TLP1200A

(TLP1200A)

COPYING MACHINE, LASER BEAM PRINTER, LED PRINTER

FACSIMILE, PRINTER

AUTOMATIC VENDING MACHINE, TERMINAL EQUIPMENT IN BANKING FACILITIES

PLAYING EQUIPMENT, FA EQUIPMENT

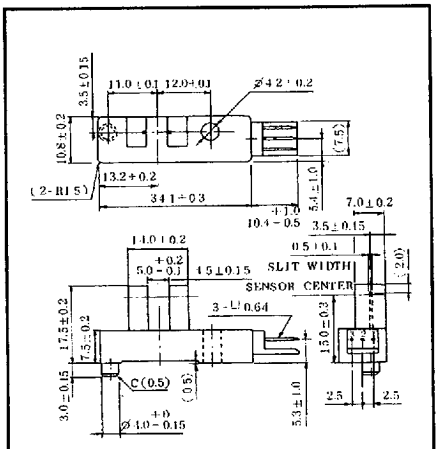
VARIOUS POSITION DETECTION SENSOR

The TLP1200A is a digital output photo interrupter having connectors with an infrared LED and a high sensitivity and low current consumption photo IC combined.

The output becomes low level when the light is shielded.

- One side mounting type
- Supply voltage : 5V
- Digital output (with a pull-up resistor)
- Detection gap : 5mm
- Detecting accuracy : Slit width 0.5mm
- Low current consumption : I_{CC} = 17.5mA (MAX.)
- UL recognized PWB adopted : 94V-0
- Material of the case : Polycarbonate
- Connector
  171825-3 (AMP Japan Ltd. made EI Connector)

Unit in mm

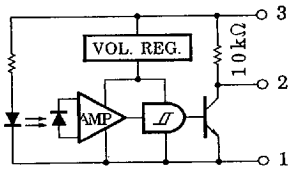


( ): REFERENCE VALUE

JEDEC	—
EIAJ	—
TOSHIBA	11-14C5

Weight : 2.57g (TYP.)

PIN CONNECTION



1. GND
2. OUT
3. V_{CC}

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltge	V_{CC}	6	V
Output Voltage	V_O	V_{CC} + 0.5	V
Low Level Output Current	I_{OL}	50	mA
Low Level Output Current Derating (Ta > 25°C)	ΔI_{OL} / °C	−0.67	mA / °C
Operating Temperature Range	T_{opr}	−25~75	°C
Storage Temperature Range	T_{stg}	−40~85	°C

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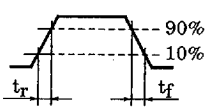
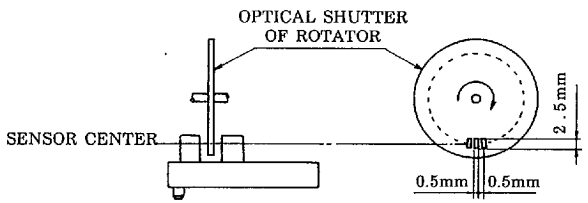
RECOMMENDED OPERATING CONDITIONS

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply Voltage	V_{CC}	4.5	5.0	5.5	V
Low Level Output Current	I_{OL}	—	—	16	mA
Operating Temperature Range	T_{opr}	−25	—	75	°C

OPTO-ELECTRICAL CHARACTERISTICS (Unless Otherwise Specified, Ta = −25~75°C, V_{CC} = 5V ± 10%)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage		V_{CC}	—	4.5	5.0	5.5	V
Supply Current	High Level	I_{CCH}	Without Shutter	—	—	17.5	mA
	Low Level	I_{CCL}	Shutter In	—	—	17.5	
Output Voltage	High level	V_{OH}	Without Shutter	V_{CC}×0.9	—	—	V
	Low level	V_{OL}	Shutter In, I_{OL}=16mA, Ta=25°C	—	0.07	0.35	
			Shutter In, I_{OL}=16mA	—	—	0.4	
Peak Emittion Wavelength		λ_P	Ta=25°C, LED Side	—	940	—	nm
Peak Sensitivity Wavelength		λ_P	Ta=25°C, Photo IC Side	—	900	—	nm
Response Frequency		f	Ta=25°C (Note)	3000	—	—	Hz
Rise Time		t_r		—	2	—	μs
Fall Time		t_f		—	0.03	—	

(Note) Response frequency is a value measured when the disc shown in the following figure was rotated. No DC current should be output.



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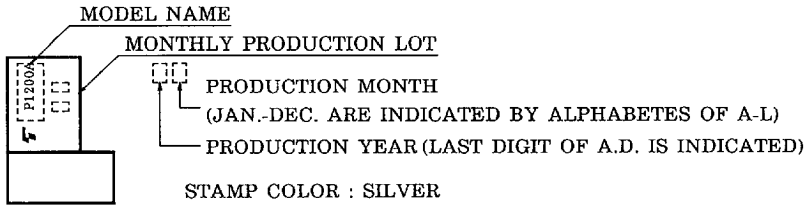
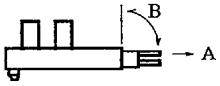
PRODUCT INDICATION



TERMINAL STRENGTH (Ta = 25°C)

CHARACTERISTIC	TEST CONDITION		LIMIT
PULL	DIRECTION	A	NO DEFECT OF ELECTRICAL CHARACTERISTICS
	WEIGHT	19.6N	
	TIME	5s / ONCE	
BEND	DIRECTION	B	
	WEIGHT	9.8N	
	TIME	5s / THRICE	



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PRECAUTION

Please be careful of the followings.

1. During 100μs after turning on V_{CC}, output voltage changes for stabilizing the inner circuit.
2. When installing, avoid to work by holding the connector by hand. Always, install by holding the main body of the element while assuring the mounting board is not warped or twisted.
3. Screw shall be tightened to clamping torque of 0.59N·m.
4. It is recommended to mount this product by inserting from the sheet metal pressed side.
5. The container is made of polycarbonate. Polycarbonate is usually stable with acid, alcohol, and aliphatic hydrocarbons however, with pertochemicals (such as benzene, toluene, and acetone), alkali, aromatic hydrocarbons, or chloric hydrocarbons, polycarbonate becomes cracked, swollen, or melted. Please take care when chosing a packaging material by referencing the table below.

<Chemicals to avoid with polycarbonate>

	PHENOMENON	CHEMICALS
A	Little deterioration but staining	• nitric acid (low concentration), hydrogen peroxide, chlorine
B	Cracked, crazed, or swollen	• acetic acid (70% or more) • gasoline • methyl ethyl ketone, ehtyl acetate, butyl acetate • ethyl methacrylate, ethyl ether, MEK • acetone, m-amino alcohol, carbon tetrachloride • carbon disulfide, trichloroethylene, cresol • thinners, oil of turpentine • triethanolamine, TCP, TBP
C	Melted { } : Used as solvent.	• concentrated sulfuric acid • benzene • styrene, acrylonitrile, vinyl acetate • ethylenediamine, diethylenediamine • {chloroform, methyl chloride, tetrachloromethane, dioxane, 1, 2-dichloroethane}
D	Decomposed	• ammonia water • other alkali

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RECOMMENDABLE MATCHED CONNECTOR

AMP Japan Ltd. made EI series connector (Standard type)

HOUSING	NATURAL COLOR	BLACK	BLUE	GREEN	RED
	171822-3	2-171822-3	4-171822-3	6-171822-3	8-171822-3
TERMINAL	TYPE No.	PRODUCT FORM	MATERIAL	AWG SIZE	INSULATION COATED SIZE
	170204-1	LOOSEN	BRASS	AWG20~26	1.1~1.9mm
	170204-2		PHOSPHOR BRONZE		
	170262-1	LINKED	BRASS		
	170262-2		PHOSPHOR BRONZE		
	170205-1	LOOSEN	BRASS	AWG26~30	1.0~1.4mm
	170205-2		PHOSPHOR BRONZE		
	170263-1	LINKED	BRASS		
	170263-2		PHOSPHOR BRONZE		

AMP Japan Ltd. made EI series connector (Low profile type)

HOUSING	NATURAL COLOR	BLACK	BLUE	GREEN	RED
	172142-3	2-172142-3	4-172142-3	6-172142-3	8-172142-3
TERMINAL	TYPE No.	PRODUCT FORM	MATERIAL	AWG SIZE	INSULATION COATED SIZE
	170369-1	LOOSEN	PHOSPHOR BRONZE	AWG22~26	1.1~1.9mm
	170354-1	LINKED			
	170370-1	LOOSEN		AWG26~30	1.0~1.5mm
	170355-1	LINKED			

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