LITEON

NPN T-1 Modified 3 ϕ Phototransistor

LTR-209

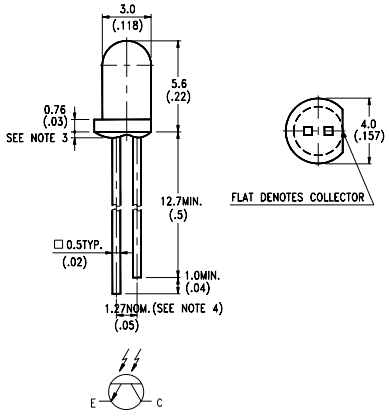
Features

- Wide range of collector currents.
- Lens for high sensitivity.
- Low cost plastic package.

Description

The LTR-209 consist of a NPN silicon phototransistor mounted in a lensed, clear plastic, end looking package. The lensing effect of the package allows an acceptance half angle of 8° measured from the optical axis to the half power point. This series is mechanically and spectrally matched to the LTE-209 series of infrared emitting diodes.

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm$ 0.25mm (.010") unless otherwise noted.
3. Protruded resin under flange is 1.5mm (.059") max.
4. Lead spacing is measured where the leads emerge from the package.
5. Specifications are subject to change without notice.

INFRARED PRODUCTS

Absolute Maximum Ratings at Ta=25℃

Parameter	Maximum Rating	Unit
Power Dissipation	100	mW
Collector-Emitter Voltage	30	V
Emitter-Collector Voltage	5	V
Operating Temperature Range	-40℃ to +85℃	
Storage Temperature Range	-55℃ to +100℃	
Lead Soldering Temperature [1.6mm (.063 in.) from body]	260℃ for 5 Seconds	

Electrical Optical Characteristics at Ta=25℃

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	30			V	I_C=1mA Ee=0mW/cm²
Emitter-Collector Breakdown Voltage	$V_{(BR)ECO}$	5			V	I_E=100 μ A Ee=0mW/cm²
Collector Emitter Saturation Voltage	$V_{CE(SAT)}$			0.4	V	I_C=100 μ A Ee=1mW/cm²
Rise Time	Tr		10		μ S	V_{CC}=5V I_C=1mA R_L=1K Ω
Fall Time	Tf		15		μ S	
Collector Dark Current	I_{CEO}			100	nA	V_{CE}=10V Ee=0mW/cm²
On State Collector Current	$I_{C(ON)}$	1	4		mA	V_{CE}=5V Ee=1mW/cm² λ =940nm

Typical Electrical/Optical Characteristic Curves
(25℃ Ambient Temperature Unless Otherwise Noted)

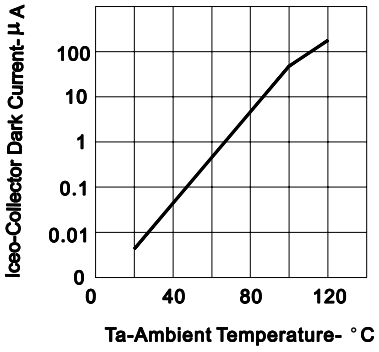


FIG.1 COLLECTOR DARK CURRENT
VS AMBIENT TEMPERATURE

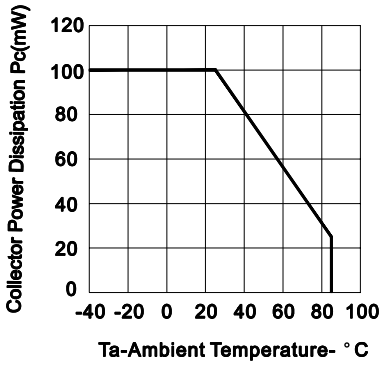


FIG.2 COLLECTOR POWER DISSIPATION
VS AMBIENT TEMPERATURE

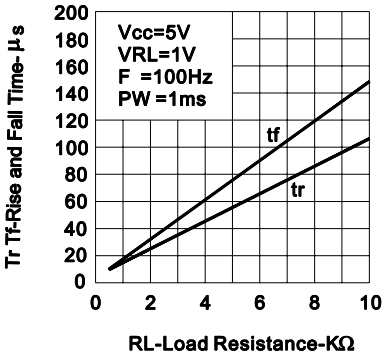


FIG.3 RISE AND FALL TIME
VS LOAD RESISTANCE

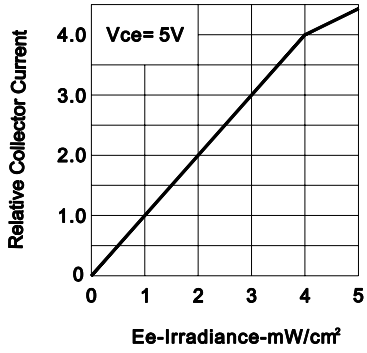


FIG.4 RELATIVE COLLECTOR CURRENT
VS IRRADIANCE

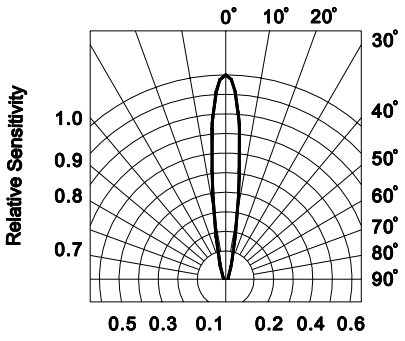


FIG.5 SENSITIVITY DIAGRAM

Mouser Electronics

Authorized Distributor

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Lite-On:

LTR-209