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DATA SHEET

PART NO. : PA-ITRSR8307

REV : A / 0

CUSTOMER'S APPROVAL : _____ DCC : _____

Descriptions

The PA-ITRSR8307 is a light reflection switch which includes a GaAs IR-LED transmitter and a NPN photo-transistor with a high sensitive receiver for short distance, operating in the infrared range. Both components are mounted side- by- side in a plastic package.

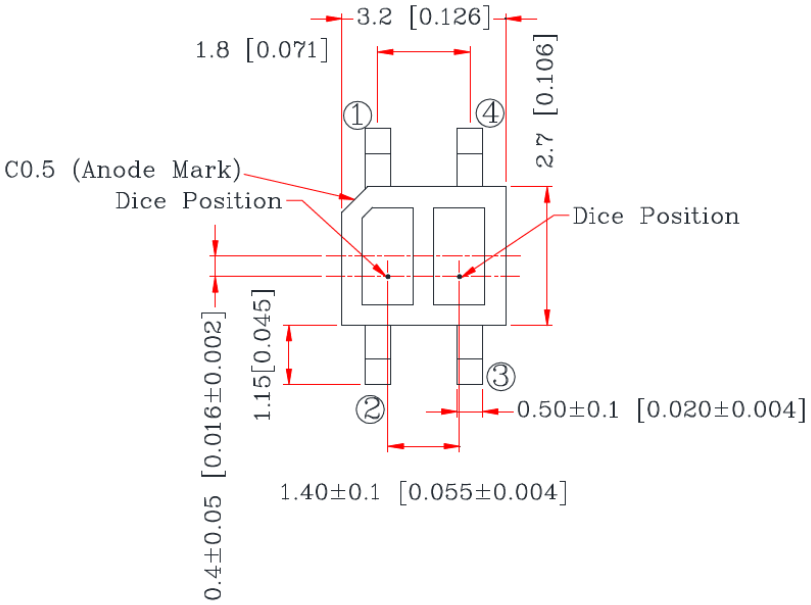
Features

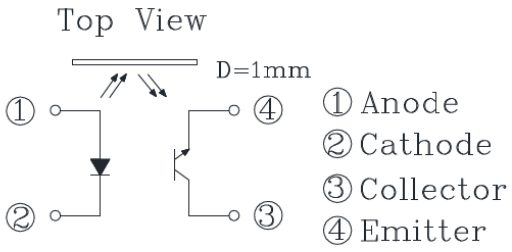
High sensitivity
Cut-Off visible wavelength
Compliance Halogen Free(Br < 900ppm, Cl < 900ppm, Br+Cl < 1500ppm)
Compliance with EU REACH
This product itself will remain within RoHS compliant version.

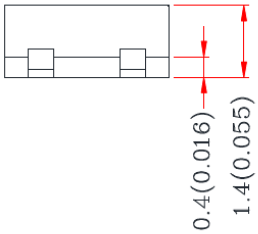
Applications

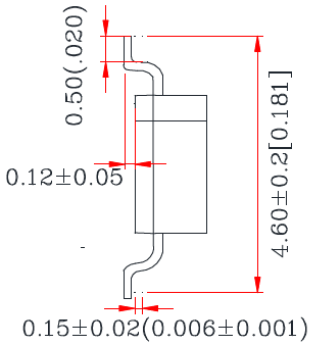
Camera
VCR
Floppy disk driver
Cassette type recorder
Various microcomputer control equipment

Package Dimension









Note:

1.All dimensions are in millimeters.

2.Tolerances unless dimensions ±0.3mm.

3.Lead spacing is measured where the lead emerge from the package

Absolute Maximum Ratings

Parameter（Ta=25℃）		Symbo	Ratings	Unit
Input (Emitter)	Power Dssipation at(or below) 25 Free Air Temperature	Pd	75	mW
	Reverse Voltage	V_R	5	V
	Forward Current	I_F	50	mA
	Peak Forward Current Pulse width≦100μs,Duty cycle= 1%	I_{FP}	1	A
Output (Detector)	Collector Power Dissipation	P_C	75	mW
	Collector Current	I_C	50	mA
	Collector-Emitter Voltage	V_{CEO}	30	V
	Emitter-Collector Voltage	V_{ECO}	5	V
Operating Temperature		T_{opr}	-25~+85	℃
Storage Temperature		T_{stg}	-30~+90	℃
Lead Soldering Temperature (2mm form body for 5 seconds)		T_{sol}	260	℃

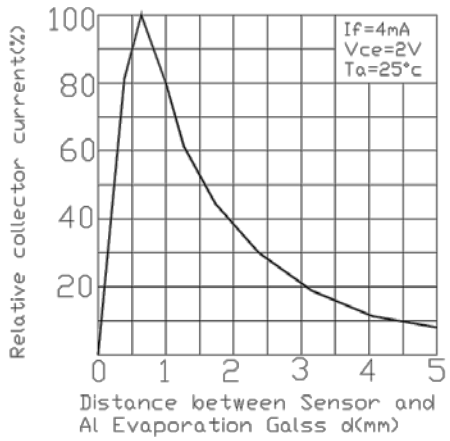
(* 1) tw=100 μsec. , T=10 msec. (* 2) t=5 Sec

Electro-Optical Characteristics

Parameter（Ta=25℃）		Symbo	Min.	Typ.	Max.	Unit	Conditions
Input (Emitter)	Forward Voltage	V_F	--	1.2	1.6	V	I_F=20mA
	Reverse Current	I_R	--		10	μA	V_R=6V
	Peak Wavelength	λ_p	--	940	--	nm	I_F=20mA
Output (Detector)	Dark Current	I_{CEO}	--	--	100	nA	V_{CE}=10V Ee=0mW/cm^2
	C-ESaturation Voltage	$V_{CE(sat)}$	--	--	0.4	V	I_C=2mA Ee=1mW/cm^2
Transfer Characteristics	Collect Current	$I_{C(ON)}$	180	--	440	μA	V_{CE}=5V I_F=10mA
	Leakage Current	I_{CEOD}	--	--	1	μA	V_{CE}=2V I_F=20mA
	Rise time	t_r	--	20	--	μs	V_{CE}=2V, I_C=100μA, R_L=1kΩ, d=1mm
	Fall time	t_f	--	20	--	μs	

Typical Electrical/Optical/Characteristics Curves for ITR

Fig.1 Relative Collector Current vs. Distance between Sensor and Al Evaporation Galss



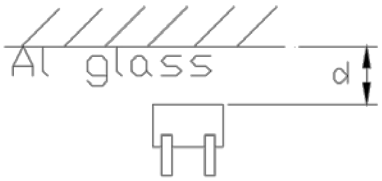
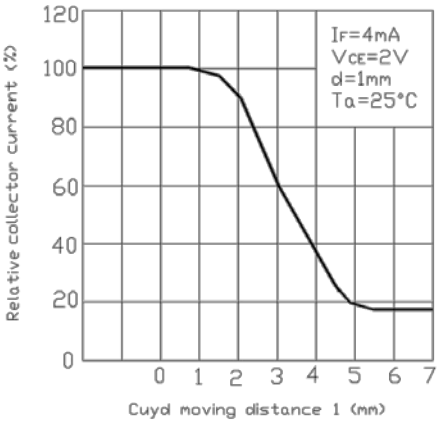


Fig.2 Relative Collector Current vs. Card Moving Distance (1)



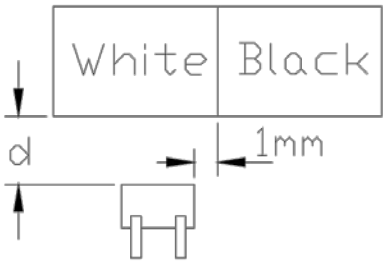
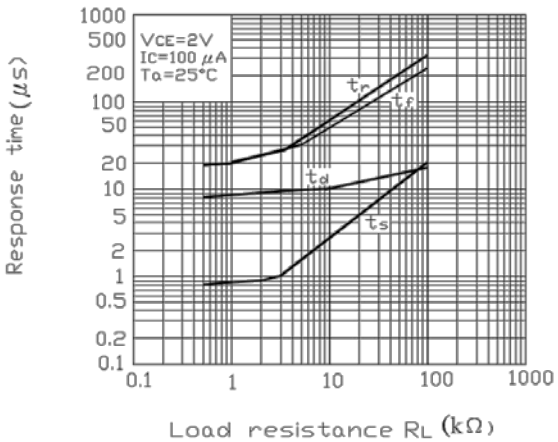
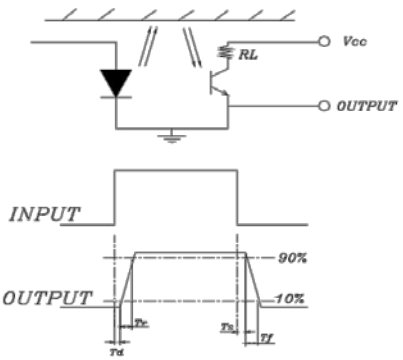


Fig.3 Response Time vs. Load Resistance

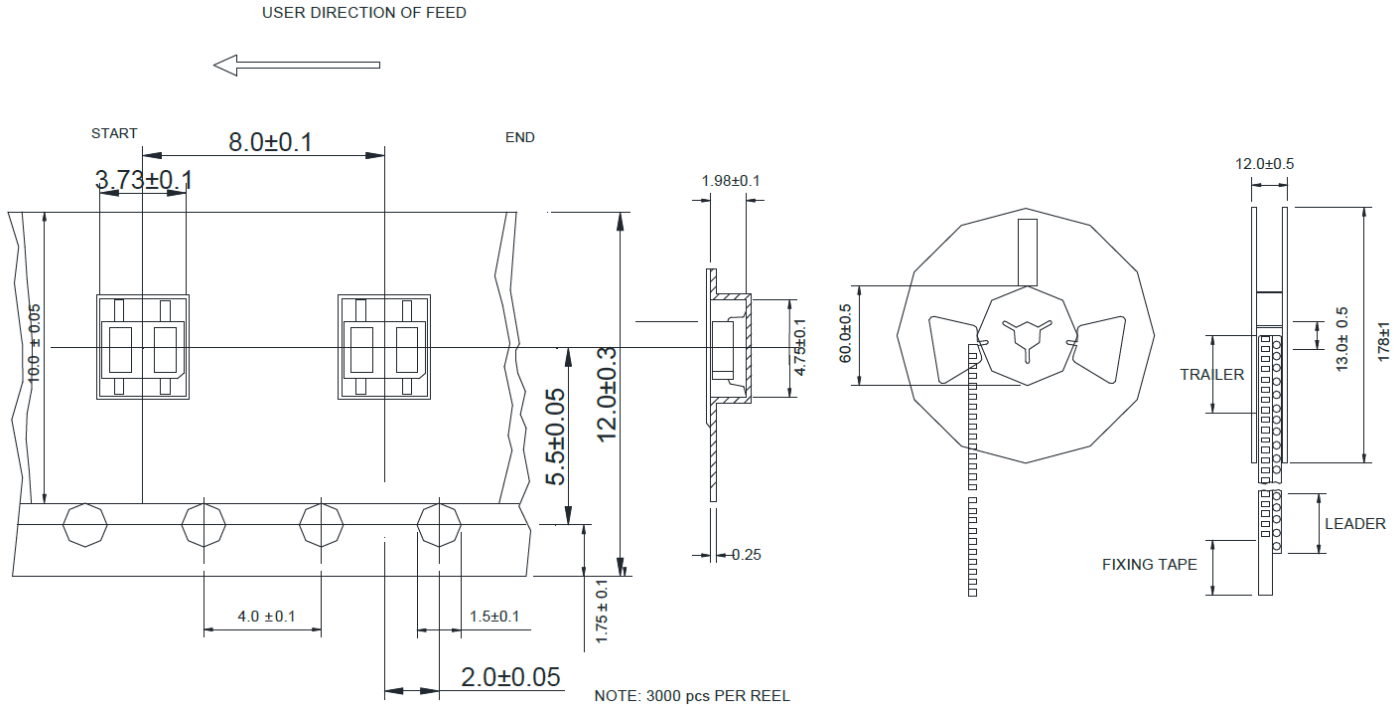




Rank

Parameter	Symbol	Condition	Min.	Max.	Unit
B	$I_{C(ON)}$	V_{CE}=5V，I_F=10mA D=1.0mm (90% Reflective white paper)	180	300	μA
C	$I_{C(ON)}$	V_{CE}=5V，I_F=10mA D=1.0mm (90% Reflective white paper)	250	440	μA

Tapping and packaging specifications(Units: mm)



Packing Quantity Specification

1000 pcs/1reel，15 reels/1box，2 boxes/1carton

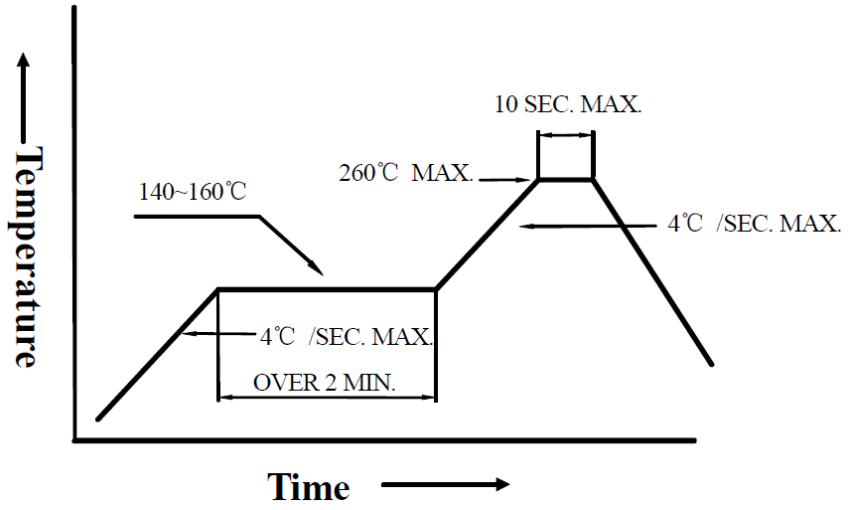
Soldering :

1. Manual Of Soldering

The temperature of the iron tip should not be higher than 300℃(572℉) and Soldering within 3 seconds per solder-land is to be observed.

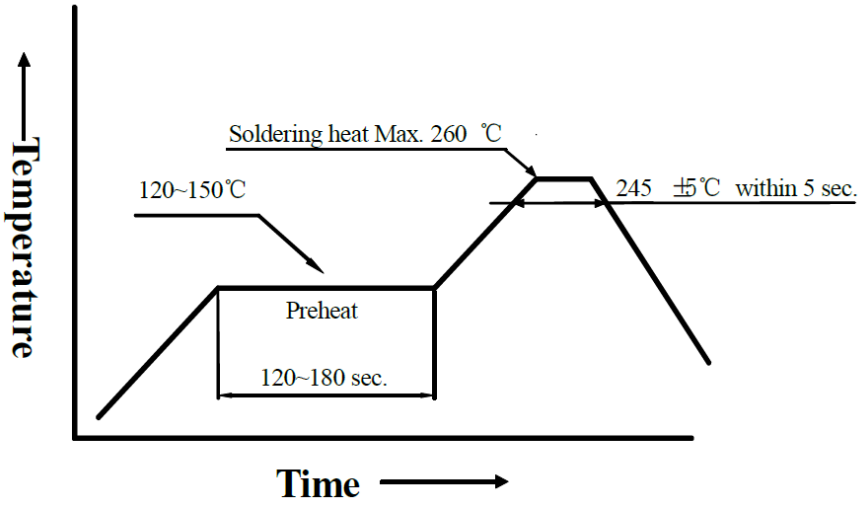
2. Reflow Soldering

Preheating : 140℃~160℃±5℃,within 2 minutes. Operation heating : 260℃(Max.) within 10 seconds.(Max) Gradual Cooling (Avoid quenching).



1. DIP soldering (Wave Soldering) :

Preheating : 120℃~150℃,within 120~180 sec. Operation heating : 245℃±5℃ within 5 sec.260℃ (Max) Gradual Cooling (Avoid quenching).



Handling :

Care must be taken not to cause to the epoxy resin portion of LED while it is exposed to high temperature.

Care must be taken not rub the epoxy resin portion of LED with hard or sharp article such as the sand blast and the metal hook.

Storage:

In order to avoid the absorption of moisture, it is recommended to solder LED as soon as possible after unpacking the sealed envelope.

If the envelope is still packed, to store it in the environment as following:

(1)Temperature : 5℃-30℃(41℉)Humidity : RH 60%Max.

(2)After this bag is opened, devices that will be applied to infrared reflow, vapor-phase reflow, or equivalent soldering process must be:

a.Completed within 168 hours.

b.Stored at less than 30% RH.

(3)Devices require baking before mounting, if:

(2) a or (2) b is not met.

(4)If baking is required, devices must be baked under below conditions: 48 hours at 60℃±3℃.

Notes

1．Above specification may be changed without notice. PARA LIGHT will reserve authority on material change for above specification.

2．When using this product, please observe the absolute maximum ratings and the instruction for using outlined in these specification sheets. PARA LIGHT assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.

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