

## Peak Emission Wavelength: 950nm

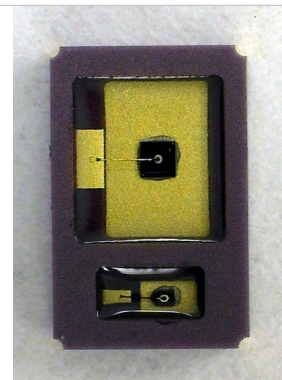
The 950nm reflective sensor consists of a 950nm infrared emitter and high sensitivity photo diode in the same package. The black molded housing reduces the effect of external ambient light. Custom emitter/detectors are available.

### FEATURES

- > High Reliability
- > 5.1 x 3.3mm Surface Mount Package
- > Short Detection Distance Optimum 0.5-1.5mm

### APPLICATIONS

- > Card Reader
- > Bar-code Reader
- > Edge Sensing / Money-bill Reader



## Absolute Maximum Ratings (Ta=25°C)

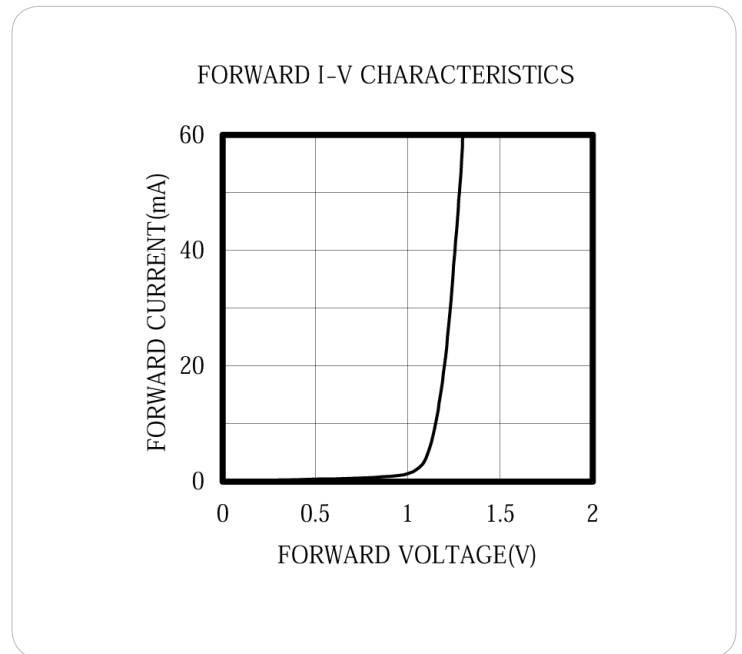
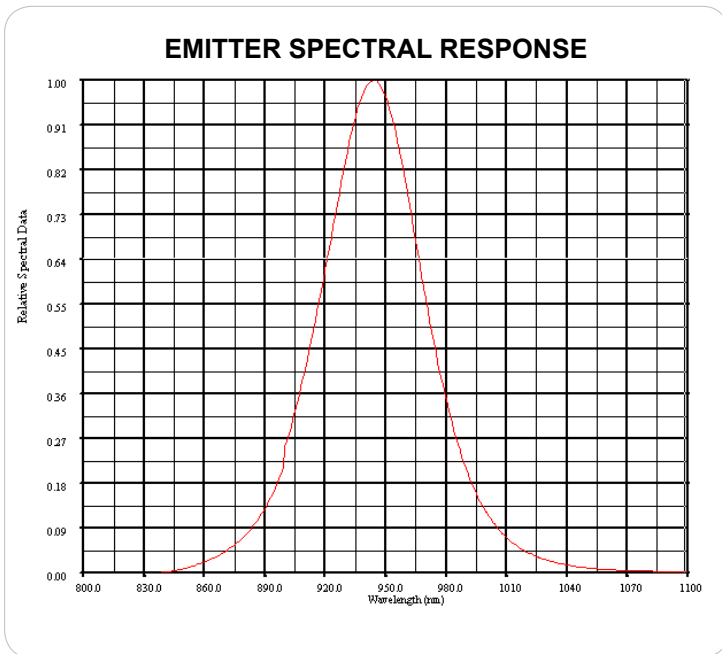
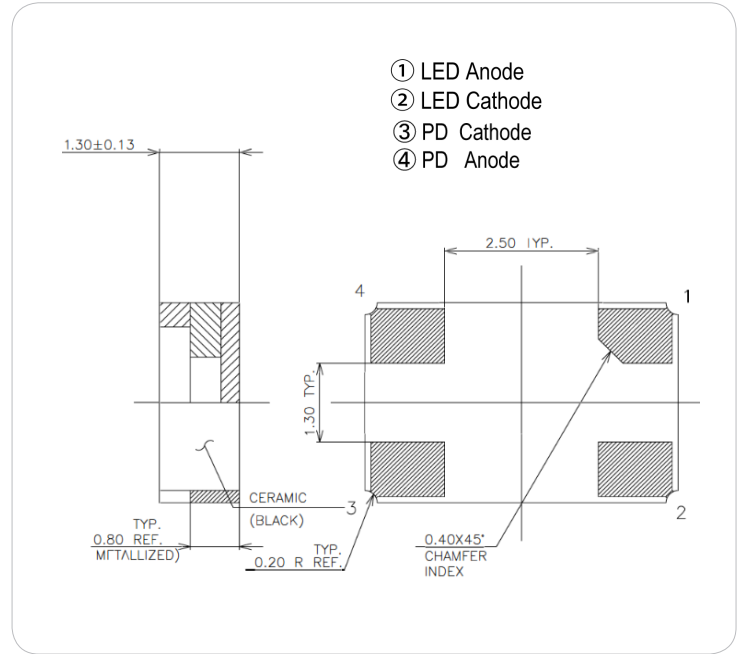
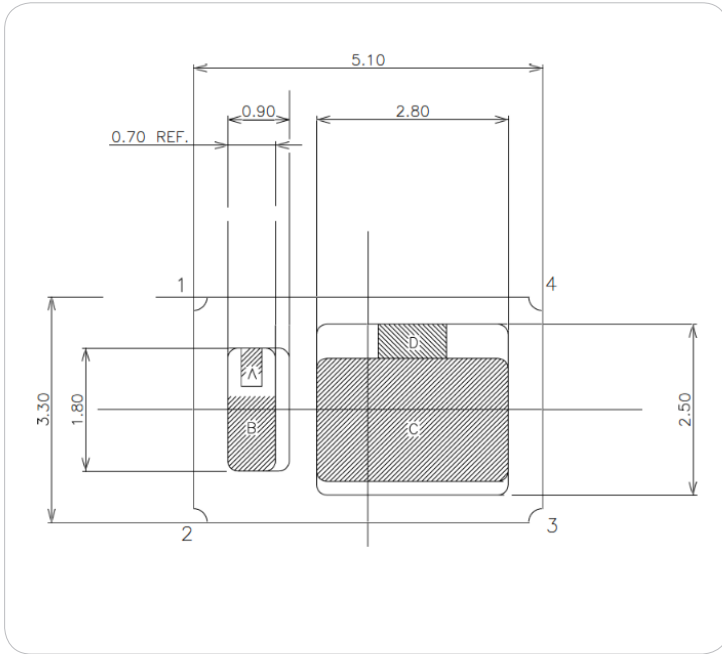


ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (LED)	IF	100	mA
Pulse Forward Current (LED)*1	IFP	1	A
Reverse Voltage (LED)	VR	5	V
Power Dissipation (LED)	PD	100	mW
Reverse Current	IR (VR=5V)	10	uA
Operating Temperature Range	Topr	-20 to +80	°C
Storage Temperature Range	Tstg	-30 to +100	°C

\*1: Tw=10μsec, T=10msec.

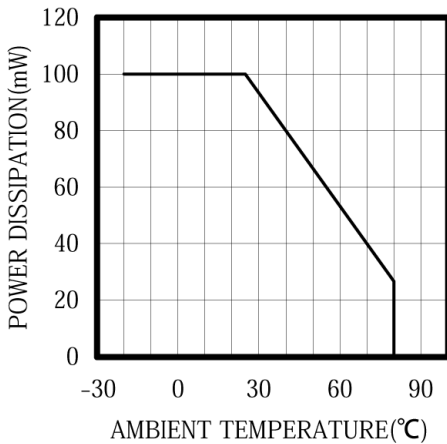
## Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage (LED)	VF	IF=50mA	--	1.2	--	V
Forward Voltage (PD)	VF	IF=20mA	--	--	1.3	V
Peak Emissions Wavelength	$\lambda_p$	IF=50mA	--	950	--	nm
Spectral Line Half Width	$\Delta\lambda$	IF=50mA	--	55	--	nm
Power Output	PO	IF=50mA	--	2.1	--	mW
Reverse Dark Current (I <sub>ceo</sub> )	ID	VR=10V H=0mw/cm <sup>2</sup>	--	--	10	nA
Reverse Light Current	IL	VR=5V CT=2870°K H=5mw/cm <sup>2</sup>	1.8	2.0	2.2	uA
Reverse Breakdown Voltage	V(BR)R	IR=100uA H=0mw/cm <sup>2</sup>	33	--	--	V
Open Circuit Voltage	VOC	CT=2870°K H=5mw/cm <sup>2</sup>	--	420	--	mV
Short Circuit Current	SC	CT=2870°K H=5mw/cm <sup>2</sup>	--	1.5	--	μA
Total Capacitance	CT	VR=5V H=0mw/cm <sup>2</sup> f=1MHz	--	5	--	pF

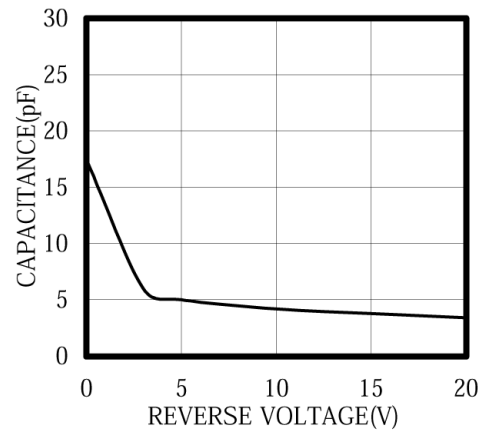


Unit: mm, Tolerance: ±0.2

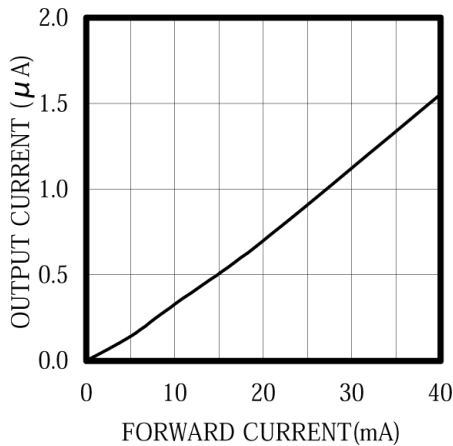
THERMAL DERATING CURVE



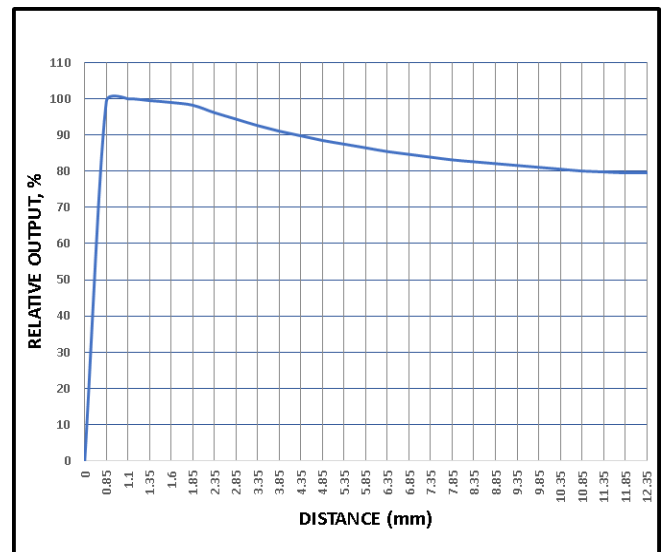
CAPACITANCE vs REVERSE VOLTAGE



IF VS I<sub>o</sub> @VR=10V



RELATIVE OUTPUT vs DISTANCE



**RESPONSIVITY**

