品

## 1-Form-A / 1a接点シリーズ

| Part Number | Pin Configuration | Package | $V_{OFF}$ (V) Min | $I_{ON}$ (A) Max | $R_{ON}$ (Ω) Max | $R_{ON}$ (Ω) @$I_F$ (mA) | $I_{FT}$ (mA) Max | BVs 1 Minute (Vrms) | Safety Standards (1) UL 1577 (2) | UL 508 (3) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TLP224GA |  | DIP4 | 400 | ±0.12 | 35 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP240GA | | | | | 35 | 5 | 3 | 5000 | ○ | ○ | ○ | ○ | ○ | ○ |
| TLP240GAF | | DIP4 Type F | | | | | | | | | | | | |
| TLP240J | | DIP4 | 600 | ±0.09 | 60 | 5 | 3 | 5000 | ○ | ○ | ○ | ○ | ○ | ○ |
| TLP240JF | | DIP4 Type F | | | | | | | | | | | | |
| TLP3543 |  | DIP6 | 20 | ±4 | 0.05 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP3543A * | | | 30 | ±5 | 0.04 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP3544 | | | 40 | ±3.5 | 0.06 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP592A | | | 60 | ±0.5 | 2 | 5 | 3 | 2500 | ○ | | | | | |
| TLP597A | | | | | 2 | 5 | 3 | 2500 | ○ | | | | | |
| TLP598AA | | | | | 2 | 5 | 3 | 2500 | ○ | | | | | |
| TLP3542 | | | | ±2.5 | 0.1 | 10 | 3 | 2500 | ○ | | ○ | | | |
| TLP3545 | | | | ±3 | 0.07 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP3545A * | | | | ±4 | 0.06 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP3546 | | | 100 | ±2 | 0.2 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP3546A * | | | | ±3.5 | 0.08 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP592G | | | 350 | ±0.12 | 50 | 5 | 3 | 2500 | ○ | | | | | |
| TLP597G | | | | | 35 | 5 | 3 | 2500 | ○ | | | ○ | | |
| TLP597GA | | | 400 | ±0.12 | 35 | 5 | 3 | 2500 | ○ | | | | | |
| TLP797GA | | | | | 35 | 5 | 3 | 5000 | ○ | | ○ | ○ | | |
| TLP797GAF | | DIP6 Type F | | | | | | | | | | | | |
| TLP598GA | | DIP6 | | ±0.15 | 12 | 5 | 3 | 2500 | ○ | | | | | |
| TLP798GA | | | | | 12 | 5 | 5 | 5000 | ○ | | ○ | | | |
| TLP797J | | | 600 | ±0.1 | 45 | 10 | 5 | 5000 | ○ | | ○ | ○ | | |
| TLP797JF | | DIP6 Type F | | | | | | | | | | | | |
| TLP3547 |  | DIP8 | 60 | ±5.0 | 0.05 | 5 | 5 | 2500 | ○ | | ○ | | | |
| TLP3548 | | | 400 | ±0.4 | 5 | 2 | 1 | 2500 | ○ | | ○ | | | |
| TLP3549 | | | 600 | ±0.6 | 2 | 5 | 5 | 2500 | ○ | | ○ | | | |
| TLP3823 | | | 100 | ±3 | 0.15 | 5 | 5 | 2500 | ○ | | ○ | | | |
| TLP3825 | | | 200 | ±1.5 | 0.5 | 5 | 5 | 2500 | ○ | | ○ | | | |

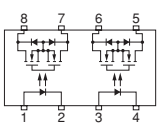
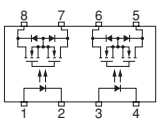
Note (1),(2),(3),(4),(5),(6),(7): Please refer to page 113. / P.113をご参照ください。

*: New product / 新製品

| Part Number | Pin Configuration | Package | $V_{OFF}$ (V) Min | $I_{ON}$ (A) Max | $R_{ON}$ (Ω) Max | $R_{ON}$ (Ω) @$V_{IN}$ (V) | $V_{FON}$ (V) Max | $C_{OFF}$ (pF) Typ. | BVs 1 Minute (Vrms) | Safety Standards (1) UL 1577 (2) | UL 508 (3) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TLP3403R |  | VSONR4 | 20 | ±1 | 0.22 | 5 | 3 | 40 | 500 | | | | | | |
| TLP3475R | | | 50 | ±0.3 | 1.5 | 5 | 3 | 12 | 500 | | | | | | |
| TLP3412R | | | 60 | ±0.4 | 1.5 | 5 | 3 | 20 | 500 | | | | | | |

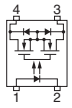
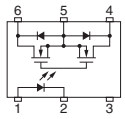
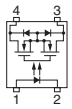
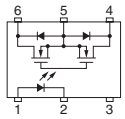
Note (1),(2),(3),(4),(5),(6),(7): Please refer to page 113. / P.113をご参照ください。

## 2-Form-A / 2a接点シリーズ

| Part Number | Pin Configuration | Package | $V_{OFF}$ (V) Min | $I_{ON}$ (A) Max | $R_{ON}$ (Ω) Max | $R_{ON}$ (Ω) @$I_F$ (mA) | $I_{FT}$ (mA) Max | BVs 1 Minute (Vrms) | Safety Standards (1) UL 1577 (2) | UL 508 (3) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TLP202A |  | 2.54SOP8 | 60 | ±0.4 | 2 | 5 | 3 | 1500 | ○ | | | | | |
| TLP200D | | | 200 | ±0.2 | 8 | 5 | 3 | 1500 | ○ | | | | | |
| TLP202G | | | 350 | ±0.11 | 50 | 5 | 3 | 1500 | ○ | | | ○ | | |
| TLP206G | | | | ±0.12 | 35 | 5 | 3 | 1500 | ○ | | | ○ | | |
| TLP206GA | | | 400 | ±0.12 | 35 | 5 | 3 | 1500 | ○ | | | ○ | | |
| TLP222A-2 |  | DIP8 | 60 | ±0.5 | 2 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP222G-2 | | | 350 | ±0.12 | 50 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP224G-2 | | | | | 35 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP228G-2 | | | | | 50 | 5 | 3 | 2500 | ○ | | ○ | | | |
| TLP224GA-2 | | | 400 | ±0.12 | 35 | 5 | 3 | 2500 | ○ | | ○ | | | |

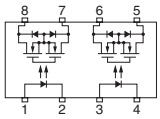
Note (1),(2),(3),(4),(5),(6),(7): Please refer to page 113. / P.113をご参照ください。

## 1-Form-B / 1b接点シリーズ

| Part Number | Pin Configuration | Package | $V_{OFF}$ (V) Min | $I_{ON}$ (A) Max | $R_{ON}$ (Ω) Max | $R_{ON}$ (Ω) @$I_F$ (mA) | $I_{FC}$ (mA) Max | BVs 1 Minute (Vrms) | Safety Standards (1) UL 1577 (2) | UL 508 (3) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TLP4176G |  | 2.54SOP4 | 350 | ±0.12 | 25 | 0 | 3 | 1500 | ○ | | | | | |
| TLP4197G |  | 2.54SOP6 | 350 | ±0.12 | 25 | 0 | 3 | 1500 | ○ | | | | | |
| TLP4227G |  | DIP4 | 350 | ±0.15 | 25 | 0 | 3 | 2500 | ○ | | | | | |
| TLP4597G |  | DIP6 | 350 | ±0.15 | 25 | 0 | 3 | 2500 | ○ | | | | | |

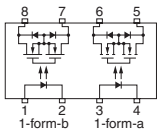
Note (1),(2),(3),(4),(5),(6),(7): Please refer to page 113. / P.113をご参照ください。

## 2-Form-B / 2b接点シリーズ

| Part Number | Pin Configuration | Package | $V_{OFF}$ (V) Min | $I_{ON}$ (A) Max | $R_{ON}$ (Ω) Max | $R_{ON}$ (Ω) @$I_F$ (mA) | $I_{FC}$ (mA) Max | BVs 1 Minute (Vrms) | Safety Standards (1) UL 1577 (2) | UL 508 (3) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TLP4206G |  | 2.54SOP8 | 350 | ±0.12 | 25 | 0 | 3 | 1500 | ○ | | | | | |
| TLP4227G-2 | | DIP8 | 350 | ±0.15 | 25 | 0 | 3 | 2500 | ○ | | | | | |

Note (1),(2),(3),(4),(5),(6),(7): Please refer to page 113. / P.113をご参照ください。

## 1-Form-A, 1-Form-B / 1a1b接点シリーズ

| Part Number | Pin Configuration | Package | $V_{OFF}$ (V) | $I_{ON}$ (A) Max | $R_{ON}$ (Ω) Max | $R_{ON}$ (Ω) @$I_F$ (mA) | $I_{FT}$/$I_{FC}$ (mA) Max | BVs 1 Minute (Vrms) | Safety Standards (1) UL 1577 (2) | UL 508 (3) | c-UL (4) | VDE (5) | VDE (6) | CQC (7) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TLP4026G |  | 2.54SOP8 | 350 | ±0.12 | 25 | (A) | 3 | 1500 | | | | | | |
| TLP4006G |  | DIP8 | 350 | ±0.12 | 25 | (A) | 3 | 2500 | ○ | | | | | |

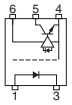
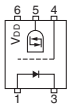
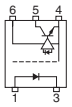
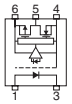
Note (1),(2),(3),(4),(5),(6),(7): Please refer to page 113. / P.113をご参照ください。

(A): 1-Form-A: $I_F$ = 5 (mA), 1-Form-B: $I_F$ = 0 (mA)

# Photocouplers for Automotive / 車載用フォトカプラ

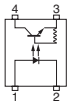
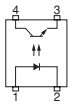
## IC Output / IC出力

(High Speed Communications) /（高速通信用）

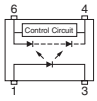
| Part Number | Pin Configuration | Package | Characteristics | | | | | Isolation Voltage BVs (Vrms) | Clearance/ Creepage Distance |
|---|---|---|---|---|---|---|---|---|---|
| | | | Output Type | Data Rate (Standard) | $I_{FHL}$ (max) (mA) | Tstg (˚C) (min) to (max) | Topr (˚C) (min) to (max) | | |
| TLX9304 |  | 5 pin SO6 | Open collector | 1 Mbps | 5 | −55 to 150 | −40 to 125 | 3750 | 5 mm |
| TLX9310 |  | 5 pin SO6 | Totempole | 5 Mbps | $I_{FLH}$ = 1 (max) | −55 to 125 | −40 to 105 | 3750 | 5 mm |
| TLX9378 |  | 5 pin SO6 | Open collector | 10 Mbps | 5 | −55 to 150 | −40 to 125 | 3750 | 5 mm |
| TLX9376 |  | 5 pin SO6 | Totempole | 20 Mbps | 4 | −55 to 150 | −40 to 125 | 3750 | 5 mm |

## Transistor Output / トランジスタ出力

(DC Input) /（DC入力）

| Part Number | Pin Configuration | Package | Characteristics | | | | | Isolation Voltage BVs (Vrms) | Clearance/ Creepage Distance |
|---|---|---|---|---|---|---|---|---|---|
| | | | $I_C/I_F$ (%) (min) to (max) @$I_F$ (mA)/ $V_{CE}$ (V) | $V_{CE\ (sat)}$ (V) (max) @$I_C$ (mA)/ $I_F$ (mA) | $V_{CEO}$ (min) (V) | Tstg (˚C) (min) to (max) | Topr (˚C) (min) to (max) | | |
| TLX9000 |  | SO4 | 100 to 900 @ 5/5 | 0.4 @ 2.4/8 | 40 | −55 to 150 | −40 to 125 | 3750 | 5 mm |
| TLX9300 | | 4 pin SO6 | 100 to 900 @ 5/5 | 0.4 @ 2.4/8 | 40 | −55 to 150 | −40 to 125 | 3750 | 5 mm |
| TLX9291A |  | SO4 | 50 to 600 @ 5/5 | 0.4 @ 2.4/8 | 80 | −55 to 150 | −40 to 125 | 3750 | 5 mm |
| TLX9185A | | 4 pin SO6 | 50 to 600 @ 5/5 | 0.4 @ 2.4/8 | 80 | −55 to 150 | −40 to 125 | 3750 | 5 mm |

## Photovoltaic Output / フォトボル出力

| Part Number | Pin Configuration | Package | Characteristics | | | | Isolation Voltage BVs (Vrms) | Clearance/ Creepage Distance |
|---|---|---|---|---|---|---|---|---|
| | | | Short-Circuit Current (uA) (min) @$I_F$ (mA) | Open Voltage VOC (V) (min) @$I_F$ (mA) | Tstg (˚C) (min) to (max) | Topr (˚C) (min) to (max) | | |
| TLX9905 |  | 4 pin SO6 | 12 @ 10 | 7 @ 10 | −55 to 150 | −40 to 125 | 3750 | 5 mm |
| TLX9906 |   | 4 pin SO6 | 12 @ 10 | 7 @ 10 | −55 to 150 | −40 to 125 | 3750 | 5 mm |

## Photorelays / フォトリレー

(1-Form-A) /（1a接点）

| Part Number | Pin Configuration | Package | OFF-State Output Terminal Voltage $V_{OFF}$ (max) (V) | ON-State Current $I_{ON}$ (max) (mA) | ON-state Resistance | | Trigger LED Current $I_{FT}$ (max) (mA) | Isolation Voltage BVs (Vrms) | Clearance/ Creepage Distance |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | $R_{ON}$ (max) (Ω) | @$I_{ON}$ (mA)/ $I_F$ (mA) | | | |
| TLX9175J |  | 4 pin SO6 | 600 | 15 | 335 | 15/10 | 3 | 3750 | 5 mm |

# Reference

Note (1): Certified to safety standards. For details on certification status, contact your Toshiba sales representative.
UL/c-UL/CQC: ○: Approved △: Approval pending as of October 2018
VDE: ○: Approved
△: Approval pending as of October 2018
Specify VDE-certified devices with option V4 or D4
UL: Underwriters Laboratories (UL) is a safety consulting and certification company.
c-UL: c-UL Mark is the UL Mark for Canada.
VDE: VERBAND DEUTSCHER ELECTROTECHNISCHER e.V.
CQC: China Quality Certification center
(2): UL 1577 Standard for Optical Isolators
(3): UL 508 Standard for Industrial Control Equipment
(4): UL 1577 Optical Isolators Certified for Canada
(5): EN 60747-5-5
(6): EN 60065, EN 60950-1 or EN 62368-1
(7): GB4943.1, GB8898

# 参照

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オプション (V4) または (D4) にて、VDE認定を指定してください。
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c-UL：CSA (Canadian Standards Association) 相当のカナダ向け米国安全規格
VDE：VERBAND DEUTSCHER ELECTROTECHNISCHER e.V.
CQC：China Quality Certification center 中国品質認証センター
(2): UL 1577 フォトカプラ規格
(3): UL 508 産業用制御スイッチ、非モータ負荷用制御装置などに関する規格
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(5): EN 60747-5-5
(6): EN 60065, EN 60950-1 or EN 62368-1
(7): GB4943.1, GB8898

# Fiber-Coupler (TOSLINK™) / ファイバカプラ（トスリンク®）

## Simplex Optical Modules / 単方向光伝送モジュール

### (General-Purpose Optical Modules) /（汎用光モジュール）

| Transmitting Module | Receiving Module | Data Rate (NRZ, Mb/s) | Emission Wavelength (nm) | Transmission Distance (m) (1) | Pulse Width Distortion (ns) (1) | Supply Voltage (V) | Operating Temperature (˚C) | Compatible Optical Connector | Compatible Optical Fiber (μm) | Compatible Optical Fiber with Fiber-Optic Connectors (7) |
|---|---|---|---|---|---|---|---|---|---|---|
| TOTX1350(F) (8)<br>TOTX1350(V, F) (8) | TORX1350A(F)<br>TORX1350A(V, F) | DC to 10 | 650 | Up to 100 | ±30 | 5 ± 0.25 | −40 to 85 | JIS F05 | APF (980/1000)<br>NA = 0.5 | LUCT1-TC1000-xxM (3)<br>TOCP100-xxMBT (4) |
| TOTX1353(F) (8)<br>TOTX1353(V, F) (8) | TORX1353(F)<br>TORX1353(V, F) | DC to 0.5 | 650 | Up to 10 | — | 5 ± 0.25 | −40 to 85 | JIS F05 | APF (980/1000)<br>NA = 0.5 | LUCT1-TC1000-xxM (3)<br>TOCP100-xxMBT (4) |
| TOTX1350(F) (8)<br>TOTX1350(V,F) (8) | TORX1355(F)<br>TORX1355(V,F) | DC to 10 | 650 | Up to 10 | ±30 | 5 ± 0.25 | −40 to 85 | JIS F05 | APF (980/1000)<br>NA = 0.5 | LUCT1-TC1000-xxM (3)<br>TOCP100-xxMBT (4) |
| TOTX1950A(F) (2) | TORX1950A(F) | DC to 10 | 650 | Up to 50 | ±30 | 5 ± 0.25 | −40 to 85 | JIS F05 | APF (980/1000)<br>NA = 0.5 | LUCT1-TC1000-xxM (3)<br>TOCP100-xxMBT (4) |
| TOTX1951A(F) | TORX1951A(F) | DC to 6 | 650 | Up to 40 | ±55 | 5 ± 0.25 | −40 to 85 | JIS F05 | APF (980/1000)<br>NA = 0.5 | LUCT1-TC1000-xxM (3)<br>TOCP100-xxMBT (4) |
| TOTX1952A(F) | TORX1952A(F) | DC to 10 | 650 | Up to 10 | ±30 | 5 ± 0.25 | −40 to 85 | JIS F05 | APF (980/1000)<br>NA = 0.5 | LUCT1-TC1000-xxM (3)<br>TOCP100-xxMBT (4) |
| TOTX1960A(F) | TORX1950A(F) | DC to 10 | 770 | Up to 1000 | ±30 | 5 ± 0.25 | −40 to 85 | JIS F05 | PCF (200/230) | CF-1071 (HC-20/07) Series (5)<br>OPC101HVQ Series (6) |

Note (1): All values at Ta = 25℃ / Ta = 25℃の値です。

(2): The external resistor value must be chosen based on the transmission distance. / 伝送距離により、外付け抵抗値を変える必要があります。

(3): Manufactured by Asahi Kasei E-Materials. / 旭化成イーマテリアルズ株式会社の製品です。

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(7): For details on optical fiber cables with connectors, contact the respective manufactures. / 光コネクタ付き光ファイバの詳細につきましては、各メーカーにお問い合わせください。

(8): Since these modules contain only an LED, a drive circuit is required. / LEDのみの製品です。駆動回路が必要になります。

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### (High-Speed Optical Modules) /（高速通信用光モジュール）

| Transmitting Module | Receiving Module | Data Rate (NRZ, Mb/s) | Emission Wavelength (nm) | Transmission Distance (m) (1) | Supply Voltage (V) | Operating Temperature (˚C) | Compatible Optical Connector | Compatible Optical Fiber (μm) | Compatible Optical Fiber with Fiber-Optic Connectors (7) |
|---|---|---|---|---|---|---|---|---|---|
| TOTX1701A(F) | TORX1701A(F) | 20 to 125 | 650 | Up to 20 (APF) | 3.3 ± 0.3 | −10 to 70 | JIS F05 | APF (980/1000)<br>NA = 0.5 | LUCT1-TC1000-xxM (3)<br>TOCP100-xxMBT (4) |
| | | | | Up to 100 (GI-PCF) | | | | GI-PCF (200/230) | CF-1071 (HG-20/08) Series (5) |

Note (1): All values at Ta = 25℃ / Ta = 25℃の値です。

(3): Manufactured by Asahi Kasei E-Materials. / 旭化成イーマテリアルズ株式会社の製品です。

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(7): For details on optical fiber cables with connectors, contact the respective manufactures. / 光コネクタ付き光ファイバの詳細につきましては、各メーカーにお問い合わせください。

## Duplex Modules / 双方向光伝送モジュール

### (General-Purpose Optical Modules) /（汎用光モジュール）

| Transceiving Module | Data Rate (NRZ, Mb/s) | Emission Wavelength (nm) | Transmission Distance (m) (1) | Pulse Width Distortion (ns) (1) | Supply Voltage (V) | Operating Temperature (˚C) | Compatible Optical Connector | Compatible Optical Fiber (μm) | Compatible Optical Fiber with Fiber-Optic Connectors (7) |
|---|---|---|---|---|---|---|---|---|---|
| TODX2350A(F) (9) | DC to 10 | 650 | Up to 100 | ±30 | 5 ± 0.25 | −40 to 85 | PN (JIS F07) | APF (980/1000) NA = 0.5 | LUCT2-TC1000W-xxM (3) TOCP200-xxMBT (4) |
| TODX2353(F) (9) | DC to 0.5 | 650 | Up to 10 | — | 5 ± 0.25 | −40 to 85 | PN (JIS F07) | APF (980/1000) NA = 0.5 | LUCT2-TC1000W-xxM (3) TOCP200-xxMBT (4) |
| TODX2355(F) (9) | DC to 10 | 650 | Up to 10 | ±30 | 5 ± 0.25 | −40 to 85 | PN (JIS F07) | APF (980/1000) NA = 0.5 | LUCT2-TC1000W-xxM (3) TOCP200-xxMBT (4) |
| TODX2850A(F) (2) (8) | DC to 10 | 650 | Up to 50 | ±30 | 5 ± 0.25 | −40 to 85 | PN (JIS F07) | APF (980/1000) NA = 0.5 | LUCT2-TC1000W-xxM (3) TOCP200-xxMBT (4) |
| TODX2860A(F) (2) (8) | DC to 10 | 770 | Up to 1000 | ±30 | 5 ± 0.25 | −40 to 85 | PN (JIS F07) | PCF (200/230) | CF-2071(HC-20/07) Series (5) OPC201HVQ Series (6) |
| TODX2950A(F) (2) | DC to 10 | 650 | Up to 50 | ±30 | 5 ± 0.25 | −40 to 85 | JIS F07 | APF (980/1000) NA = 0.5 | LUCT2-TC1000W-xxM (3) TOCP200-xxMBT (4) |
| TODX2951A(F) | DC to 6 | 650 | Up to 40 | ±55 | 5 ± 0.25 | −40 to 85 | JIS F07 | APF (980/1000) NA = 0.5 | LUCT2-TC1000W-xxM (3) TOCP200-xxMBT (4) |
| TODX2952A(F) | DC to 10 | 650 | Up to 10 | ±30 | 5 ± 0.25 | −40 to 85 | JIS F07 | APF (980/1000) NA = 0.5 | LUCT2-TC1000W-xxM (3) TOCP200-xxMBT (4) |
| TODX2960A(F) | DC to 10 | 770 | Up to 1000 | ±30 | 5 ± 0.25 | −40 to 85 | JIS F07 | PCF (200/230) | CF-2071 (HC-20/07) Series (5) OPC201HVQ Series (6) |

Note (1): All values at Ta = 25℃ / Ta = 25℃の値です。

(2): The external resistor value must be chosen based on the transmission distance. / 伝送距離により、外付け抵抗値を変える必要があります。

(3): Manufactured by Asahi Kasei E-Materials. / 旭化成イーマテリアルズ株式会社の製品です。

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(8): Housed in a ceramic package. / セラミックパッケージタイプの製品です。

(9): Since these modules contain only an LED, a drive circuit is required. / LEDのみの製品です。駆動回路が必要になります。

### (High-Speed Optical Modules) /（高速通信用光モジュール）

| Transceiving Module | Data Rate (NRZ, Mb/s) | Emission Wavelength (nm) | Transmission Distance (m) (1) | Supply Voltage (V) | Operating Temperature (˚C) | Compatible Optical Connector | Compatible Optical Fiber (μm) | Compatible Optical Fiber with Fiber-Optic Connectors (7) |
|---|---|---|---|---|---|---|---|---|
| TODX2701A(F) | 20 to 125 | 650 | Up to 20 (APF) | 3.3 ± 0.3 | −10 to 70 | PN (JIS F07) | APF (980/1000) NA = 0.5 | LUCT2-TC1000W-xxM (3) TOCP200-xxMBT (4) |
| | | | Up to 100 (GI-PCF) | | | | GI-PCF (200/230) | CF-2071 (HG-20/08) Series (5) |
| TODX2901A(F) | 20 to 150 | 660 | Up to 20 (APF) | 3.3 ± 0.3 | −10 to 70 | PN (JIS F07) | APF (980/1000) NA = 0.5 | LUCT2-TC1000W-xxM (3) TOCP200-xxMBT (4) |

Note (1): All values at Ta = 25℃ / Ta = 25℃の値です。

(3): Manufactured by Asahi Kasei E-Materials. / 旭化成イーマテリアルズ株式会社の製品です。

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(7): For details on optical fiber cables with connectors, contact the respective manufactures. / 光コネクタ付き光ファイバの詳細につきましては、各メーカーにお問い合わせください。

### (Adapter) /（アダプタ）

| Adapter | Insertion Force (N) (1) (10) | Withdrawal Force (N) (1) (10) | Operating Temperature (˚C) | Compatible Optical Transmitting Module | Compatible Optical Receiving Module |
|---|---|---|---|---|---|
| TOCA1300 | 39.2 (MAX) | 5.9 to 39.2 | −40 to 85 | TOTX1350(F) (8) | TORX1350A(F) TORX1355(F) |

Note (1): All values at Ta = 25℃ / Ta = 25℃の値です。

(8): Since these modules contain only an LED, a drive circuit is required. / LEDのみの製品です。駆動回路が必要になります。

(10): Using TOTX1350(F). Initial value. / TOTX1350(F)使用時。初回値。

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# SEMICONDUCTOR GENERAL CATALOG
# 半導体製品総覧表

Jan. 2019
SCA0004O

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