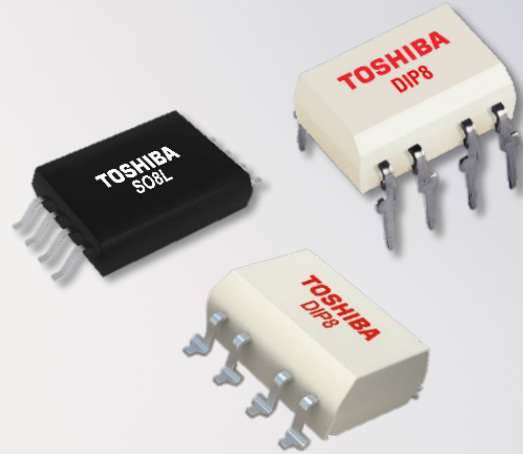


Isolation Amplifiers



Highly Accurate Linearity

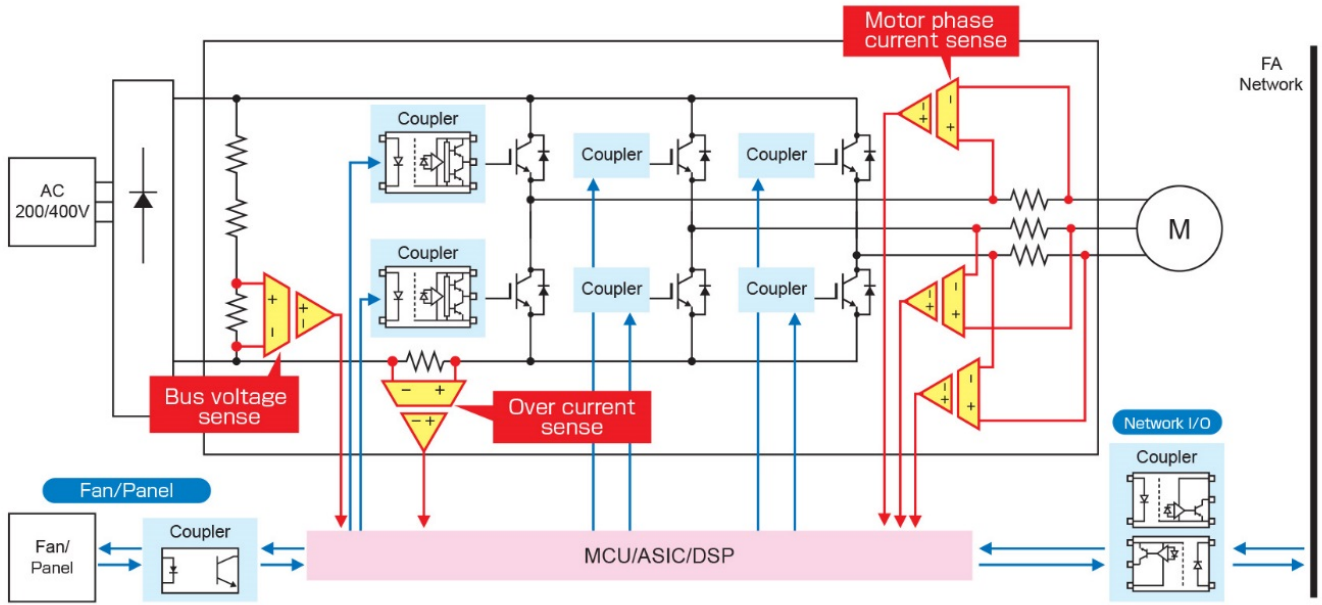
Featuring industry leading highly accurate linearity, the Toshiba TLP7820, TLP7920, TLP7830 and TLP7930 optical isolation amplifiers are equipped with an $\Delta\Sigma$ type AD converter circuit in their input side. They can provide accurate feedback to microcomputers by monitoring motor phase current or bus voltage fluctuation. With an isolation voltage of 5 kVrms (min) they are suitable for a variety of factory automation applications. Their high common-mode transient immunity of 20 kV/ μ s (typ.) means they can operate stably even in motor control applications where a lot of noise is generated

Applications

- Factory automation equipment
- Industrial equipment
- Servo amplifiers
- Machine tools
- Power supplies
- Office equipment
- Power supplies
- Household appliances
- Wind power / photo voltaic AC generation drives

Features	Advantages	Benefits
<ul style="list-style-type: none"> • Highly accurate linearity with $\Delta\Sigma$ type AD converter circuit: <ul style="list-style-type: none"> • $NL_{200}=0.02\%$ (typ.) (analogue output products) • $INL=4$ LSB (typ.) (digital output products) • Low input side supply current: <ul style="list-style-type: none"> • $I_{DD1}=8.6$ mA (typ.) (analogue output products) • $I_{DD1}=8.5$ mA (typ.) (digital output products) • High common-mode transient immunity: $CMTI=20$ kV/μs (typ.) • High isolation voltage: • Small SO8L package • Wide operating temperature range: -40 to +105°C 	<ul style="list-style-type: none"> • Industry leading highly accurate linearity for advanced system performance. • Stable operation in applications like motor control, where a lot of noise is generated • Low power consumption • Stable operation over wide temperature range • Optical Isolation for highest Galvanic Isolation Capability • Reduces the footprint by 30% and the height by 40% compared with conventional DIP8 package • Products are perfectly applicable in harsh environments 	<ul style="list-style-type: none"> Attractive cost effects <ul style="list-style-type: none"> • High reliability of end products reduce costs of operation failures • Ability to reduce BOM costs due to most effective solutions • Customers can save money through design and space optimisation Smart performance increases <ul style="list-style-type: none"> • Strong isolation for enhanced safety and reliability • Easy design for best performance

AC Drive circuit



Analogue output products

Part number	Package	Output type	Absolute maximum ratings	Recommended operating conditions	NL ₂₀₀ typ. @±200 mV (%)	G typ. @T _a =25 °C (V/V)	Rank max/min @T _a =25 °C (%)	I _{DD1} typ. (mA)	CMTI typ. @V _{CM} =1 kV, T _a =25 °C (kV/μs)	BV _S min @T _a =25 °C, AC, 60 s (Vrms)
			T _{opr} (°C)	V _{IN+} , V _{IN-} (mV)						
TLP7820	SO8L	Single-phase output (0 to 2.5 V)	-40 to 105	±200 (±300※2)	0.02	8.2	G0: ±0.5 G1: ±1.0 G3: ±3.0	8.6	20	5000
TLP7920	DIP8									

Digital output products

Part number	Package	Output type	Absolute maximum ratings	Recommended operating conditions	INL typ. (LSB)	G _E min/max @T _a =25 °C (%)	I _{DD1} typ. (mA)	CMTI typ. (kV/μs)	BV _S min @T _a =25 °C, AC, 60 s (Vrms)
			T _{opr} (°C)	V _{IN+} , V _{IN-} (mV)					
TLP7830	SO8L	1 bit digital/CLK output	-40 to 105	±200 (±300※2)	4	±1.0	8.5	20	5000
TLP7930	DIP8								

(Unless otherwise specified, @T_a= -40 to 105 °C)

※2 : Full scale analogue input voltage range