

Photointerrupter, Ultraminiature SMD type



Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Forward current	I _F	50	mA
Reverse voltage	V _R	5	V
Power dissipation	P _D	80	mW
Collector-emitter voltage	V _{CEO}	30	V
Emitter-collector voltage	V _{ECO}	4.5	V
Collector current	I _C	30	mA
Collector power dissipation	P _C	80	mW
Operating temperature	T _{opr}	-30 to +85	°C
Storage temperature	T _{stg}	-40 to +85	°C

Applications

- DSC(Digital steal camera)
- DVC(Digital video camera)
- Digital handy phone

Features

- 1) Ultraminiature SMD type.
- 2) Gap 1.2mm.

Electrical and optical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions	
Forward voltage	V _F	-	1.5	1.8	V	I _F =50mA	
Reverse current	I _R	-	10	10	μA	V _R =5V	
Dark current	I _{CEO}	-	0.1	0.1	μA	V _{CE} =10V	
Peak sensitivity wavelength	λ _P	-	800	-	nm	-	
Transfer characteristics	Collector current	I _C	0.15	-	0.75	mA	I _F =5mA, V _{CE} =5V
		I _C	0.9	-	3.6	mA	I _F =20mA, V _{CE} =5V
	DC leakage current	I _{leak}	-	-	5	mA	I _F =5mA, V _{CE} =5V
	Collector-emitter saturation voltage	V _{CE(sat)}	-	-	0.4	V	I _F =20mA, I _C =0.1mA
Response time	Rise time	t _r	-	10	μs	V _{CC} =5V, I _F =20mA, R _L =100Ω	
	Fall time	t _f	-	10	μs		
Infrared light emitting diode	Peak light emitting wavelength	λ _P	-	850	nm	I _F =50mA * Non-coherent Infrared light emitting diode used.	
Photo transistor	Response time	t _r -t _f	-	10	μs	V _{CC} =5V, I _C =1mA, R _L =100Ω * This product is not designed to be protected against electromagnetic wave.	
	Maximum sensitivity wavelength	λ _P	-	800	nm	-	

Electrical and optical characteristics curves

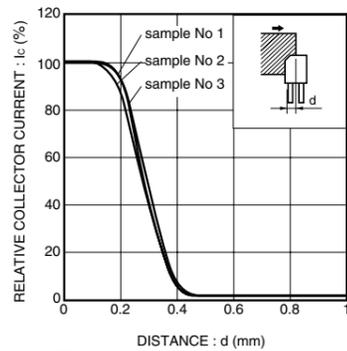


Fig.1 Relative output current vs. distance (I)

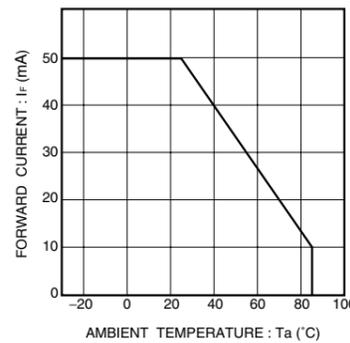


Fig.2 Forward current falloff

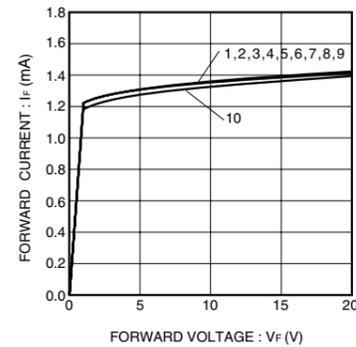


Fig.3 Forward current vs. forward voltage

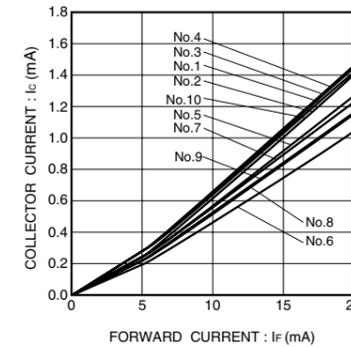


Fig.7 Collector current vs. forward current

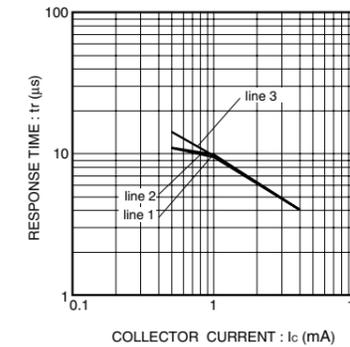


Fig.8 Response time vs. collector current (I)

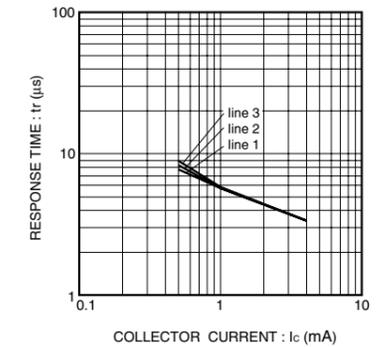


Fig.9 Response time vs. collector current (II)

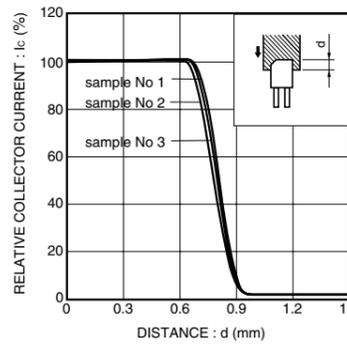


Fig.4 Relative output current vs. distance (II)

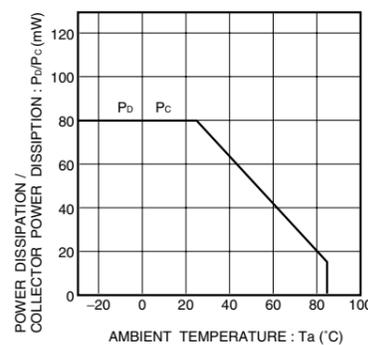


Fig.5 Power dissipation / collector power dissipation vs. ambient temperature

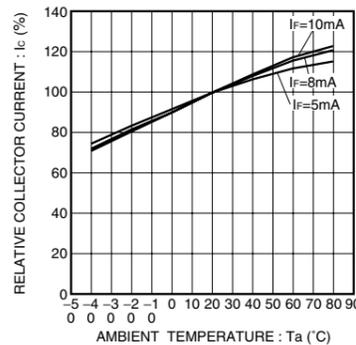


Fig.6 Relative output vs. ambient temperature

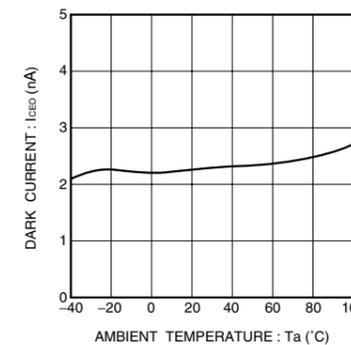


Fig.10 Dark current vs. ambient temperature

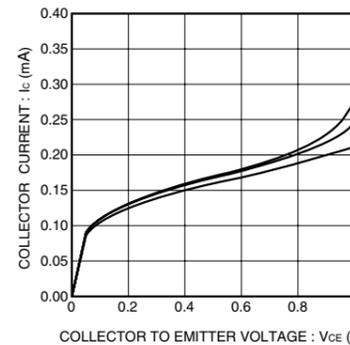
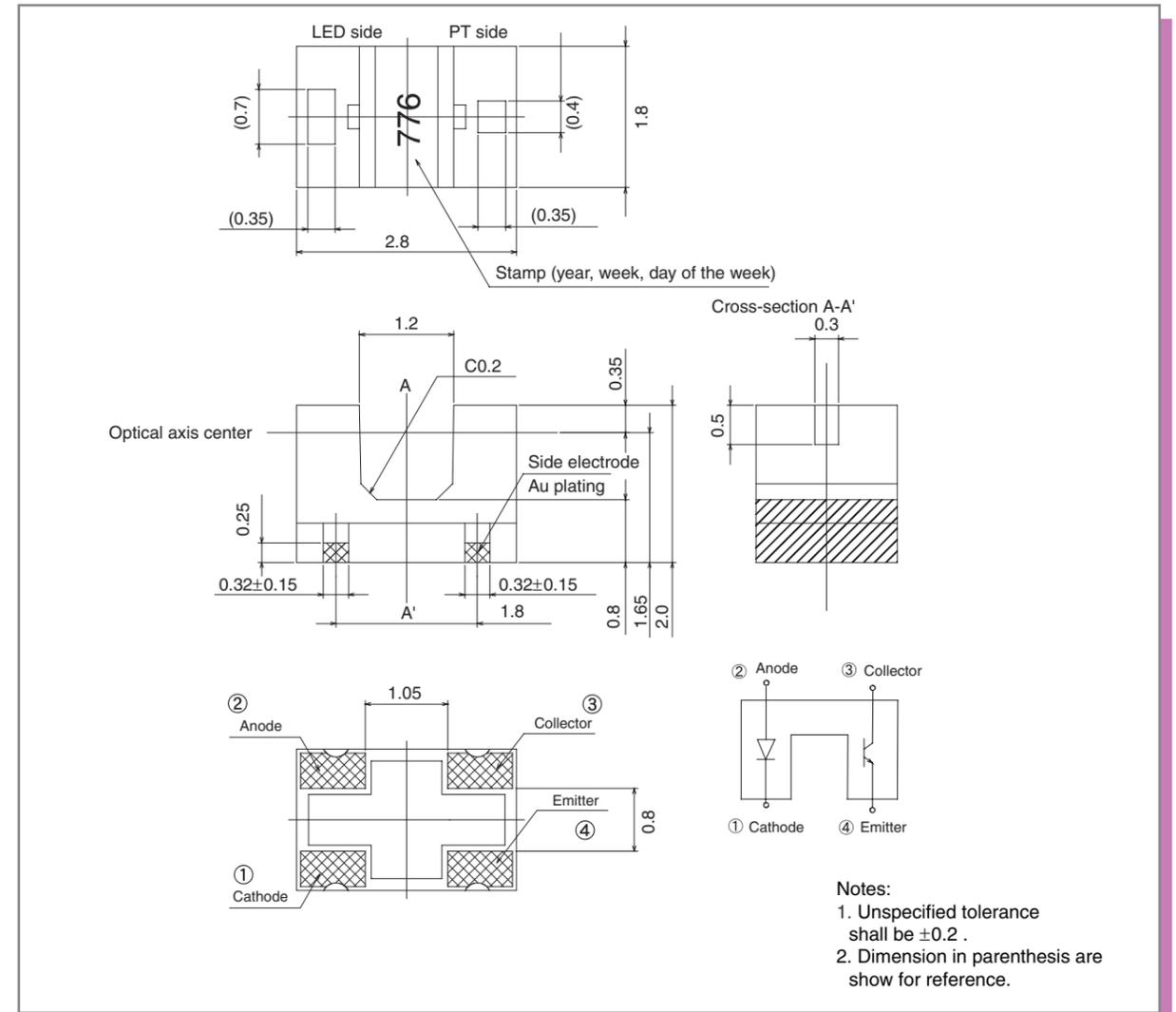


Fig.11 Output characteristics

Dimensions (Unit : mm)



- Notes:
1. Unspecified tolerance shall be ±0.2 .
 2. Dimension in parenthesis are show for reference.

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