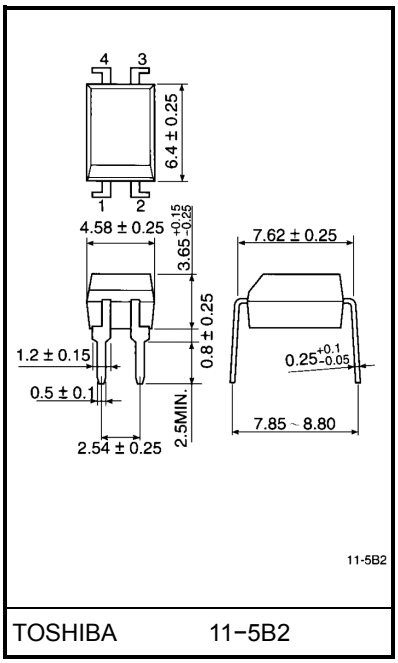
TENTATIVE

TOSHIBA Photocoupler Photo−Diode

TLP722

Unit in mm



TOSHIBA 11−5B2

Weight: 0.28 g

The TOSHIBA TLP722 consists of a photo−diode optically coupled to a gallium arsenide infrared emitting diode in a four lead plastic DIP (DIP4).

TLP722: Single circuit

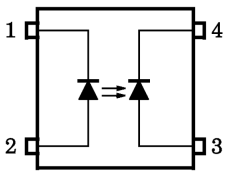
- Cathode−anode voltage: 30V (max)
- Current transfer ratio: 0.1% (min)
- Input / output isolation voltage: 4000V_{rms} (min)
- Operating temperature range: −55~100°C
- Storage temperature range: −55~125°C
- UL recognized: UL1577, E67349
- VDE approved: VDE0884
  Maximum operating insulation voltage: 890V_{PK}
  Maximum permissible over voltage: 8000V_{PK}

(Note): When a VDE0884 approved type is needed, please designate the " Option (D4) "

- SEMKO approved product: SS EN60950,
  approved No. 9808324 / 01
- Construction mechanical rating

	TLP722 type	TLP722F type
Creepage distance	7.0 mm	8.0 mm
Clearance	7.0 mm	8.0 mm
Insulation thickness	0.4 mm	0.4 mm

Pin Configuration (top view)



1 : LED CATHODE
2 : LED ANODE
3 : DETECTOR ANODE
4 : DETECTOR CATHODE

Maximum Ratings (Ta = 25°C)

Characteristic		Symbol	Rating	Unit
LED	Forward current	I_F	25	mA
	Forward current derating	ΔI_F / °C	−0.45 (Ta ≥ 70°C)	mA / °C
	Pulse forward current	I_{FP}	1 (1μs pulse, 1000 pps)	mA
	Pulse forward current	I_{FTP}	1 (100μs pulse, 1000 pps)	A
	Reverse voltage	V_R	5	V
Detector	Cathode−anode voltage	V_{KAO}	30	V
	Anode−cathode voltage	V_{AKO}	0.5	V
	Photodiode output current	I_{PB}	100	μA
	Junction temperature	T_j	125	°C
Storage temperature range		T_{stg}	−55~125	°C
Operating temperature range		T_{opr}	−55~100	°C
Lead soldering temperature (10 s)		T_{sol}	260 (10s)	°C
Isolation voltage		BV_S	4000 (AC, 1min., R.H. 60%)	V_{rms}

Individual Electrical Characteristics (Ta = 25°C)

Characteristic		Symbol	Test Condition	Min	Typ.	Max	Unit
LED	Forward voltage	V_F	I_F = 16 mA	—	1.65	1.85	V
	Reverse current	I_R	V_R = 5 V	—	—	10	μA
	Capacitance	C_T	V = 0, f = 1 MHz	—	30	—	pF
Detector	Cathode−anode breakdown voltage	$V_{(BR)KAO}$	I_{KA} = 0.1 mA	30	—	—	V
	Anode−cathode breakdown voltage	$V_{(BR)AKO}$	I_{AK} = 0.1 mA	0.5	—	—	V
	Dark current	I_{leak}	V_{KA} = 10 V	—	—	50	nA
			V_{KA} = 10 V, Ta = 85°C	—	—	1	μA
	Photodaiode output current	I_{PB}	V = 10 mA, V_{KA} = 5 V	10	—	50	μA
	Capacitance	C_{AK}	V = 0, f = 1 MHz	—	10	—	pF

Isolation Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Capacitance (input to output)	C_S	V_S = 0, f = 1 MHz	—	0.8	—	pF
Isolation resistance	R_S	V_S = 500 V	1×10^{12}	10^{14}	—	Ω
Isolation voltage	BV_S	AC, 1 minute	4000	—	—	V_{rms}
		AC, 1 second, in oil	—	10000	—	
		DC, 1 minute, in oil	—	10000	—	V_{dc}

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