



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

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## Peak Emission Wavelength: 590nm

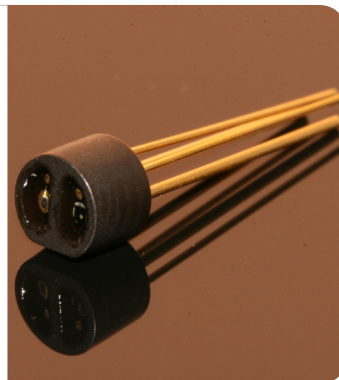
The 590nm reflective sensor consists of a 590nm visible emitter and high sensitivity photo diode in the same package. The black molded housing reduces the effect of external ambient light. Custom emitter/detectors are available.

### FEATURES

- > High Reliability
- > Compact (Φ4.0)
- > 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)



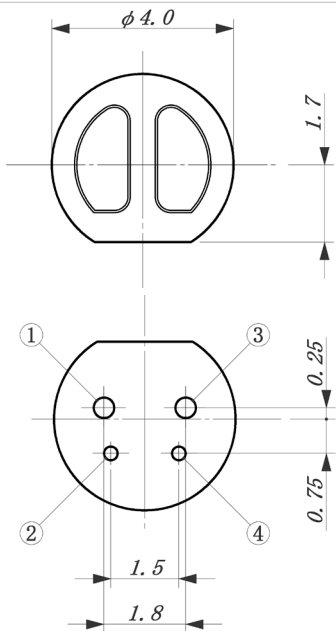
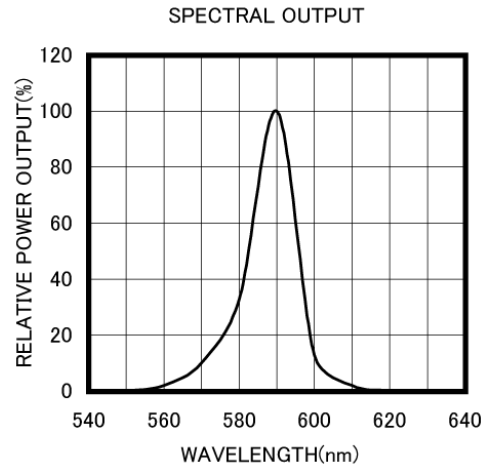
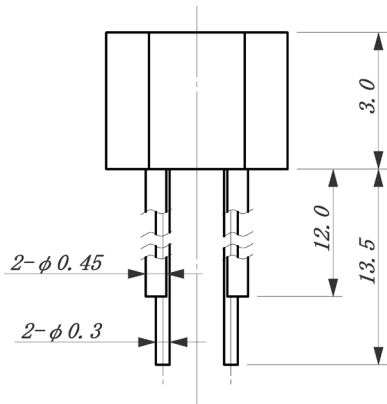
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current (LED)	IF	30	mA
Pulse Forward Current (LED)*1	IFP	50	mA
Reverse Voltage (LED)	VR	5	V
Power Dissipation (LED)	PD	100	mW
Reverse Voltage (PD)	VR	30	V
Power Dissipation (PD)	PD	75	mW
Total Power Dissipation	Ptot	100	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C

\*1: Tw=10μsec, T=10msec.

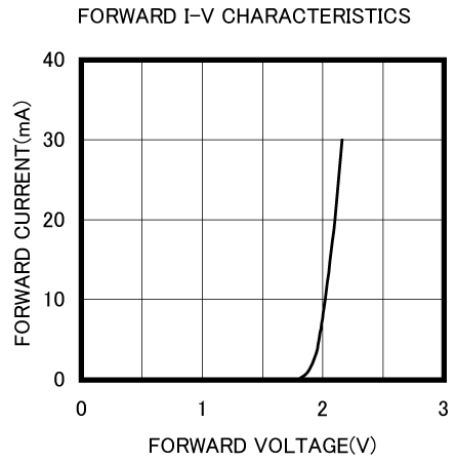
## Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	VF	IF=20mA	--	2.0	2.5	V
Reverse Current	IR	VR=4V	--	--	10	μA
Peak Emission Wavelength	λp	IF=20mA	--	590	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	13	--	nm
Dark Current (I <sub>ceo</sub> )	ID	VR=10V	--	--	100	nA
Output Current	I <sub>o</sub>	IF=20mA, VR=10V, d=1mm *	--	0.3	--	μA
Cross-talk Current	I <sub>x</sub>	IF=20mA, VR=10V	--	--	10.0	nA
Rise Time (10 to 90%)	Tr	VR=10V, IF=20mA, RL=1KΩ	--	1.0	--	μS
Fall Time (10 to 90%)	Tf	VR=10V, IF=20mA, RL=1KΩ	--	1.0	--	μS
Lead Soldering Temperature*2	T <sub>ls</sub>	--	--	--	260	°C

\*1: Measured by reflecting with Aluminum evaporated mirror (d=1.00mm). \*2: Time 5 Sec max, Position: Up to 3mm from the body.

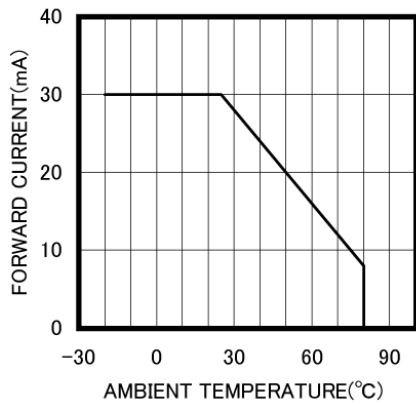


- ① LED Cathode
- ② LED Anode
- ③ PD Cathode
- ④ PD Anode

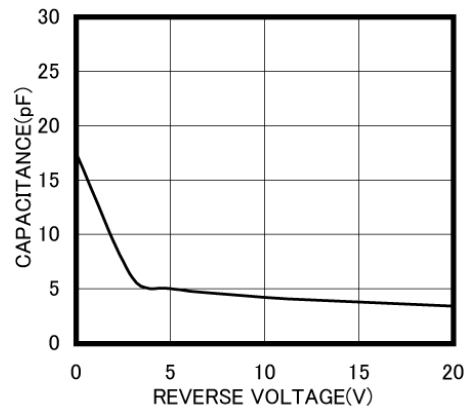


Unit: mm, Tolerance:  $\pm 0.2$

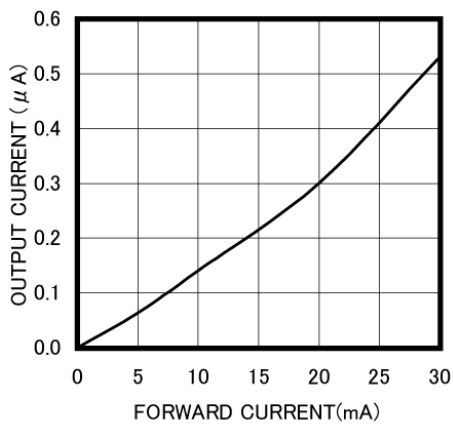
THERMAL DERATING CURVE



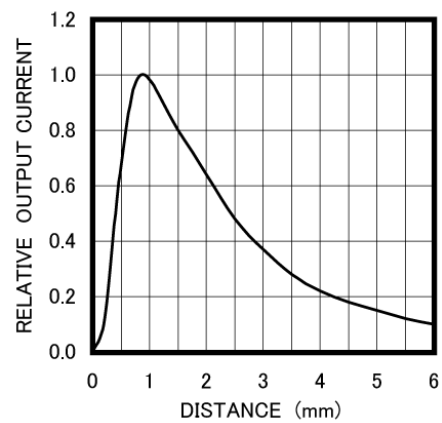
CAPACITANCE vs REVERSE VOLTAGE



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



I<sub>o</sub> VS DISTANCE



The information contained herein is subject to change without notice.

2011-08-11