Part Number: **PI-A18**

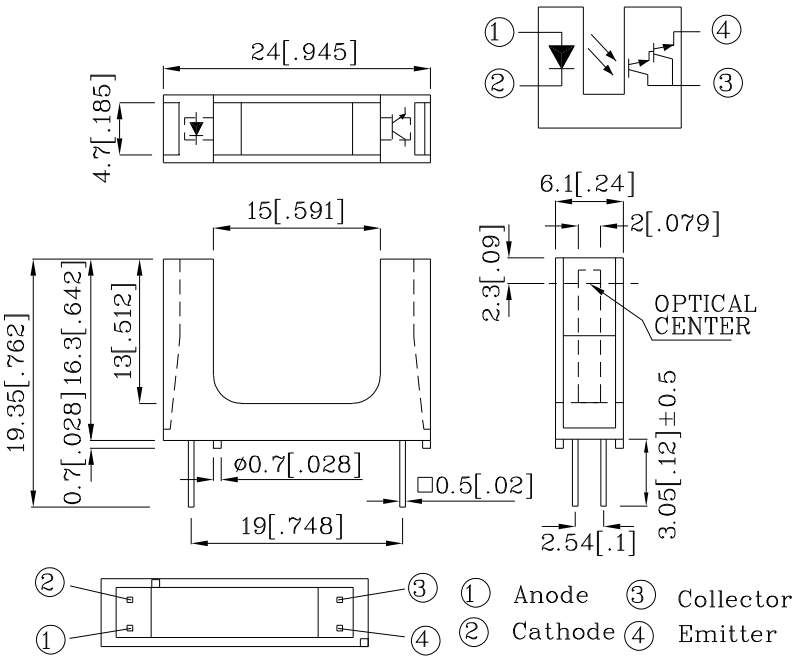
PHOTO-INTERRUPTER

Features

- High sensing accuracy
- High current transfer ratio
- Both-sides mounting type
- RoHS compliant.

Applications

- OA equipment, such as floppy disk drives, printers, facsimiles, etc
- VCRs



UNIT : MM[INCH]
TOLERANCE : ± 0.25[0.01"] UNLESS OTHERWISE NOTED.

Absolute Maximum Ratings (T_A=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	Reverse voltage	V_R	6	V
	Power dissipation	Pd	75	mW
	Peak Forward Current (Pulse Width <100uS,Duty Cycle=1%)	I_{FP}	1	A
Output	Collector-emitter voltage	V_{CEO}	35	V
	Emitter-collector voltage	V_{ECO}	6	V
	Collector current	I_C	40	mA
	Collector power dissipation	P_C	75	mW
Operating temperature		Topr	-25~+85	°C
Storage temperature		Tstg	-40~+100	°C
Soldering temperature (1/16 inch from body for 5 seconds)		Tsol	260	°C

Electrical / Optical Characteristics at T_A=25°C

Parameter			Symbol	Conditions	Min.	Typ.	Max.	Unit
Input	Forward voltage		V_F	I_F=20mA	1.0	1.2	1.5	V
	Reverse current		I_R	V_R=6V	_	_	10	μ A
	Peak forward voltage		V_{FM}	I_{FM}=0.5A		2	3	V
	Peak Wavelength		λ P	I_F=20mA	_	940	_	nm
Output	Collector dark current		I_{CEO}	V_{CE} =10V I_F=0mA	_	_	10^{-6}	A
Transfer Characteristics	Collector-emitter saturation voltage		$V_{CE(SAT)}$	I_C=1mA I_F=2mA	_	_	1.0	V
	Current transfer ratio		CTR	V_{CE}=2V I_F=1mA	_	120	_	%
	Response time	Rise time	tr	V_{CE}=2V I_C=10mA R_L=100 Ω	_	90	400	μ Sec
		Fall time	tf		_	80	300	μ Sec

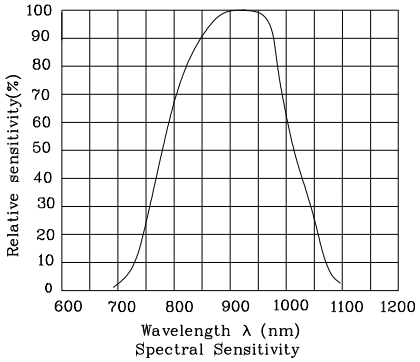


Fig.1 FORWARD CURRENT Vs. FORWARD VOLTAGE

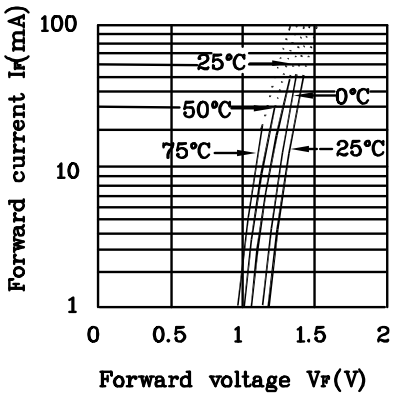


Fig.2 COLLECTOR CURRENT Vs. FORWARD CURRENT

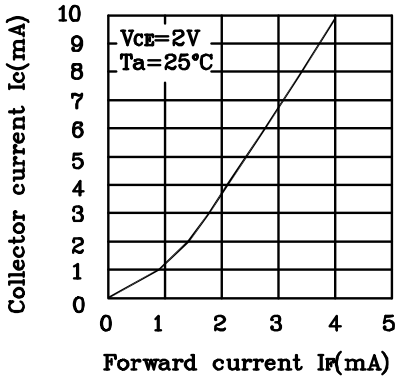


Fig.3 COLLECTOR CURRENT Vs. COLLECTOR-EMITTER VOLTAGE

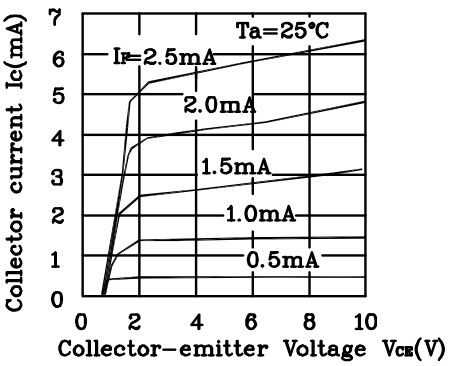


Fig.4 COLLECTOR CURRENT Vs. AMBIENT TEMPERATURE

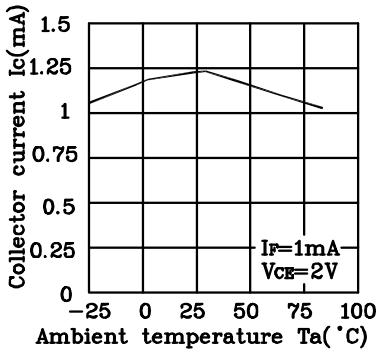


Fig.5 COLLECTOR−EMITTER SATURATION VOLTAGE Vs. AMBIENT TEMPERATURE

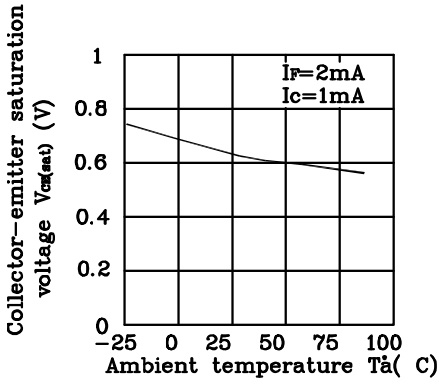


Fig.6 RELATIVE COLLECTOR CURRENT Vs. SHIELD DISTANCE (1)

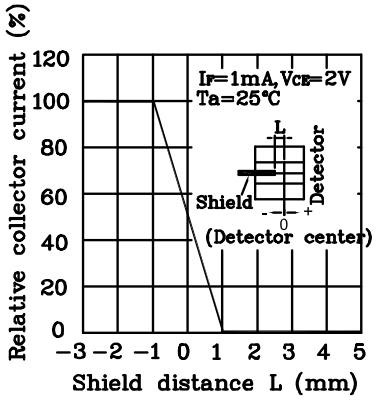


Fig.7 RELATIVE COLLECTOR CURRENT Vs. SHIELD DISTANCE (2)

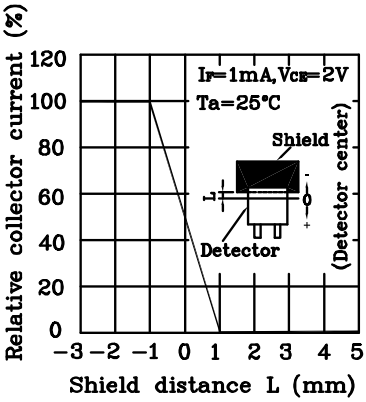
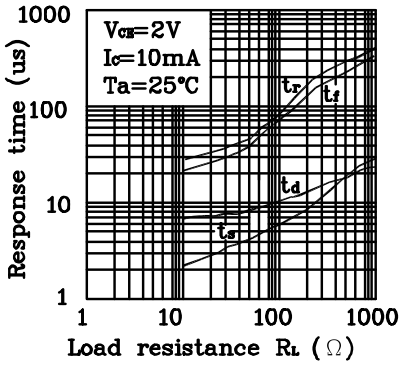
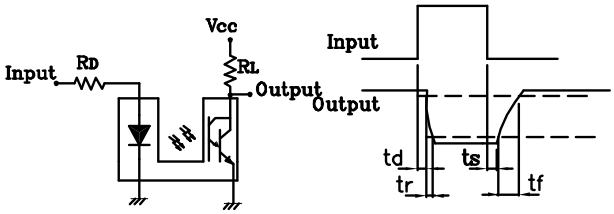


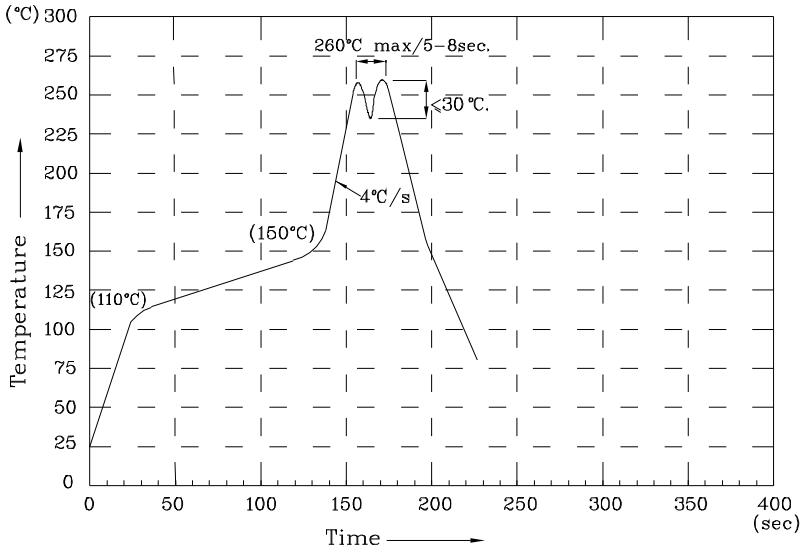
Fig.8 RESPONSE TIME Vs. LOAD RESISTANCE



Test Circuit for Response Time



Wave Soldering Profile For Lead-free Through-hole LED.



NOTES:

1. Recommend the wave temperature 245℃~260℃. The maximum soldering temperature should be less than 260℃.
2. Do not apply stress on epoxy resins when temperature is over 85 degree℃.
3. The soldering profile apply to the lead free soldering (Sn/Cu/Ag alloy).
4. No more than once.