

Part Number: RNI12W

PHOTOTRANSISTOR

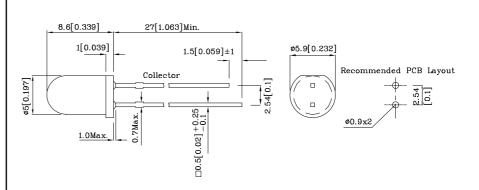
Features

- Radial / Through hole package
- Reliable & robust
- Low power consumption
- Available on tape and reel
- RoHS Compliant





Package Schematics



Notes:

- 1. All dimensions are in millimeters (inches).
- 2. Tolerance is $\pm 0.25(0.01")$ unless otherwise noted.
- 3. Specifications are subject to change without notice.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condiction
VBR CEO	Collector-to-Emitter Breakdown Voltage	30	-	-	V	Ic=100μA Ee=0mW/cm²
VBR ECO	Emitter-to-Collector Breakdown Voltage	5	-	-	V	$_{\mathrm{Ie=100\mu A}}^{\mathrm{Ie=100\mu A}}$ $_{\mathrm{Ee=0mW/cm^{2}}}^{\mathrm{cm^{2}}}$
VCE(SAT)	Collector-to-Emitter Saturation Voltage	-	-	0.8	V	IC=2mA Ee=20mW/cm²
ICEO	Collector Dark Current	-	-	100	nA	VCE=10V Ee=0mW/cm ²
Tr	Rise Time (10% to 90%)	-	15	-	μs	Vce=5V Ic=1mA RL=1KΩ
${ m Tr}$	Fall Time (90% to 10%)	-	15	-	μs	
I(ON)	On State Collector Current	0.5	2.5	1	mA	$V_{CE=5V}$ $Ee=1mW/cm^2$ $\lambda=940nm$
$\lambda_{0.1}$	Range of spectral bandwidth	420	-	1120	nm	-
$\lambda_{ m p}$	Wavelength of peak sensitivity	-	940	-	nm	-
201/2	Angle of half sensitivity	-	20	-	deg	-

Absolute Maximum Ratings at TA=25°C

Parameter	Maximum Ratings		
Collector-to-Emitter Voltage	30V		
Emitter-to-Collector Voltage	5V		
Power Dissipation at (or below) 25°C Free Air Temperature	100mW		
Operating / Storage Temperature Range	-40 ∼ +85°C		
Lead Solder Temperature (>5mm for 5sec)	260°C		

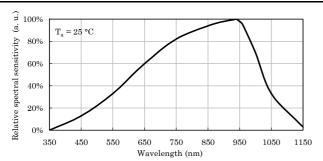
A Relative Humidity between 40% and 60% is recommended in ESD-protected work areas to reduce static build up during assembly process (Reference JEDEC/JESD625-A and JEDEC/J-STD-033)

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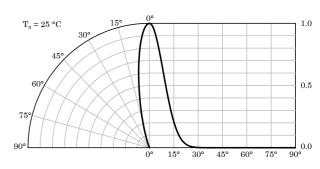
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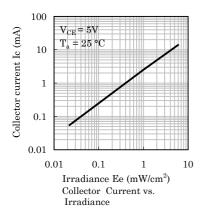




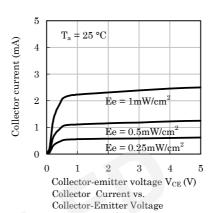
Relative Intensity Vs. CIE Wavelength

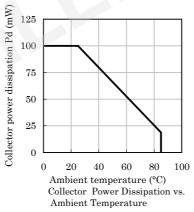


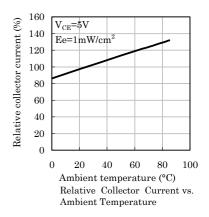
Spatial Distribution

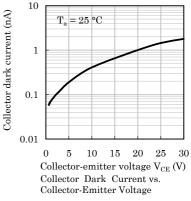


1000 Collector dark current (nA) VCE = 20VEe = 0100 10 1 0.1 100 0 25 50 75 Ambient temperature (°C) Collector Dark Current vs Ambient Temperature

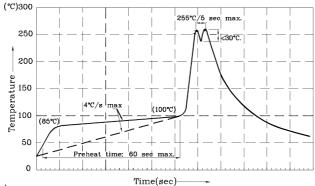








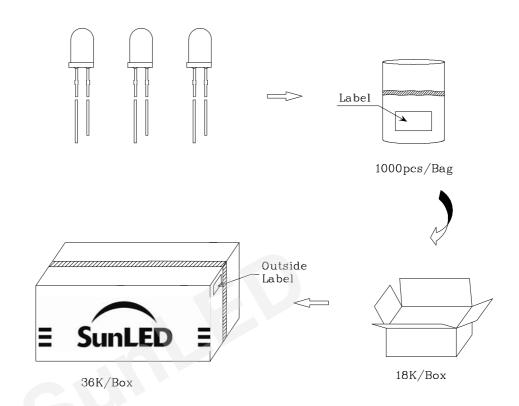
Wave Soldering Profile For Thru-Hole Products (Pb-Free Components)

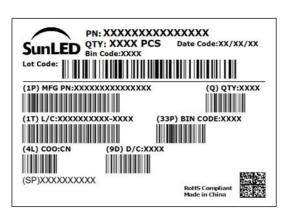


- 1.Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C
- 2.Peak wave soldering temperature between 245°C \sim 255°C for 3 sec (5 sec max)
- 3.Do not apply stress 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.
 5.8AC 305 solder alloy is recommended.
 6.No more than one wave soldering pass.



PACKING & LABEL SPECIFICATIONS





TERMS OF USE

- 1. Data presented in this document reflect statistical figures and should be treated as technical reference only.
- $2. \ Contents \ within \ this \ document \ are \ subject \ to \ improvement \ and \ enhancement \ changes \ without \ notice.$
- 3. The product(s) in this document are designed to be operated within the electrical and environmental specifications indicated on the datasheet. User accepts full risk and responsibility when operating the product(s) beyond their intended specifications.
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