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

General-Purpose Logic ICs
汎用ロジックIC

Bus Switch / バススイッチ

Dual-Supply Level Shifters / 2 電源レベルシフタ

One-Gate Logic (L-MOS) / ワンゲートロジック(L-MOS)

CMOS Logic ICs / CMOS ロジックIC

Bus Switch / バススイッチ

Bus Switch / バススイッチ

| Series | Part Number | Supply Voltage (V) | Features |
|----------------------------------|------------------|--------------------|--|
| High-Speed Transmission Switches | PCI3212/3215 | 3.0 to 3.6 | Bus switches compliant with PCI Express 3.0 (8 Gbps) Usable for high-speed Gbps interfacing, such as USB 3.0, DisplayPort 1.2 and SATA 3.0 |
| | USB3212 | 1.65 to 1.95 | Bus switches compliant with USB 3.0 SuperSpeed (5 Gbps) transfer mode |
| USB 2.0 Switches | USB40/42 | 2.3 to 4.3 | Bus switches compliant with USB 2.0 High-Speed (480 Mbps) transfer mode |
| Low-Voltage Bus Switches | MBL/WBL/SBLxxxxC | 1.65 to 3.6 | 3.3-V bus switches Bus switches with lower switch capacitances than that of the previous MBLxxxxA |
| 5-V Bus Switches | WB/SBxxxxC | 4.5 to 5.5 | 5-V bus switches Consists of N-channel MOSFET transistors. The SB66/67/3157 and WB66/67 consist of P-channel and N-channel MOSFET transistors. |

| Type | Configuration | #Circuits | Control Input | Series | Function Number | | Package | | | |
|-------------------------------|---------------|------------|---------------|----------------------|-----------------|-----------------------------|------------------|---------|----------------|----|
| | | | | | Low Cap. 5 V | Low Voltage/Low Cap. 3 V | Suffix | Name | Number of Pins | |
| High Speed Switch | SPDT | Quad | Active-low | TC7PCIxxx | | 3212 | MT | TQFN20 | 20 | |
| | | | | | | 3215 | MT | TQFN20 | 20 | |
| USB Switch | SPDT | Dual | Active-low | TC7USBxxx | | 40 | MU | UQFN10 | 10 | |
| | | | | | | | FT | TSSOP14 | 14 | |
| | | | Active-low | | | 42 | MU | UQFN10 | 10 | |
| | | | | | | | FT | TSSOP14 | 14 | |
| Bus Switch | SPST | Single | Active-high | TC7SBxxx | | L66C | FU | USV | 5 | |
| | | | Active-low | | | 66C, 67C | FU | USV | 5 | |
| | | Dual | Active-high | TC7WBxxx | | 66C, 67C | FK | US8 | 8 | |
| | | | Active-low | | | L3305C L3306C | FK | US8 | 8 | |
| | | Quad | Active-low | Active-high | TC7MBxxx | | L3125C L3126C | FT | TSSOP14 | 14 |
| | | | | | | | FK | US14 | | |
| | | Octal | Active-low | (for all 8 switches) | TC7MBxxx | | L3245C | FT | TSSOP20 | 20 |
| | | | | | | | | FK | US20 | |
| Multiplexer/ Demultiplexer | SPDT | Single | — | TC7SBxxx | | 3157C | FU | US6 | 6 | |
| | | | | | | 3157D | L6X | MP6 | 6 | |
| | Quad | Active-low | TC7MBxxx | | L3257C | FT | TSSOP16 | 16 | | |
| | | | | | | FK | US16 | | | |
| | SP4T | Dual | Active-low | TC7MBxxx | | L3253C | FT | TSSOP16 | 16 | |
| | | | | | | | FK | US16 | | |

Dual-Supply Level Shifters / 2電源レベルシフタ

Dual-Supply Level Shifters (Buffer) / 2電源レベルシフタ (バッファタイプ)

| Direction | Part Number | Number of Pins | Bit Width | Functions | | | | | | TSSOP 48 | TSSOP 16 | US16 | US8 | CST8 | UF6 | CST6C | MP6 |
|----------------|----------------|----------------|-----------|------------|---------|-----------|-----------------|--------------------------|--------------------------|----------|----------|-------|-------|-------|-------|-------|--------|
| | | | | Sleep Mode | Bushold | Low Noise | Series Resistor | A-Bus (V) | B-Bus (V) | xxxFT | xxxFT | xxxFK | xxxFK | xxxFC | xxxTU | xxxFC | xxxL6X |
| Bidirectional | TC7MP3125 ** | 16 | 4 | | | | | 1.2 1.5 1.8 2.5 | 1.8 2.5 3.3 | | ○ | ○ | | | | | |
| | TC7MPN3125 ** | | | | ○ | | | 1.2 1.5 1.8 2.5 | 1.8 2.5 3.3 | | ○ | ○ | | | | | |
| | TC74VCX163245 | 48 | 16 | | | | | 2.5 3.3 | 1.8 2.5 | ○ | | | | | | | |
| | TC74VCX164245 | | | | | | | 1.8 2.5 | 2.5 3.3 | ○ | | | | | | | |
| | TC74LCX163245 | 48 | 16 | | | | | (5.5) | (2.5 3.3) | ○ | | | | | | | |
| | TC74LCXR163245 | 48 | 16 | | | | ○ | (5.5) | (2.5 3.3) | ○ | | | | | | | |
| | TC74LCX164245 | 48 | 16 | | | | | (2.5) 3.3 | (5.5) | ○ | | | | | | | |
| | TC74LCXR164245 | 48 | 16 | | | | ○ | (2.5) 3.3 | (5.5) | ○ | | | | | | | |
| Unidirectional | TC7SPN334 | 6 | 1 | ○ | | ○ | | 1.2 1.5 1.8 2.5 | 1.8 2.5 3.3 | | | | | | | | ○ |
| | TC7SP3125 | 6 | 1 | | | | | 1.2 1.5 1.8 2.5 | 1.8 2.5 3.3 | | | | | | | | ○ |
| | TC7SPN3125 | 6 | 1 | | | ○ | | 1.2 1.5 1.8 2.5 | 1.8 2.5 3.3 | | | | | | | | ○ |

○: Available / 量産中。

** : Under development / 開発中

・ For package dimensions and standard codes, please refer to pages 155 to 156.

・ パッケージの外観図および標準化コードはP.153, P.154をご覧ください。

Dual-Supply Bidirectional Level Shifters Without a Direction Control Signal (Bus Switches) / 方向制御信号なし2電源双方向レベルシフタ (バススイッチタイプ)

| Configuration | #Circuits | Series | Function Number | | | Number of Pins | TSSOP 14/16/20 | US8/14/16/20 | UF6 |
|---------------|-----------|-----------|-------------------------|--|--|----------------|----------------|--------------|-------|
| | | | 5 V ⇔ 1.8 V Level Shift | 5 V ⇔ 1.8 V Level-Shift Assist Circuit | 5 V ⇔ 1.8 V Level-Shift Assist Circuit Pull-Up Resistors | | xxxFT | xxxFK | xxxTU |
| SPST | 1 | TC7SPBxxx | 9306 | | | 6 | | | ○ |
| | | | 9307 | | | | | | ○ |
| | 2 | TC7WPBxxx | 9307 | | | 8 | | ○ | |
| | | | 9306 | | | | | ○ | |
| | 4 | TC7QPBxxx | 9307 | | | 14 | ○ | ○ | |
| | | | 9306 | | | | ○ | ○ | |
| 8 | TC7MPBxxx | 9307 | | | 20 | ○ | ○ | | |
| | | | | | | | | | |
| SPDT | 2 | TC7MPBxxx | 9327 | | | 14 | ○ | ○ | |
| | | | 9326 | | | | ○ | ○ | |

○: Available / 量産中。

One-Gate Logic (L-MOS) / ワンゲートロジック (L-MOS)








| | LVP Series | | | LVP Series with Level Shift | SHS Series | | | | | |
|--|--|---------------|---------------|--|--|------------------------|-----------------------|-----------------------|---------------|---------------|
| Supply Voltage | 0.9 to 3.6 V | | | 2.3 to 3.6 V | 1.65 to 5.5 V | | 1.8 to 5.5 V | | 1.65 to 5.5 V | |
| IOH /IOL | 8 mA min @ V _{CC} = 3 V | | | | 24 mA min @ V _{CC} = 3 V | | | | | |
| tpLH/tpHL (NAND gate) | 2.5 ns typ. @ V _{CC} = 3.3 V C _L = 15 pF, T _a = 25°C | | | 3.6 ns typ. @ V _{CC} = 3.3 V V _{IN} = 1.8 V C _L = 15 pF, T _a = 25°C (tpLH) | 2.4 ns typ. @ V _{CC} = 3.3 V C _L = 15 pF, T _a = 25°C | | | | | |
| Tolerant Input | ○ | | | | | | | | | |
| Power-Down Protection Output | ○ | | | × | ○ | | | | | |
| Package | fSV | USV | USV | fSV (SOT-953) | ESV (SOT-553) | USV (SOT-353) (SC-88A) | SMV (SOT-25) (SC-74A) | US6 (SOT-363) (SC-88) | US8 (SOT-765) | SM8 (SOT-505) |
| Functions | | | | | | | | | | |
| NAND | 7UL1G00FS ** | 7UL1G00FU ** | 7UL1T00FU ** | TC7SZ00AFS | TC7SZ00FE | TC7SZ00FU | TC7SZ00F | | TC7WZ00FK | TC7WZ00FU |
| AND | 7UL1G08FS | 7UL1G08FU | 7UL1T08FU | TC7SZ08AFS | TC7SZ08FE | TC7SZ08FU | TC7SZ08F | | TC7WZ08FK | TC7WZ08FU |
| AND (Open-Drain) | | | | | | | | | | |
| NOR | 7UL1G02FS | 7UL1G02FU | 7UL1T02FU | TC7SZ02AFS | TC7SZ02FE | TC7SZ02FU | TC7SZ02F | | TC7WZ02FK | TC7WZ02FU |
| OR | 7UL1G32FS | 7UL1G32FU | 7UL1T32FU | TC7SZ32AFS | TC7SZ32FE | TC7SZ32FU | TC7SZ32F | | TC7WZ32FK | TC7WZ32FU |
| Exclusive-OR | 7UL1G86FS ** | 7UL1G86FU | 7UL1T86FU ** | TC7SZ86AFS | TC7SZ86FE | TC7SZ86FU | TC7SZ86F | | TC7WZ86FK | TC7WZ86FU |
| Inverter | 7UL1G04FS | 7UL1G04FU | 7UL1T04FU ** | TC7SZ04AFS | TC7SZ04FE | TC7SZ04FU | TC7SZ04F | TC7PZ04FU | TC7WZ04FK | TC7WZ04FU |
| Inverter ⁽¹⁾ (Unbuffered) | | | | TC7SZU04AFS | TC7SZU04FE | TC7SZU04FU | TC7SZU04F | | TC7WZU04FK | TC7WZU04FU |
| Inverter ⁽²⁾ (Open-Drain) | | | | TC7SZ05AFS | TC7SZ05FE | TC7SZ05FU | TC7SZ05F | TC7PZ05FU | TC7WZ05FK | TC7WZ05FU |
| Non-Inverter ⁽²⁾ (Open-Drain) | | | | TC7SZ07AFS | TC7SZ07FE | TC7SZ07FU | TC7SZ07F | TC7PZ07FU | TC7WZ07FK | TC7WZ07FU |
| Schmitt Inverter | 7UL1G14FS ** | 7UL1G14FU ** | | TC7SZ14AFS | TC7SZ14FE | TC7SZ14FU | TC7SZ14F | TC7PZ14FU | TC7WZ14FK | TC7WZ14FU |
| Schmitt Buffer | 7UL1G17FS | 7UL1G17FU ** | | TC7SZ17AFS | TC7SZ17FE | TC7SZ17FU | TC7SZ17F | TC7PZ17FU | TC7WZ17FK | TC7WZ17FU |
| Non-Inverter | 7UL1G34FS | 7UL1G34FU | 7UL1T34FU ** | TC7SZ34AFS | TC7SZ34FE | TC7SZ34FU | TC7SZ34F | TC7PZ34FU | TC7WZ34FK | TC7WZ34FU |
| Analog Switch | | | | | | | | | | |
| Analog Multiplexer | | | | | | | | | | |
| D-Type Flip-Flop with Preset and Clear | | | | | | | | | TC7WZ74FK | TC7WZ74FU |
| D-Type Flip-Flop | | | | | | | | | | |
| D-Type Flip-Flop | | | | | | | | | | |
| D-Type Flip-Flop with Clear | | | | | | | | | | |
| 3-State Buffer | 7UL1G125FS ** | 7UL1G125FU ** | 7UL1T125FU ** | TC7SZ125AFS | TC7SZ125FE | TC7SZ125FU | TC7SZ125F | | TC7WZ125FK | TC7WZ125FU |
| 3-State Buffer | 7UL1G126FS | 7UL1G126FU ** | 7UL1T126FU ** | TC7SZ126AFS | TC7SZ126FE | TC7SZ126FU | TC7SZ126F | | TC7WZ126FK | TC7WZ126FU |
| 3-State Inverting Buffer | | | | | | | | | | |
| 3-State Buffer | | | | | | | | | | |
| Bus Transceiver | | | | | | | | | | |
| Bus Transceiver (Open-Drain) | | | | | | | | | | |
| Monostable Multivibrator | | | | | | | | | | |
| Digital Multiplexer | | | | | | | | | | |
| 1-to-2 Decoder | | | | | | | | | | |
| 2-to-4 Decoder | | | | | | | | | | |

Note (1): The U04 function in all product series has no power-down protection on the output. / "U04" ファンクションは全てのシリーズにおいて、出力パワーダウンプロテクション機能なし
 (2): The 05 and 07 functions in all product series has power-down protection on the output. / "05" と "07" ファンクションは全てのシリーズにおいて、出力パワーダウンプロテクション機能あり

| VHS Series | | | | VHS TTL-Level Input Series | |
|--|-----------------------------|------------------|------------------|--|-----------------------------|
| 2 to 5.5 V | | | | 4.5 to 5.5 V | |
| 8 mA min @ V _{CC} = 4.5 V | | | | | |
| 3.7 ns typ. @ V _{CC} = 5 V, C _L = 15 pF, T _a = 25°C | | | | 4.2 ns typ. @ V _{CC} = 5 V, C _L = 15 pF, T _a = 25°C | |
| ○ | | | | | |
| × | | | | | |
| USV (SOT-353) (SC-88A) | SMV (SOT-25) (SC-74A) | US8 (SOT-765) | SM8 (SOT-505) | USV (SOT-353) (SC-88A) | SMV (SOT-25) (SC-74A) |
| TC7SH00FU | TC7SH00F | TC7WH00FK | TC7WH00FU | TC7SET00FU | TC7SET00F |
| TC7SH08FU | TC7SH08F | TC7WH08FK | TC7WH08FU | TC7SET08FU | TC7SET08F |
| TC7SH09FU | TC7SH09F | | | | |
| TC7SH02FU | TC7SH02F | TC7WH02FK | TC7WH02FU | TC7SET02FU | TC7SET02F |
| TC7SH32FU | TC7SH32F | TC7WH32FK | TC7WH32FU | TC7SET32FU | TC7SET32F |
| TC7SH86FU | TC7SH86F | | | | |
| TC7SH04FU | TC7SH04F | TC7WH04FK | TC7WH04FU | TC7SET04FU | TC7SET04F |
| TC7SHU04FU | TC7SHU04F | TC7WHU04FK | TC7WHU04FU | | |
| | | | | | |
| | | | | | |
| TC7SH14FU | TC7SH14F | TC7WH14FK | TC7WH14FU | TC7SET14FU | TC7SET14F |
| TC7SH17FU | TC7SH17F | TC7WH17FK | TC7WH17FU | TC7SET17FU | TC7SET17F |
| TC7SH34FU | TC7SH34F | TC7WH34FK | TC7WH34FU | TC7SET34FU | TC7SET34F |
| | | | | | |
| | | TC7WH74FK | TC7WH74FU | | |
| | | | | | |
| | | | | | |
| TC7SH125FU | TC7SH125F | TC7WH125FK | TC7WH125FU | TC7SET125FU | TC7SET125F |
| TC7SH126FU | TC7SH126F | TC7WH126FK | TC7WH126FU | TC7SET126FU | TC7SET126F |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | TC7WH157FK | TC7WH157FU | | |
| | | | | | |
| | | | | | |

** : Under development / 開発中

Package Lineup / パッケージラインナップ

| Toshiba Package Name | fSV (SOT-953) | ESV (SOT-553) | USV (SOT-353) (SC-88A) | SMV (SOT-25) (SC-74A) | ES6 (SOT-563) | US8 (SOT-765) | SM8 (SOT-505) |
|-------------------------------|---|---|---|---|--|---|---|
| Package Dimensions (mm) |  |  |  |  |  |  |  |


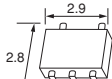


One-Gate Logic (L-MOS) / ワンゲートロジック (L-MOS)

| | High-Speed Series | | | | TTL-Level-Input Series | Standard Series | |
|--|--|-----------------------|---------------|---------------|--|---------------------------|---------------|
| Supply Voltage | 2 to 6 V | | | | 4.5 to 5.5 V | 3 to 18 V | |
| IOH /IOL | 4 mA min (TC7W Series), 4 mA min (TTL-Level-Input Series), @ V _{CC} = 4.5 V | | | | 0.42 mA min @ V _{CC} = 5 V | | |
| tpLH/tpHL (NAND gate) | 6 ns typ. (TC7W Series), 10 ns typ. (TTL-Level-Input Series), @ V _{CC} = 5 V, C _L = 15 pF, Ta = 25°C | | | | 65 ns typ. @ V _{CC} = 5 V, C _L = 15 pF, Ta = 25°C | | |
| Tolerant input | × | | | | × | | |
| Power down Protection output | × | | | | × | | |
| Package Functions | USV (SOT-353) (SC-88A) | SMV (SOT-25) (SC-74A) | US8 (SOT-765) | SM8 (SOT-505) | SM8 (SOT-505) | SMV (SOT-25) (SC-74A) | SM8 (SOT-505) |
| NAND | TC7S00FU | TC7S00F | TC7W00FK | TC7W00FU | | | |
| AND | TC7S08FU | TC7S08F | TC7W08FK | TC7W08FU | | | |
| NOR | TC7S02FU | TC7S02F | | | | | |
| OR | TC7S32FU | TC7S32F | | | | | |
| Exclusive-OR | | | | | | | |
| Inverter | TC7S04FU | TC7S04F | TC7W04FK | TC7W04FU | | | |
| Inverter ⁽¹⁾ (Unbuffered) | TC7SU04FU | TC7SU04F | TC7WU04FK | TC7WU04FU | | | |
| Inverter ⁽²⁾ (Open-Drain) | | | | | | | |
| Non-Inverter ⁽²⁾ (Open-Drain) | | | | | | | |
| Schmitt Inverter | TC7S14FU | TC7SU14F | TC7W14FK | TC7W14FU | | TC4S584F | |
| Schmitt Buffer | | | | | | | |
| Non-Inverter | | | | | | | |
| Analog Switch | TC7S66FU | TC7S66F | TC7W66FK | TC7W66FU | | TC4S66F TC4S66FU (USV) | TC4W66FU |
| Analog Multiplexer | | | TC7W53FK | TC7W53FU | | | TC4W53FU |
| D-Type Flip-Flop with Preset and Clear | | | TC7W74FK | TC7W74FU | | | |
| D-Type Flip-Flop | | | | | | | |
| D-Type Flip-Flop | | | | | | | |
| D-Type Flip-Flop with Clear | | | | | | | |
| 3-State Buffer | | | | TC7W125FU | TC7WT125FU | | |
| 3-State Buffer | | | | TC7W126FU | TC7WT126FU | | |
| 3-State Inverting Buffer | | | | TC7W240FU | TC7WT240FU | | |
| 3-State Buffer | | | | TC7W241FU | TC7WT241FU | | |
| Bus Transceiver | | | | | | | |
| Bus Transceiver (Open-Drain) | | | | | | | |
| Monostable Multivibrator | | | | | | | |
| Digital Multiplexer | | | | | | | |
| 1-to-2 Decoder | | | | | | | |
| 2-to-4 Decoder | | | | | | | |

Note (1): The U04 function in all product series has no power-down protection on the output. / "U04" ファンクションは全てのシリーズにおいて、出力パワーダウンプロテクション機能なし

(2): The 05 and 07 functions in all product series has power-down protection on the output. / "05" と "07" ファンクションは全てのシリーズにおいて、出力パワーダウンプロテクション機能あり

Package Lineup / パッケージラインアップ

| Toshiba Package Name | USV (SOT-353) (SC-88A) | SMV (SOT-25) (SC-74A) | US8 (SOT-765) | SM8 (SOT-505) |
|-------------------------|---|---|---|---|
| Package Dimensions (mm) |  |  |  |  |

CMOS Logic ICs / CMOS ロジック IC

Low-Voltage CMOS Logic ICs / 低電圧 CMOS ロジック IC

(TC74VCX and TC74LCX Series) Quick Reference / (TC74VCX, TC74LCX シリーズ) 選択早見表

| Functions | | VCX (TC74VCXxxx Series) | LCX (TC74LCXxxx Series) | |
|------------------|-----------------|--|---|---|
| Gates Buffers | NAND | VCX00 | LCX00 | |
| | NOR | VCX02 | LCX02 | |
| | AND | VCX08 | LCX08 | |
| | OR | VCX32 | LCX32 | |
| | Inverter | VCX04 | LCX04 | |
| | Bus Buffer | VCX125, VCX2125, VCX244, VCX2244, VCX541, VCX2541 | LCX125, LCX126, LCX240, LCX244, LCX540, LCX541, LCX16244 | |
| | Bus Transceiver | | VCX245, VCX16245, VCXM16245, VCXR162245 | LCX245, LCX16245 |
| | | Dual Supply | VCX163245, VCX164245 | LCX163245, LCX164245, LCXR163245, LCXR164245 |
| | Exclusive-OR | | LCX86 | |
| | Schmitt Trigger | VCX14 | LCX14 | |
| Open-Drain | | LCX05, LCX07 | | |
| Flip-Flops | | VCX574, VCX2574 | LCX74, LCX273, LCX374, LCX574 | |
| Latches | | | LCX373, LCX573 | |
| Decoders | | VCX138 | LCX138 | |
| Multiplexers | Digital | VCX157, VCX257 | LCX157, LCX257 | |
| | Analog | | | |

CMOS Logic ICs / CMOSロジックIC

(TC74AC, TC74VHC, TC74HC and Standard Series) Quick Reference / (TC74AC, TC74VHC, TC74HC, スタンダードシリーズ) 選択早見表

| Functions | | ACL (TC74AC/ACTxxx Series) | VHS (TC74VHC/VHCT/VHCVxxx Series) | |
|---------------------|-----------------|-------------------------------|--|---|
| Gates | NAND | AC00, ACT00 | VHC00, VHCT00A, VHC20 | |
| | | Open Drain | VHC03 | |
| | NOR | AC02 | VHC02, VHC27 | |
| | AND | AC08, ACT08 | VHC08, VHCT08A, VHC21 | |
| | OR | ACT32 | VHC32, VHCT32A | |
| | Buffer | | | |
| | | Open Drain | | |
| | Inverter | | AC04, ACT04 | VHC04, VHCT04A |
| | | Open Drain | AC05 | VHC05 |
| | Exclusive-OR | | VHC86 | |
| | Exclusive-NOR | | | |
| | Schmitt | NAND | | VHC132 |
| | | Buffer | | VHCV17 |
| | | | Open Drain | |
| Inverter | | AC14, ACT14 | VHC14, VHCT14A, VHCV14 | |
| | | Open Drain | | VHCV05 |
| Buffers | 3-State Buffer | QUAD | VHC125, VHCT125A, VHC126, VHCT126A | |
| | | HEX | | |
| | | OCTAL | AC240, ACT240, AC244, ACT244, AC245, ACT245, AC540, ACT540, AC541, ACT541, AC640, ACT640 | VHC240, VHCT240A, VHC244, VHCT244A, VHC540, VHCT540A, VHC541, VHCT541A, VHC245, VHCT245A |
| | Schmitt | Buffer | | VHC9151, VHC9152 |
| | | 3-State Buffer | | VHC9541, VHCT9541A, VHC9125, VHCT9125A, VHC9126, VHCT9126A, VHCV240, VHCV244, VHCV540, VHCV541, VHCV245 |
| Flip-Flops | | DUAL | AC74 | VHC74 |
| | | QUAD | | |
| | | HEX | | VHC174 |
| | | OCTAL | AC273, ACT574 | VHC273, VHC374, VHC574, VHCT574A |
| | Schmitt | | VHC9273, VHCT9273, VHCV374, VHCV574 | |
| Latches | | ACT573 | VHC373, VHC573, VHCT573A | |
| | Schmitt | | VHCV373, VHCV573 | |
| Multivibrators | | | VHC123A, VHC221A | |
| Decoders | | AC138 | VHC138, VHCT138A, VHC139, VHC238 | |
| Encoders | | | | |
| Drivers | LED | | | |
| | LCD | | | |
| | Others | | | |
| Registers | Shift | AC164, AC166 | VHC164, VHC165, VHC595 | |
| | Schmitt | Shift | VHC9164, VHC9595 | |
| Counters | Binary | AC161, AC163 | VHC161, VHC163, VHC393, VHC4040, VHC4020 | |
| | Decade | | | |
| | N-Digit Decade | | | |
| | Divider | | | |
| | Others | | | |
| Multiplexers | Analog | | VHC4051A, VHC4052A, VHC4053A | |
| | Digital | | VHC153, VHC157 | |
| Arithmetic Circuits | Adder | | | |
| | Comparator | | | |
| | Parity Tree | | | |
| | Rate Multiplier | | | |
| FIFO Memories | | | | |
| Others | Timer | | | |
| | Analog Switch | | VHC4066A | |

| HS-C ² MOS (TC74HC/HCTxxx Series) | Standard C ² MOS (TC4000/4500 Series) |
|---|---|
| HC00A, HC20A | 4011B |
| HC02A | 4001B |
| HC08A, HC21A | 4081B |
| HC32A | 4071B |
| HC4050A, HCT7007A | 4050B |
| HC07A | |
| HC04A, HCT04A, HCU04A, HC4049A | 4069UB, 4049B |
| HC05A | |
| | 4030B |
| HC132A | 4093B |
| HC14A | 4584B |
| HC125A, HC126A | |
| HC365A, HC366A | |
| HC240A, HCT240A, HC241A, HC244A, HCT244A, HC245A, HC540A, HCT540A, HC541A, HCT541A, HC640A | |
| HC7240A, HC7244A | |
| HC74A | 4013B |
| HC175A | |
| HC273A, HC374A, HC574A | |
| HC373A, HC573A | |
| HC123A, HC423A, HC4538A | 4538B |
| HC42A, HC138A | 4511B |
| | 4511B |
| HC165A, HC595A | 4021B, 4094B |
| HC4020A, HC4040A, HC393 | 4520B, 4020B, 4040B |
| HC4020A, HC4040A, HC4060A, HC7292A | 4020B, 4040B |
| | 4017B |
| HC4051A, HC4052A, HC4053A, HCT4053A | 4051B, 4052B, 4053B |
| HC151A, HC153A, HC157A, HC251A, HC253A | |
| | |
| | |
| | |
| | |
| HC4066A | 4066B |

CMOS Logic ICs / CMOSロジック IC

(TC74AC, TC74VHC, TC74HC and Standard Series) / (TC74AC, TC74VHC, TC74HC, スタンダードシリーズ)

| No. (xxx) | Number of Pins | Functions | ACL | | | | | | VHS | | | |
|---------------------------------|-------------------|--|---------------------------------|--|------|-------|--|------|-------|--|-------|-------|
| | | | Part Number | TC74AC | | | TC74ACT | | | TC74VHC (2) | | |
| | | | | xxxP | xxxF | xxxFT | xxxP | xxxF | xxxFT | xxxF | xxxFT | xxxFK |
| | | | Package | DIP | SOP | TSSOP | DIP | SOP | TSSOP | SOP | TSSOP | US |
| | | | Supply voltage | 2 to 5.5 V | | | 4.5 to 5.5 V | | | 2 to 5.5 V | | |
| | | | OH /IOL | 24 mA min @ V _{CC} = 4.5 V | | | 24 mA min @ V _{CC} = 4.5 V | | | 8 mA min @ V _{CC} = 4.5 V | | |
| | | | tpLH/tpHL (244 or 4001 type) | 8.5 ns max. @ V _{CC} = 4.5 V C _L = 50 pF, T _a = 85°C | | | 9.0 ns max. @ V _{CC} = 4.5 V C _L = 50 pF, T _a = 85°C | | | 8.5 ns max. @ V _{CC} = 4.5 V C _L = 50 pF, T _a = 85°C | | |
| Tolerant Input | × | | | × | | | ○ | | | | | |
| Power-Down Protection Output | × | | | × | | | × | | | | | |
| 00 | 14 | Quad 2-Input NAND Gate | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| 02 | 14 | Quad 2-Input NOR Gate | ○ | ○ | ○ | | | ○ | ○ | ○ | | |
| 03 | 14 | Quad 2-Input NAND Gate (Open-Drain) | | | | | | ○ | ○ | ○ | | |
| 04 | 14 | Hex Inverter | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| U04 | 14 | Hex Inverter | | | | | | | | | | |
| 05 | 14 | Hex Inverter (Open-Drain) | ○ | ○ | | | | ○ | ○ | ○ | | |
| 07 | 14 | Hex Buffer (Open-Drain) | | | | | | | | | | |
| 08 | 14 | Quad 2-Input AND Gate | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| 14 | 14 | Hex Schmitt Inverter | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| 17 | 14 | Hex Schmitt buffer | | | | | | | | | | |
| 20 | 14 | Dual 4-Input NAND Gate | | | | | | ○ | ○ | ○ | | |
| 21 | 14 | Dual 4-Input AND Gate | | | | | | ○ | ○ | ○ | | |
| 27 | 14 | Triple 3-Input NOR Gate | | | | | | ○ | ○ | ○ | | |
| 32 | 14 | Quad 2-Input OR Gate | | | | ○ | ○ | ○ | ○ | ○ | | |
| 42 | 16 | BCD-to-Decimal Decoder | | | | | | | | | | |
| 74 | 14 | Dual D-Type Flip-Flop with Preset and Clear | ○ | ○ | ○ | | | ○ | ○ | ○ | | |
| 86 | 14 | Quad Exclusive -OR Gate | | | | | | ○ | ○ | ○ | | |
| 123A | 16 | Dual Monostable Multivibrator (tw out = 1.0 Cx·Rx) | | | | | | ○ | ○ | ○ | | |
| 125 | 14 | Quad Bus Buffer (3-State) | | | | | | ○ | ○ | ○ | | |
| 126 | 14 | Quad Bus Buffer (3-State) | | | | | | ○ | ○ | ○ | | |
| 132 | 14 | Quad 2-Input Schmitt NAND Gate | | | | | | ○ | ○ | ○ | | |
| 138 | 16 | 3-to-8 Line Decoder | ○ | ○ | ○ | | | ○ | ○ | ○ | | |
| 139 | 16 | Dual 2-to-4 Line Decoder | | | | | | ○ | ○ | ○ | | |
| 151 | 16 | 8-Channel Multiplexer | | | | | | | | | | |
| 153 | 16 | Dual 4-Channel Multiplexer | | | | | | ○ | ○ | ○ | | |
| 157 | 16 | Quad 2-Channel Multiplexer | | | | | | ○ | ○ | ○ | | |
| 161 | 16 | Sync. Binary Counter with Async. Clear | ○ | ○ | ○ | | | ○ | ○ | ○ | | |
| 163 | 16 | Sync. Binary Counter with Sync. Clear | ○ | ○ | ○ | | | ○ | ○ | ○ | | |
| 164 | 14 | 8-Bit Serial-In / Parallel-Out Shift Register | ○ | ○ | ○ | | | ○ | ○ | ○ | | |
| 165 | 16 | 8-Bit Parallel-In / Serial-Out Shift Register | | | | | | ○ | ○ | ○ | | |
| 166 | 16 | 8-Bit Parallel-In / Serial-Out Shift Register | ○ | ○ | | | | | | | | |
| 173 | 16 | Quad D-Type Register (3-State) | | | | | | | | | | |
| 174 | 16 | Hex D-Type Flip-Flop with Clear | | | | | | ○ | ○ | ○ | | |
| 175 | 16 | Quad D-Type Flip-Flop with Clear | | | | | | | | | | |
| 191 | 16 | 4-Bit Binary Up/Down Counter | | | | | | | | | | |
| 193 | 16 | Sync. Up/Down Binary Counter | | | | | | | | | | |
| 221A | 16 | Dual Monostable Multivibrator (tw out = 1.0 Cx·Rx) | | | | | | ○ | ○ | ○ | | |
| 237 | 16 | 3-to-8 Line Decoder/Latch | | | | | | | | | | |
| 238 | 16 | 3-to-8 Line Decoder | | | | | | ○ | ○ | ○ | | |
| 240 | 20 | Octal Bus Buffer (3-State, Inverted) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| 241 | 20 | Octal Bus Buffer (3-State) | | | | | | | | | | |
| 244 | 20 | Octal Bus Buffer (3-State) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| 245 | 20 | Octal Bus Transceiver (3-State) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | |
| 251 | 16 | 8-Channel Multiplexer (3-State) | | | | | | | | | | |
| 253 | 16 | Dual 4-Channel Multiplexer (3-State) | | | | | | | | | | |
| 258 | 16 | Quad 2-Channel Multiplexer (3-State, Inverted) | | | | | | | | | | |
| 259 | 16 | 8-Bit Addressable Latch | | | | | | | | | | |
| 273 | 20 | Octal D-Type Flip-Flop with Clear | ○ | ○ | ○ | | | ○ | ○ | ○ | | |
| 365 | 16 | Hex Bus Buffer (3-State) | | | | | | | | | | |
| 366 | 16 | Hex Bus Buffer (3-State, Inverted) | | | | | | | | | | |
| 373 | 20 | Octal D-Type Latch (3-State) | | | | | | ○ | ○ | ○ | | |
| 374 | 20 | Octal D-Type Flip-Flop (3-State) | | | | | | ○ | ○ | ○ | | |

○: Available / 量産中。

Note (1): Part numbers are xxxA, not xxxAA. / 品番は xxxAA ではなく、xxxA となります。

(2): The part numbers of the ICs in a TSSOP package are 74xxx, not TC74xxx. / TSSOP の品番は TC74xxx ではなく、74xxx となります。

(3): The part numbers of the ICs in a SOIC package are 74xxx, not TC74xxx. / SOIC の品番は TC74xxx ではなく、74xxx となります。

・ For package dimensions and standard codes, please refer to pages 155 to 156.

・ パッケージの外観図および標準化コードは P.153, P.154 をご覧ください。

| VHS | | | | | HS-C ² MOS | | | | | | | | Standard C ² MOS | | |
|--|--------|--------|--|-------|---|-------|------|--------|---|-------|------|--------|--|-------|--------|
| TC74VHCT ⁽²⁾ | | | TC74VHCV ⁽²⁾ | | TC74HC ⁽³⁾ | | | | TC74HCT ⁽³⁾ | | | | TC | | |
| xxxAF | xxxAFT | xxxAFK | xxxFT | xxxFK | xxxAP | xxxAF | xxxD | xxxAFT | xxxAP | xxxAF | xxxD | xxxAFT | xxxBP | xxxBF | xxxBFT |
| SOP | TSSOP | US | TSSOP | US | DIP | SOP | SOIC | TSSOP | DIP | SOP | SOIC | TSSOP | DIP | SOP | TSSOP |
| 4.5 to 5.5 V | | | 1.8 to 5.5 V | | 2 to 6 V | | | | 4.5 to 5.5 V | | | | 3 to 18 V | | |
| 8 mA min @ V _{CC} = 4.5 V | | | 16 mA min @ V _{CC} = 4.5 V | | 4 or 6 mA min @ V _{CC} = 4.5 V | | | | 4 or 6 mA min @ V _{CC} = 4.5 V | | | | 0.42 mA min @ V _{CC} = 5 V | | |
| 9.5 ns max. @ V _{CC} = 4.5 V C _L = 50 pF, T _a = 85°C | | | 9.5 ns max. @ V _{CC} = 4.5 V C _L = 50 pF, T _a = 85°C | | 23 ns max. @ V _{CC} = 4.5 V C _L = 50 pF, T _a = 85°C | | | | 31 ns max. @ V _{CC} = 4.5 V C _L = 50 pF, T _a = 85°C | | | | 200 ns max. @ V _{CC} = 5 V C _L = 50 pF, T _a = 25°C | | |
| ○ | | | ○ | | × | | | | × | | | | × | | |
| ○ | | | ○ | | × | | | | × | | | | × | | |
| ○ | ○ | ○ | | | ○ | ○ | ○ | | | | ○ | | | | |
| ○ | ○ | ○ | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | | | |
| | | | ○ | ○ | ○ | ○ | ○ | | | | | | | | |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | | | ○ | | | | |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | | | ○ | | | | |
| | | | | | ○(1) | ○(1) | ○ | | | | | | | | |
| ○ | ○ | ○ | | | ○ | ○ | ○ | | | | | | | | |
| ○ | ○ | ○ | | | ○ | ○ | ○ | | | | | | | | |
| | | | | | ○ | ○ | ○ | | | | | | | | |
| | | | | | ○ | ○ | ○ | | | | | | | | |
| | | | | | ○ | ○ | ○ | | | | | | | | |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | | | | |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | | | | |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | | | ○ | | | | |
| | | | | | ○ | ○ | ○ | | | | | | | | |
| | | | | | ○ | ○ | ○ | | | | | | | | |
| | | ○ | ○ | ○ | ○ | ○ | ○ | | | | | | | | |
| | | ○ | ○ | ○ | ○ | ○ | ○ | | | | | | | | |

CMOS Logic ICs / CMOSロジックIC

(TC74AC, TC74VHC, TC74HC and Standard Series) / (TC74AC, TC74VHC, TC74HC, スタンダードシリーズ)

| No. (xxx) | Number of Pins | Functions | ACL | | | | | | VHS | | | | |
|---------------------------------|---|--|----------------------------------|---|------|-------|--|------|-------|---------------------------------------|------|-------|-------|
| | | | Part Number | TC74AC | | | TC74ACT | | | TC74VHC (2) | | | |
| | | | | xxxP | xxxF | xxxFT | xxxP | xxxF | xxxFT | xxxP | xxxF | xxxFT | xxxFK |
| | | | Package | DIP | SOP | TSSOP | DIP | SOP | TSSOP | DIP | SOP | TSSOP | US |
| | | | Supply voltage | 2 to 5.5 V | | | 4.5 to 5.5 V | | | 2 to 5.5 V | | | |
| | | | I _{OH} /I _{OL} | 24 mA min @ V _{CC} = 4.5 V | | | 24 mA min @ V _{CC} = 4.5 V | | | 8 mA min @ V _{CC} = 4.5 V | | | |
| tpLH/tpHL (244 or 4001 type) | 8.5 ns max. @ V _{CC} = 4.5 V C _L = 50 pF, T _a = 85°C | | | 9.0 ns max. @ V _{CC} = 4.5 V C _L = 50 pF, T _a = 85°C | | | 8.5 ns max. @ V _{CC} = 4.5 V C _L = 50 pF, T _a = 85°C | | | | | | |
| Tolerant Input | × | | | × | | | ○ | | | | | | |
| Power-Down Protection Output | × | | | × | | | × | | | | | | |
| 393 | 14 | Dual Binary Counter | | | | | | | | ○ | ○ | ○ | |
| 423A | 16 | Dual Monostable Multivibrator (tw out = 1.0 Cx · Rx) | | | | | | | | | | | |
| 521 | 20 | 8-Bit Equality Comparator | | | | | | | | | | | |
| 534 | 20 | Octal D-Type Flip-Flop (3-State, Inverted) | | | | | | | | | | | |
| 540 | 20 | Octal Bus Buffer (3-State, Inverted) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| 541 | 20 | Octal Bus Buffer (3-State) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| 573 | 20 | Octal D-Type Latch (3-State) | | | | ○ | ○ | ○ | | | | | |
| 574 | 20 | Octal D-Type Flip-Flop (3-State) | | | | ○ | ○ | ○ | | | | | |
| 594 | 16 | 8-Bit Shift Register with Output Register | | | | | | | | | | | |
| 595 | 16 | 8-Bit Shift Register/Latch (3-State) | | | | | | | ○ | ○ | ○ | | |
| 640 | 20 | Octal Bus Transceiver (3-State, Inverted) | ○ | ○ | ○ | ○ | ○ | ○ | | | | | |
| 4001 | 14 | Quad 2-Input Positive NOR Gate | | | | | | | | | | | |
| 4011 | 14 | Quad 2-Input Positive NAND Gate | | | | | | | | | | | |
| 4013 | 14 | Dual D-Type Flip-Flop | | | | | | | | | | | |
| 4017 | 16 | Decade Counter/Divider | | | | | | | | | | | |
| 4020 | 16 | 14-Stage Binary Counter | | | | | | | ○ | ○ | ○ | | |
| 4021 | 16 | 8-Bit Parallel-In, Serial-Out Shift Register | | | | | | | | | | | |
| 4030 | 14 | Quad Exclusive-OR Gate | | | | | | | | | | | |
| 4040 | 16 | 12-Stage Binary Counter | | | | | | | ○ | ○ | ○ | | |
| 4049 | 16 | Hex-Inverting Buffer/Converter | | | | | | | | | | | |
| 4050 | 16 | Hex Non-Inverting Buffer/Converter | | | | | | | | | | | |
| 4051 | 16 | Single 8-Channel Analog Multiplexer/Demultiplexer | | | | | | | | | | | |
| 4051A | 16 | Single 8-Channel Analog Multiplexer/Demultiplexer | | | | | | | ○ | ○ | ○ | | |
| 4052 | 16 | Dual 4-Channel Analog Multiplexer/Demultiplexer | | | | | | | | | | | |
| 4052A | 16 | Dual 4-Channel Analog Multiplexer/Demultiplexer | | | | | | | ○ | ○ | ○ | | |
| 4053 | 16 | Triple 2-Channel Analog Multiplexer/Demultiplexer | | | | | | | | | | | |
| 4053A | 16 | Triple 2-Channel Analog Multiplexer/Demultiplexer | | | | | | | ○ | ○ | ○ | | |
| 4060 | 16 | 14-Stage Binary Counter/Oscillator | | | | | | | | | | | |
| 4066 | 14 | Quad Bilateral Switch | | | | | | | | | | | |
| 4066A | 14 | Quad Bilateral Switch | | | | | | | ○ | ○ | ○ | | |
| 4069U | 14 | Hex Inverter | | | | | | | | | | | |
| 4071 | 14 | Quad 2-Input Positive OR Gate | | | | | | | | | | | |
| 4081 | 14 | Quad 2-Input AND Gate | | | | | | | | | | | |
| 4093 | 14 | Quad 2-Input NAND Schmitt Trigger | | | | | | | | | | | |
| 4094 | 16 | 8-Stage Shift-and-Store Bus Register | | | | | | | | | | | |
| 4511 | 16 | BCD-to-7-Segment Latch/Decoder/Driver | | | | | | | | | | | |
| 4520 | 16 | Dual Binary up Counter | | | | | | | | | | | |
| 4538 | 16 | Dual Precision Mono Multivibrator | | | | | | | | | | | |
| 4584 | 14 | Hex Schmitt Trigger | | | | | | | | | | | |
| 7007 | 14 | Hex Buffer | | | | | | | | | | | |
| 7240 | 20 | Octal Bus Buffer (3-State, Inverted) | | | | | | | | | | | |
| 7244 | 20 | Octal Bus Buffer (3-State) | | | | | | | | | | | |
| 7292 | 16 | Programmable Divider/Timer | | | | | | | | | | | |
| 9125 | 14 | 5-bit Universal Schmitt Buffer(3-State) | | | | | | | ○ | | ○ | ○ | |
| 9126 | 14 | 5-bit Universal Schmitt Buffer(3-State) | | | | | | | ○ | | ○ | ○ | |
| 9151 | 20 | 9-bit Universal Schmitt Buffer | | | | | | | ○ | | ○ | ○ | |
| 9152 | 20 | 9-bit Universal Schmitt Buffer | | | | | | | ○ | | ○ | ○ | |
| 9164 | 16 | 8-Bit Shift Register (P-IN/S-OUT, S-IN/P-OUT) | | | | | | | | | ○ | ○ | |
| 9273 | 20 | Octal D-Type Flip-Flop with Clear | | | | | | | ○ | | ○ | ○ | |
| 9541 | 20 | Octal Universal Schmitt Buffer (3-State) | | | | | | | ○ | | ○ | ○ | |
| 9595 | 16 | 8-Bit Shift Register/Latch | | | | | | | | | ○ | ○ | |

○: Available / 量産中。

Note (1): Part numbers are xxxA, not xxxAA. / 品番は xxxAA ではなく、xxxA となります。

(2): The part numbers of the ICs in a TSSOP package are 74xxx, not TC74xxx. / TSSOP の品番は TC74xxx ではなく、74xxx となります。

(3): The part numbers of the ICs in a SOIC package are 74xxx, not TC74xxx. / SOIC の品番は TC74xxx ではなく、74xxx となります。

・ For package dimensions and standard codes, please refer to pages 155 to 156.

・ パッケージの外観図および標準化コードは P.153, P.154 をご覧ください。

| VHS | | | | | | HS-C ² MOS | | | | | | | | Standard C ² MOS | | |
|--|------------------|------------------|------------------|---|------------------|---|-----------------------|------------------|-------------|---|--------|--------|--------|--|------------------|-------------|
| TC74VHCT ⁽²⁾ | | | | TC74VHCV ⁽²⁾ | | TC74HC ⁽³⁾ | | | | TC74HCT ⁽³⁾ | | | | TC | | |
| xxxP | xxxAF | xxxAFT | xxxAFK | xxxFT | xxxFK | xxxAP | xxxAF | xxxD | xxxAFT | xxxAP | xxxAF | xxxD | xxxAFT | xxxBP | xxxBF | xxxBFT |
| DIP | SOP | TSSOP | US | TSSOP | US | DIP | SOP | SOIC | TSSOP | DIP | SOP | SOIC | TSSOP | DIP | SOP | TSSOP |
| 4.5 to 5.5 V | | | | 1.8 to 5.5 V | | 2 to 6 V | | | | 4.5 to 5.5 V | | | | 3 to 18 V | | |
| 8 mA min @ V _{CC} = 4.5 V | | | | 16 mA min @ V _{CC} = 4.5 V | | 4 or 6 mA min @ V _{CC} = 4.5 V | | | | 4 or 6 mA min @ V _{CC} = 4.5 V | | | | 0.42 mA min @ V _{CC} = 5 V | | |
| 9.5 ns max. @ V _{CC} = 4.5 V C _L = 50 pF, T _a = 85°C | | | | 9.5 ns max. @ V _{CC} = 4.5 V C _L = 50 pF, T _a = 85°C | | 23 ns max. @ V _{CC} = 4.5 V C _L = 50 pF, T _a = 85°C | | | | 31 ns max. @ V _{CC} = 4.5 V C _L = 50 pF, T _a = 85°C | | | | 200 ns max. @ V _{CC} = 5 V C _L = 50 pF, T _a = 25°C | | |
| ○ | | | | ○ | | × | | | | × | | | | × | | |
| ○ | | | | ○ | | × | | | | × | | | | × | | |
| | | | | | | ○ ○ ⁽¹⁾ | ○ ○ ⁽¹⁾ | ○ | | | | | | | | |
| | ○ ○ ○ ○ | ○ ○ ○ ○ | ○ ○ ○ ○ | ○ ○ ○ ○ | ○ ○ ○ ○ | ○ ○ ○ ○ | ○ ○ ○ ○ | ○ ○ ○ ○ | | ○ ○ | ○ ○ | ○ ○ | | | | |
| | | | | | | ○ ○ | ○ ○ | ○ ○ | | | | | | ○ ○ | ○ ○ | ○ ○ |
| | | | | | | ○ | ○ | | | | | | | ○ ○ ○ ○ | ○ ○ ○ ○ | ○ ○ |
| | | | | | | ○ ○ ○ | ○ ○ ○ | ○ ○ ○ | ○ ○ ○ | | | ○ ○ | | ○ ○ ○ ○ | ○ ○ ○ ○ | ○ ○ ○ |
| | | | | | | ○ ○ | ○ ○ | ○ ○ | ○ ○ | | ○ ○ | ○ ○ | | ○ ○ ○ ○ | ○ ○ ○ ○ | ○ ○ |
| | | | | | | ○ ○ ○ | ○ ○ ○ | ○ ○ | ○ ○ | | | | | ○ ○ ○ ○ | ○ ○ ○ ○ | ○ ○ |
| | | | | | | ○ ○ ○ | ○ ○ ○ | ○ ○ | ○ ○ | | | | | ○ ○ ○ ○ | ○ ○ ○ ○ | ○ ○ |
| | | | | | | ○ ○ ○ | ○ ○ ○ | ○ ○ | ○ ○ | | | | | ○ ○ ○ ○ | ○ ○ ○ ○ | ○ ○ |
| ○ | | ○ ○ ○ | ○ ○ ○ | | | ○ ○ ○ | ○ ○ ○ | ○ ○ | ○ ○ | | | | | ○ ○ ○ ○ | ○ ○ ○ ○ | ○ ○ |

Low-Voltage CMOS Logic ICs / 低電圧CMOSロジックIC
(TC74VCX and TC74LCX Series) / (TC74VCX, TC74LCX シリーズ)

| No. (xxx) | Number of Pins | Functions | Low-Voltage C ² MOS | | | | | |
|---------------------------------|---|---|---|---------|-------|------------------------|-------|-------|
| | | | Part Number | TC74VCX | | TC74LCX ⁽¹⁾ | | |
| | | | | xxxFT | xxxFK | xxxF | xxxFT | xxxFK |
| | | | Package | TSSOP | US | SOP | TSSOP | US |
| Supply voltage | 1.2 to 3.6 V | | 1.65 to 3.6 V | | | | | |
| OH /IOL | 24 mA min @ V _{CC} = 3.0 V | | 24 mA min @ V _{CC} = 3.0 V | | | | | |
| tpLH/tpHL (Buffer) | 3.5 ns max. @ V _{CC} = 3.0 V C _L = 30 pF, Ta = 85°C | | 6.5 ns max. @ V _{CC} = 3.0 V C _L = 50 pF, Ta = 85°C | | | | | |
| Tolerant Input | ○ | | ○ | | | | | |
| Power-Down Protection Output | ○ | | ○ | | | | | |
| 00 | 14 | Quad 2-Input NAND Gate | ○ | ○ | ○ | ○ | ○ | |
| 02 | 14 | Quad 2-Input NOR Gate | ○ | ○ | ○ | ○ | ○ | |
| 04 | 14 | Hex Inverter | ○ | ○ | ○ | ○ | ○ | |
| 05 | 14 | Hex Inverter (Open-Drain) | | | ○ | ○ | ○ | |
| 07 | 14 | Hex Buffer (Open-Drain) | | | ○ | ○ | ○ | |
| 08 | 14 | Quad 2-Input AND Gate | ○ | ○ | ○ | ○ | ○ | |
| 14 | 14 | Hex Schmitt Inverter | ○ | ○ | ○ | ○ | ○ | |
| 32 | 14 | Quad 2-Input OR Gate | ○ | ○ | ○ | ○ | ○ | |
| 74 | 14 | Dual D-Type Flip-Flop with Preset and Clear | | | ○ | ○ | ○ | |
| 86 | 14 | Quad Exclusive-OR Gate | | | ○ | ○ | ○ | |
| 125 | 14 | Quad Bus Buffer (3-State) | ○ | ○ | ○ | ○ | ○ | |
| 126 | 14 | Quad Bus Buffer (3-State) | | | ○ | ○ | ○ | |
| 2125 | 14 | Quad Bus Buffer with Series Resistor (3-State) | ○ | ○ | | | | |
| 138 | 16 | 3-to-8 Line Decoder | ○ | ○ | ○ | ○ | ○ | |
| 157 | 16 | Quad 2-Channel Multiplexer | ○ | ○ | ○ | ○ | ○ | |
| 174 | 16 | Hex D-Type Flip-Flop with Clear | | | | | | |
| 240 | 20 | Octal Bus Buffer (3-State/Inverting) | | | ○ | ○ | ○ | |
| 244 | 20 | Octal Bus Buffer (3-State) | ○ | ○ | ○ | ○ | ○ | |
| 2244 | 20 | Octal Bus Buffer with Series Resistor (3-State) | ○ | ○ | | | | |
| 245 | 20 | Octal Bus Transceiver (3-State) | ○ | ○ | ○ | ○ | ○ | |
| 257 | 16 | Quad 2-Channel Multiplexer (3-State) | ○ | ○ | ○ | ○ | ○ | |
| 273 | 20 | Octal D-Type Flip-Flop with Clear | | | ○ | ○ | ○ | |
| 367 | 16 | Hex Bus Buffer (3-State) | | | | | | |
| 373 | 20 | Octal D-Type Latch (3-State) | | | ○ | ○ | ○ | |
| 374 | 20 | Octal D-Type Flip-Flop (3-State) | | | ○ | ○ | ○ | |
| 540 | 20 | Octal Bus Buffer (3-State/Inverting) | | | ○ | ○ | ○ | |
| 541 | 20 | Octal Bus Buffer (3-State) | ○ | ○ | ○ | ○ | ○ | |
| 2541 | 20 | Octal Bus Buffer with Series Resistor (3-State) | ○ | ○ | | | | |
| 573 | 20 | Octal D-Type Latch (3-State) | | | ○ | ○ | ○ | |
| 574 | 20 | Octal D-Type Flip-Flop (3-State) | ○ | ○ | ○ | ○ | ○ | |
| 2574 | 20 | Octal D-Type Flip-Flop with Series Resistor (3-State) | ○ | ○ | | | | |
| 16244 | 48 | 16-Bit Bus Buffer (3-State) | | | | ○ | | |
| 16245 | 48 | 16-Bit Bus Transceiver (3-State) | ○ | | | ○ | | |
| H16245 | 48 | 16-Bit Bus Transceiver with Bushold | ○ | | | | | |
| R162245 | 48 | 16-Bit Bus Transceiver with Series Resistor (3-State) | ○ | | | | | |
| 163245 | 48 | Dual Supply 16-Bit Bus Transceiver (3-State) | ○ | | | ○ | | |
| R163245 | 48 | Dual Supply 16-Bit Bus Transceiver with Series Resistor (3-State) | | | | ○ | | |
| 164245 | 48 | Dual Supply 16-Bit Bus Transceiver (3-State) | ○ | | | ○ | | |
| R164245 | 48 | Dual Supply 16-Bit Bus Transceiver with Series Resistor (3-State) | | | | ○ | | |

○: Available / 量産中。

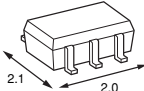
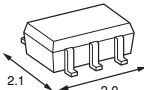
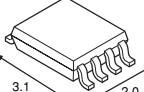
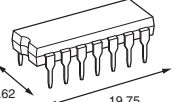
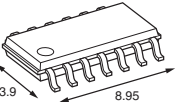
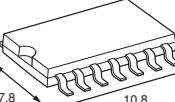
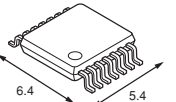
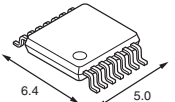
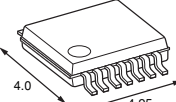
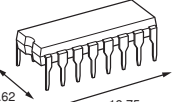
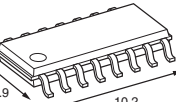
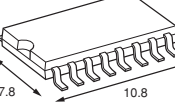
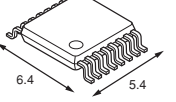
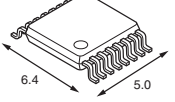
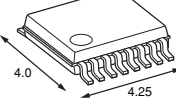
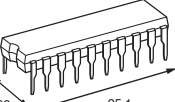
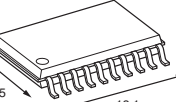
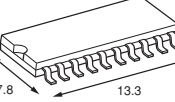
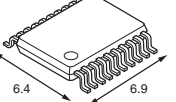
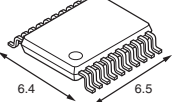
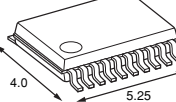
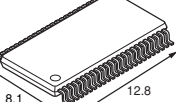
Note (1): The part numbers of the ICs in TSSOP14/16/20 packages are 74xxx, not TC74xxx. / TSSOP14, 16, 20の品番はTC74xxxではなく、74xxxとなります。

・ For package dimensions and standard codes, please refer to pages 155 to 156.

・ パッケージの外観図および標準化コードはP.153, P.154をご覧ください。

Package Dimensions (Unit: mm) For details, please refer to the relevant technical datasheets or databooks. /

パッケージ一覧表 (単位 mm) ※詳細値は TD およびデータブックを参照ください。

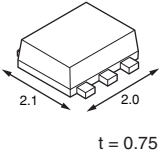
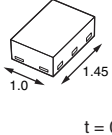
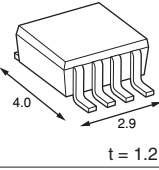
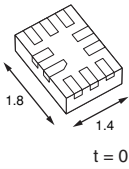
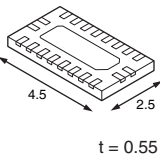
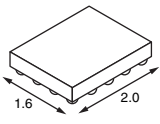
| Package Pin | DIP (xxxP) | SOIC (xxxD) | SOP (xxxF) | TSSOP (xxxFT) | TSSOPxxB (xxxFT) | US (xxxFU) 5, 6 pin (xxxFK) 8, 14, 16, 20 pin |
|---------------|---|---|--|---|---|--|
| 5 pin | | | | | |  t = 1.0 max |
| Standard Code | | | | | | SSOP5-P-0.65A |
| 6 pin | | | | | |  t = 1.0 max |
| Standard Code | | | | | | SSOP6-P-0.65A |
| 8 pin | | | | | |  t = 0.8 max |
| Standard Code | | | | | | SSOP8-P-0.50A |
| 14 pin |  7.62 19.75 |  3.9 8.95 |  7.8 10.8 t = 1.9 max |  6.4 5.4 t = 1.2 max |  6.4 5.0 t = 1.2 max |  4.0 4.25 t = 1.0 max |
| Standard Code | DIP14-P-300-2.54 | P-SOP14-0409-1.27-001 | SOP14-P-300-1.27A | TSSOP14-P-0044-0.65A | P-TSSOP14-0044-0.65-001 | VSSOP14-P-0030-0.50 |
| 16 pin |  7.62 19.75 |  3.9 10.2 |  7.8 10.8 t = 1.9 max |  6.4 5.4 t = 1.2 max |  6.4 5.0 t = 1.2 max |  4.0 4.25 t = 1.0 max |
| Standard Code | DIP16-P-300-2.54A | P-SOP16-0401-1.27-005 | SOP16-P-300-1.27A | TSSOP16-P-0044-0.65A | P-TSSOP16-0044-0.65-001 | VSSOP16-P-0030-0.50 |
| 20 pin |  7.62 25.1 |  7.5 13.1 |  7.8 13.3 t = 1.9 max |  6.4 6.9 t = 1.2 max |  6.4 6.5 t = 1.2 max |  4.0 5.25 t = 1.0 max |
| Standard Code | DIP20-P-300-2.54A | P-SOP20-0813-1.27-001 | SOP20-P-300-1.27A | TSSOP20-P-0044-0.65A | P-TSSOP20-0044-0.65-001 | VSSOP20-P-0030-0.50 |
| 48 pin | | | |  8.1 12.8 t = 1.2 max | | |
| Standard Code | | | | TSSOP48-P-0061-0.50 | | |

・ All values are typical.

・ 数値は標準値

Package Dimensions (Unit: mm) For details, please refer to the relevant technical datasheets or databooks. /

パッケージ一覧表 (単位 mm) ※詳細値はTDおよびデータブックを参照ください。

| Pin | Package | UF (xxxTU) 6 pin SM (xxxFU) 8 pin | MP (xxxL6X) 6 pin | UQFN (xxxMU) 10, 12 pin TQFN (xxxMT) 20, 56 pin | WCSP (xxxWBG) 20 pin |
|---------------|---------|---|--|--|--|
| 6 pin | |  t = 0.75 max |  t = 0.5 max | | |
| Standard Code | | — | MP6 | | |
| 8 pin | |  t = 1.2 max | | | |
| Standard Code | | SSOP8-P-0.65 | | | |
| 10 pin | | | |  t = 0.6 max | |
| Standard Code | | | | P-UQFN10-0202-0.40-001 | |
| 20 pin | | | |  t = 0.55 max |  t = 0.64 max |
| Standard Code | | | | P-UQFN20-0305-0.50-001 | S-UFBGA20-0202-0.40-001 |

· All values are typical.

· 数値は標準値

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