

DATASHEET

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ITR9707

Features

- Fast response time
- High analytic
- Cut-off visible wavelength $\lambda_p=940\text{nm}$
- High sensitivity
- Pb free
- This product itself will remain within RoHS compliant version

Description

- The ITR9707 consist of an infrared emitting diode and an NPN silicon phototransistor, encased side-by-side on converging optical axis in a black thermoplastic housing,
- The phototransistor receives radiation from the IR LED only .
This is the normal situation.
- But when an object is in between , phototransistor could not receives the radiation.
- For additional component information , please refer to IR908-7C and PT908-7C

Applications

- Mouse Copier
- Switch Scanner
- Floppy disk driver
- Non-contact Switching
- For Direct Board

Device Selection Guide

Device No.	Chip Material
IR908-7C	GaAlAs
PT908-7C	Silicon

Absolute Maximum Ratings (Ta=25 °C)

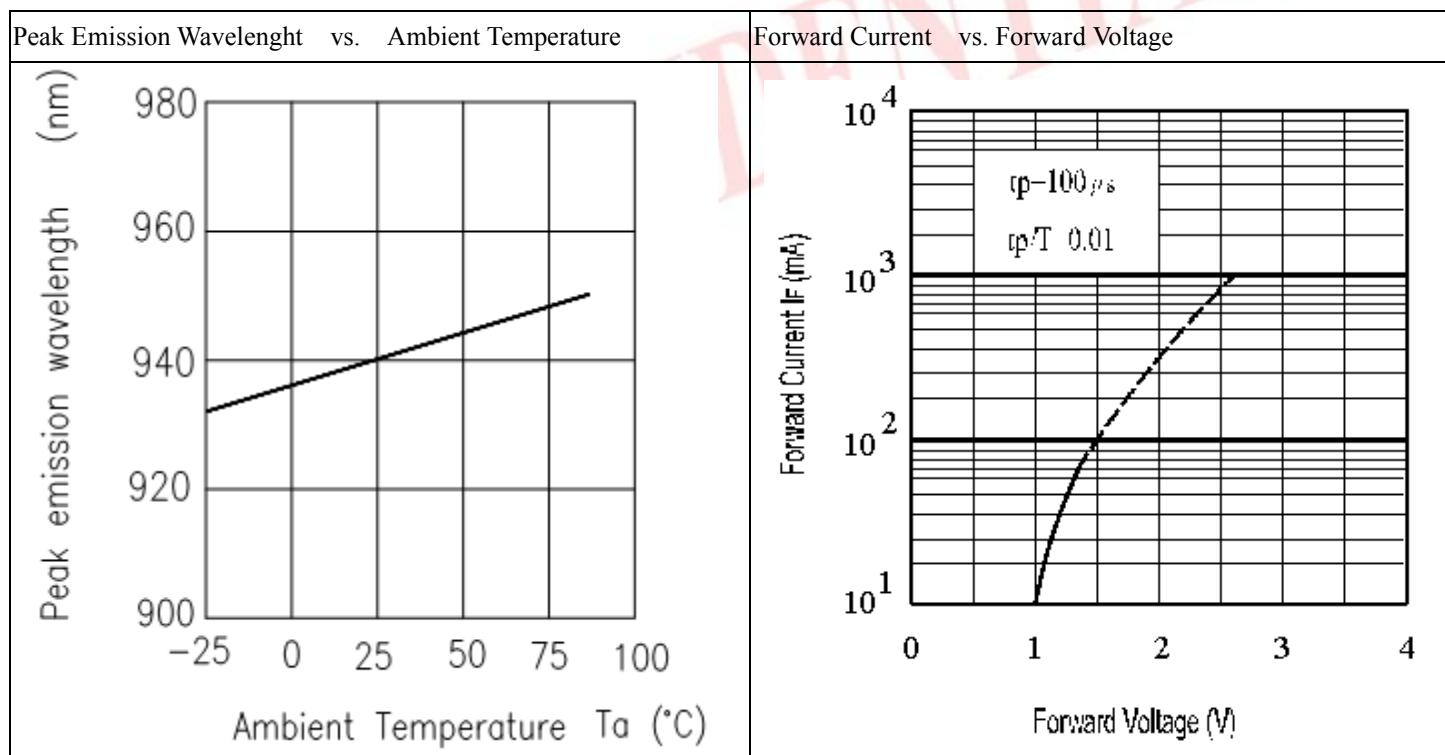
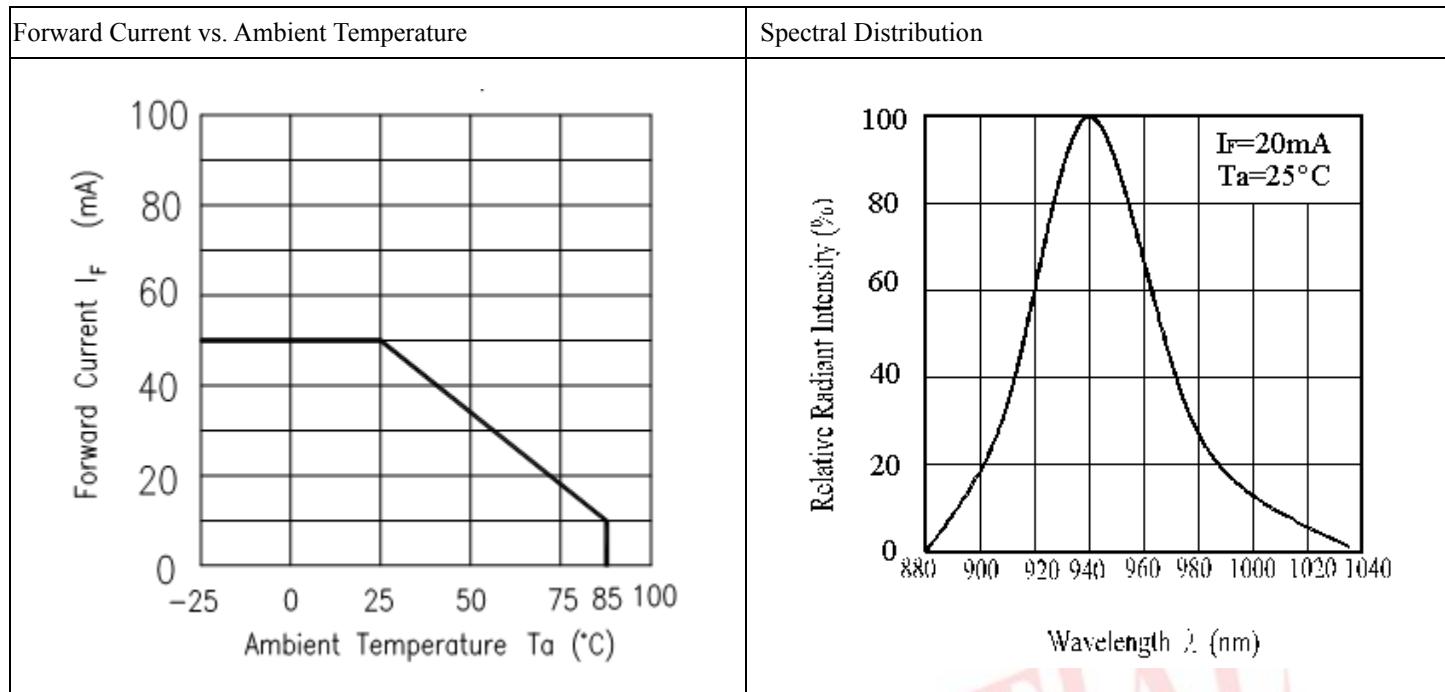
Parameter		Symbol	Ratings	Unit
Input	Power Dissipation at(or below) 25 °C Free Air Temperature	Pd	75	mW
	Reverse Voltage	V _R	5	V
	Forward Current	I _F	50	mA
	Peak Forward Current (*1) Pulse width 100 μs, Duty cycle=1%	I _{FP}	1	A
Output	Collector Power Dissipation	P _C	75	mW
	Collector Current	I _C	20	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}	-40~+100	
Lead Soldering Temperature (*2) (1/16 inch form body for 5 seconds)		T _{sol}	260	

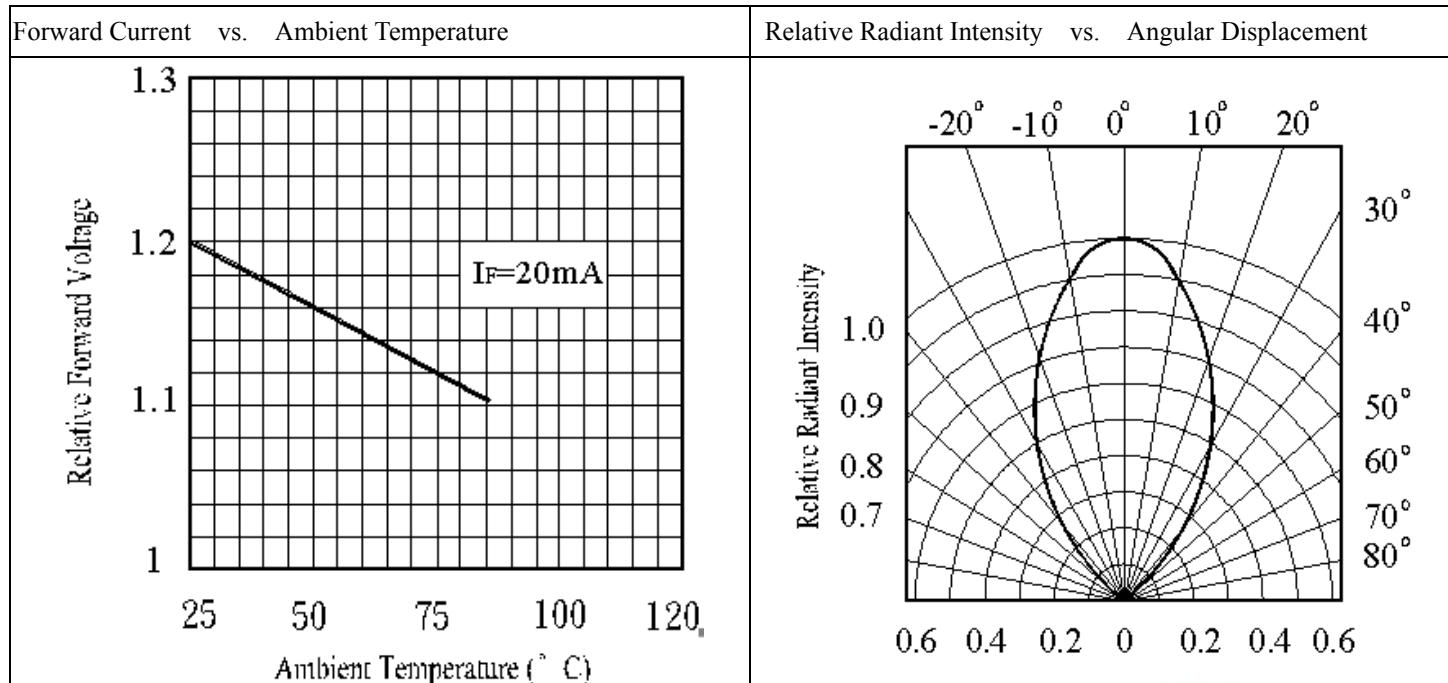
Notes: (*1) tw=100 μsec., T=10 msec. (*2) t=5 Sec

Electro-Optical Characteristics (Ta=25 °C)

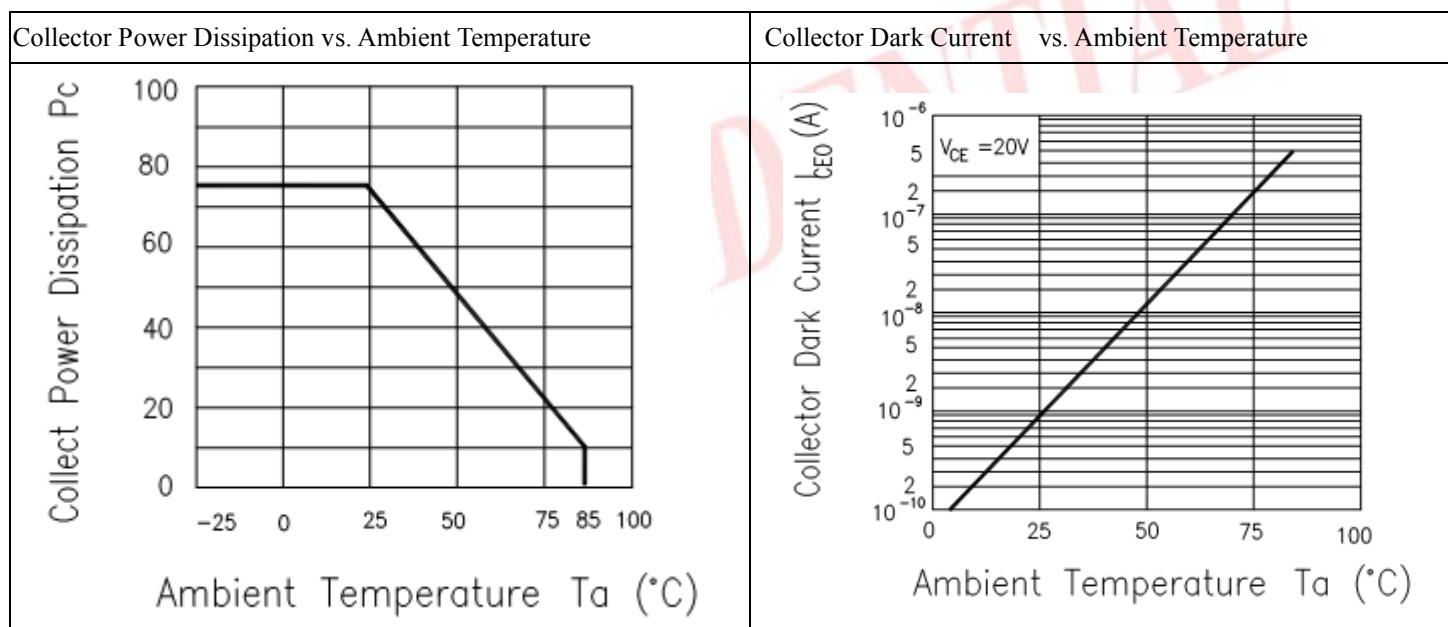
Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Input	Forward Voltage	V _F	---	1.2	1.5	V	I _F =20mA
	Reverse Current	I _R	---	---	10	μA	V _R =5V
	Peak Wavelength	_P	---	940	---	nm	I _F =20mA
	View Angle	2θ1/2	---	60	---	Deg	I _F =20mA
Output	Dark Current	I _{CEO}	---	---	100	nA	V _{CE} =20V, Ee=0mW/cm ²
	C-E Saturation Voltage	V _{CE(sat)}	---	---	0.4	V	I _C =2mA Ee=1mW/cm ²
Transfer Characteristics	Collect Current	I _{C(ON)}	0.50	---	---	mA	V _{CE} =5V I _F =20mA
	Rise time	t _r	---	15	---	μ sec	V _{CE} =5V I _C =1mA R _L =1KΩ
	Fall time	t _f	---	15	---	μ sec	

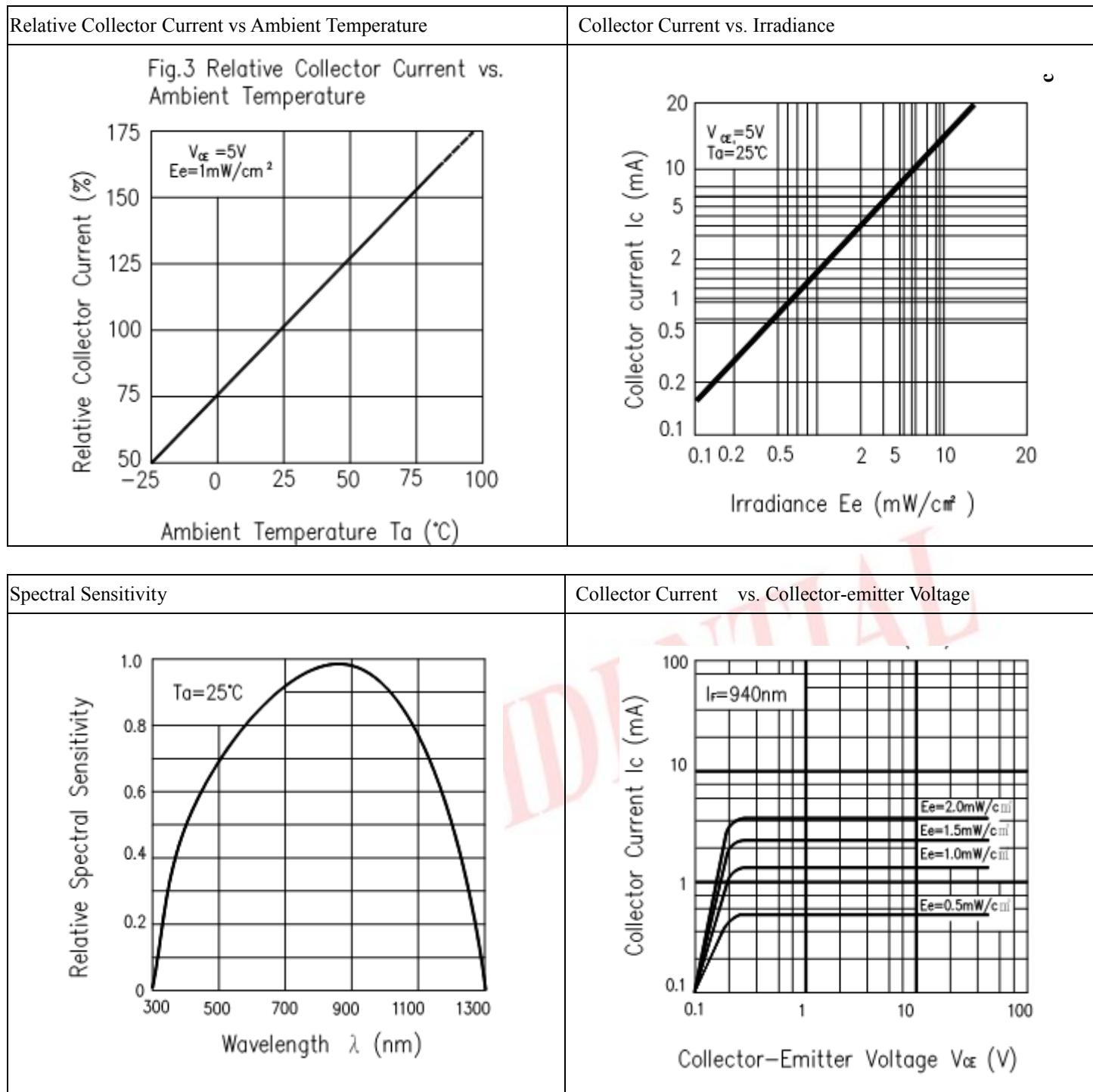
Typical Electrical/Optical/Characteristics Curves for IR



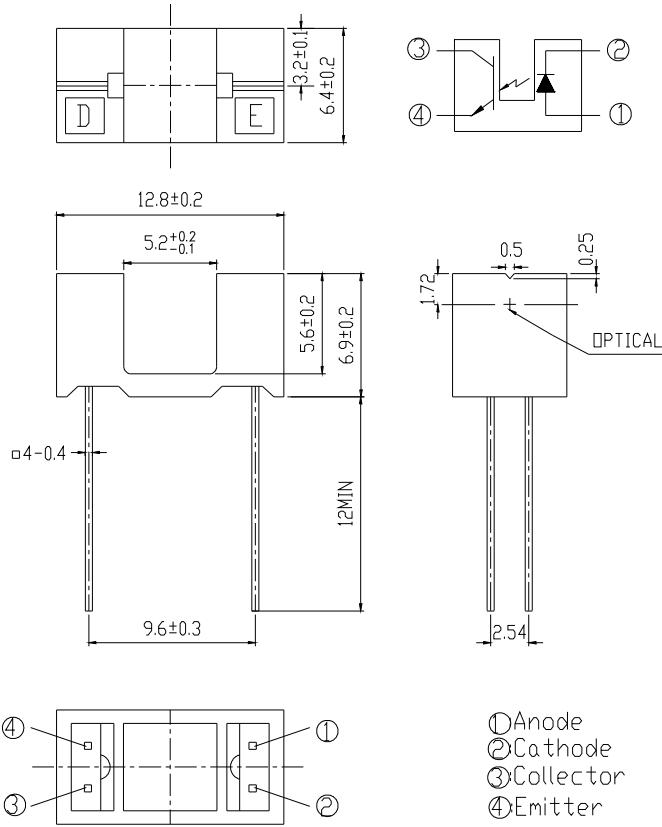


Typical Electro/Optical/Characteristics Curves for PT





Package Dimension



Notes:

1. All dimensions are in millimeters
2. Tolerances unless dimensions ± 0.2 mm
3. Lead spacing is measured where the lead emerge from the package
4. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification
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6. When using this product , please observe the absolute maximum ratings and the instructions for use outlined in these specification sheets. EVERLIGHT 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.

Reliability Test Item And Condition

The reliability of products shall be satisfied with items listed below.

Confidence level : 90%

LTPD : 10%

NO.	Item	Test Conditions	Test Hours/ Cycle	Sample Size	Failure Judgement Criteria	Ac/Re
1	Solder Heat	TEMP : 260 ± 5	10 sec	22 PCs		0/1
2	Temperature Cycle	H : +100 L : -40	15 min 5 min 15 min	300 cycle 22 PCs	$I_{c(on)} \times 0.8$ L : Lower specification limit	0/1
3	Thermal Shock	H : +100 L : -10	5 min 10 sec 5 min	300 cycle 22 PCs		0/1
4	High Temperature Storage	TEMP. : +100	1000 hrs	22 PCs		0/1
5	Low Temperature Storage	TEMP. : -40	1000 hrs	22 PCs		0/1
6	DC Operating Life	$V_{CE}=5V$ IF=20mA	1000 hrs	22 PCs		0/1
7	High Temperature / High Humidity	85 / 85% R.H.	1000 hrs	22 PCs		0/1

Packing Quantity Specification

1. 78Pcs/1Tube,42 Tubes/1Box
2. 4Boxes/1Carton

Label Form Specification

- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number
- X: Month
- Reference: Identify Label Number

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