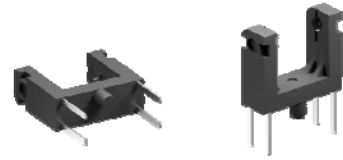


ARA021

Photointerrupter - Transmissive Type



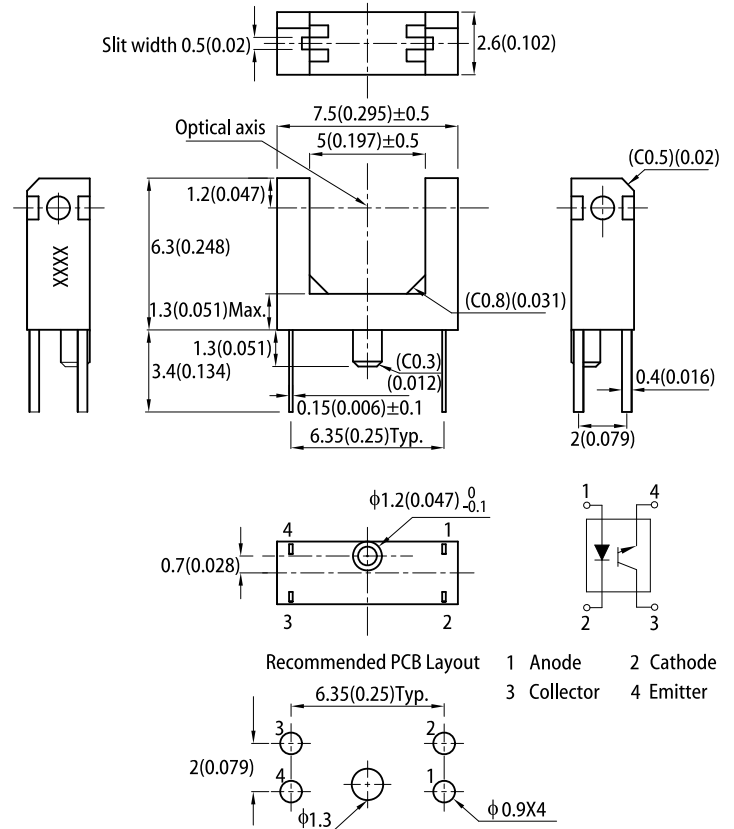
FEATURES

- Compact package
- High sensing accuracy (Slit width: 0.5mm)
- Printed wiring board direct mounting type (with a locating pin)
- Gap between light emitter and detector: 5mm
- Housing UL rating: 94V-0
- RoHS compliant

APPLICATIONS

- Copiers, printers and Fax Machines
- VCRs and CD players
- Various position detection sensor

PACKAGE DIMENSIONS



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.15(0.006)$ unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

ELECTRICAL / OPTICAL CHARACTERISTICS at $T_A=25^\circ\text{C}$

Parameter		Symbol	Value			Unit	Conditions
			Min.	Typ.	Max.		
Input	Forward Voltage	V _F	-	1.15	1.4	V	I _F =10mA
	Reverse Current	I _R	-	-	10	μA	V _R =5V
Output	Collector Current	I _C / I _F	2.5	-	50	%	I _F =10mA, V _{CE} =2V
	Collector Dark Current	I _D	-	-	100	nA	V _{CE} =24V, 0LX
	Collector-Emitter Saturation Voltage	V _{CE(sat)}	-	0.1	0.4	V	I _C =0.25mA I _F =20mA
Rise Time		t _r	-	15	50	μs	V _{CE} =5V, R _L =1KΩ I _C =1mA
Fall Time		t _f	-	15	50		

Note:

1. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

ABSOLUTE MAXIMUM RATINGS at $T_A=25^{\circ}\text{C}$

Parameter		Symbol	Rating	Unit
Input	Forward Current ^[1]	I_F	30	mA
	Reverse Voltage	V_R	5	V
	Power Dissipation	P_D	35	mW
	Peak Forward Current ^[2]	I_{FP}	100	mA
Output	Collector-Emitter Voltage	V_{CEO}	35	V
	Emitter-Collector Voltage	V_{ECO}	5	V
	Collector Current	I_C	50	mA
	Collector Power Dissipation	P_C	75	mW
Operating Temperature		T_{opr}	-30~+85	$^{\circ}\text{C}$
Storage Temperature		T_{stg}	-40~+100	$^{\circ}\text{C}$
Soldering Temperature (5s) ^[3]		T_{sol}	260	$^{\circ}\text{C}$

Notes:
 1. Refer to the temperature rating chart if the ambient temperature exceeds 25°C .
 2. Duty: 1/100, Pulse Width: 0.1ms.
 3. At the location of 1.5mm from the package bottom.
 4. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

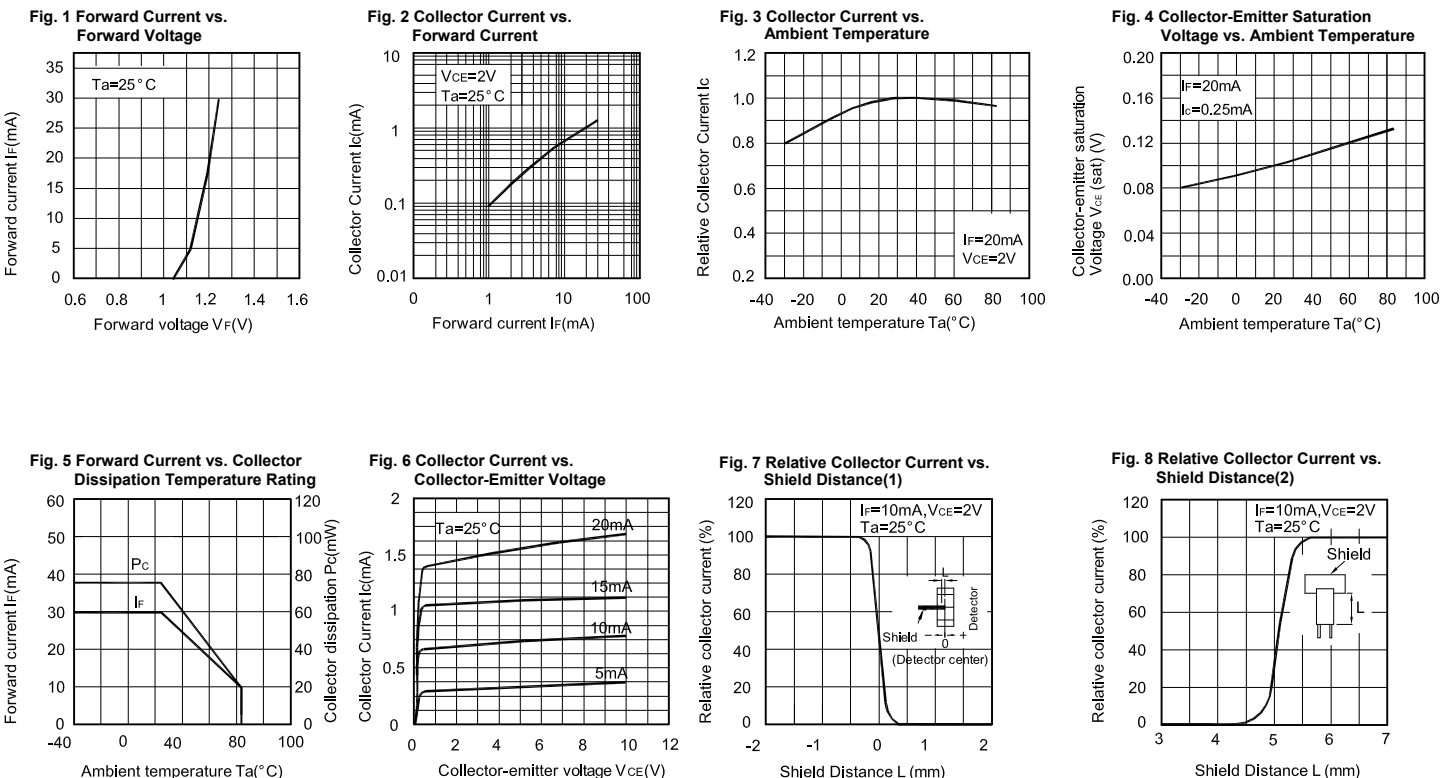
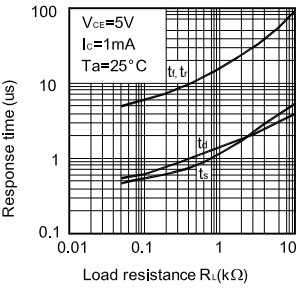
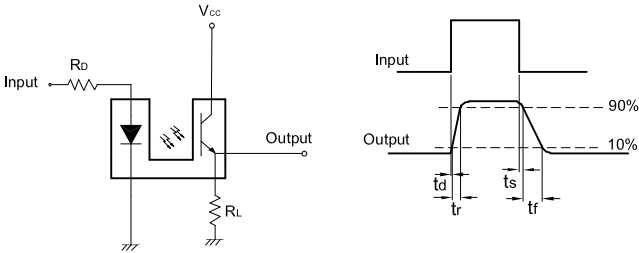
TECHNICAL DATA

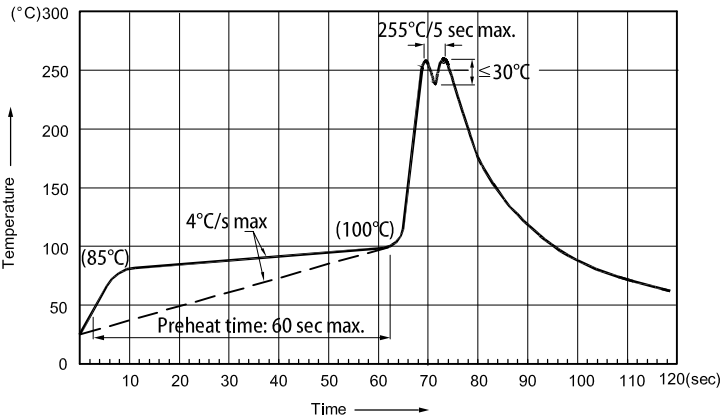
Fig. 9 Response Time vs. Load Resistance



Test Circuit for Response Time



RECOMMENDED WAVE SOLDERING PROFILE



- Notes:
- 1. Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C
 - 2. Peak wave soldering temperature between 245°C ~ 255°C for 3 sec (5 sec max).
 - 3. Do not apply stress to the epoxy resin while the temperature is above 85°C.
 - 4. Fixtures should not incur stress on the component when mounting and during soldering process.
 - 5. SAC 305 solder alloy is recommended.
 - 6. No more than one wave soldering pass.
 - 7. After opening the package: The LEDs should be kept at 30°C or less and 60%RH or less. The LEDs should be soldered within 72 hours (30days) after opening the package.

PACKING & LABEL SPECIFICATIONS

