Marktech Optoelectronics

Infrared Light Photo Reflector

Product No: **MTRS9520D**

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
> 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	60	mA
Pulse Forward Current (LED)*1	IFP	1	A
Reverse Voltage (LED)	VR	5	V
Power Dissipation (LED)	PD	100	mW
Reverse Voltage (PD)	VR	30	V
Power Dissipation (PD)	PD	100	mW
Total Power Dissipation	Ptot	100	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-30 ~ +100	°C

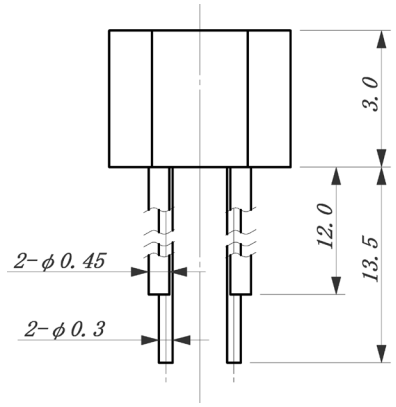
*1: Tw=10μsec, T=10msec.

Electrical & Optical Characteristics (Ta = 25°C)

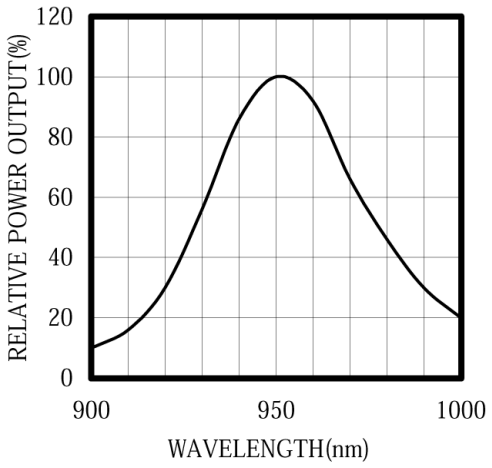
ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	VF	IF=20mA	--	1.2	1.5	V
Reverse Current	IR	VR=5V	--	--	10	μA
Peak Emission Wavelength	λp	IF=20mA	--	950	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	50	--	nm
Dark Current (Iceo)	ID	VR=10V	--	--	10	nA
Output Current	Io	IF=20mA, VR=10V, d=1mm *	0.5	0.9	--	μA
Cross-talk Current	Ix	IF=20mA, VR=10V	--	--	1.0	nA
Rise Time (10 to 90%)	Tr	VR=10V, IF=20mA, RL=1KΩ	--	2.0	--	μS
Fall Time (10 to 90%)	Tf	VR=10V, IF=20mA, RL=1KΩ	--	2.0	--	μS
Lead Soldering Temperature*2	Tls	--	--	--	260	°C

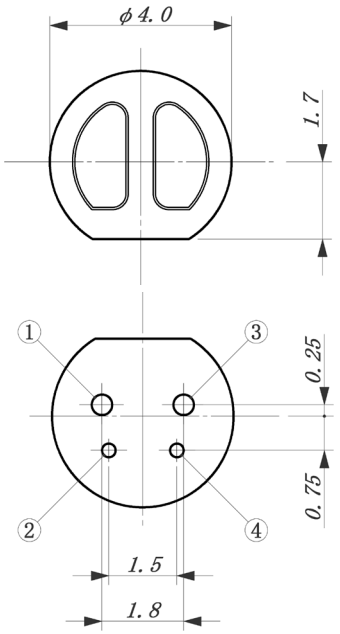
*1: Measured by reflecting with Aluminum evaporated mirror (d=1.00mm). *2: Time 5 Sec max, Position: Up to 3mm from the body.

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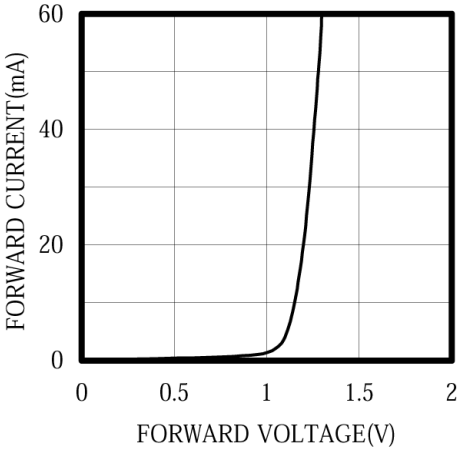


SPECTRAL OUTPUT





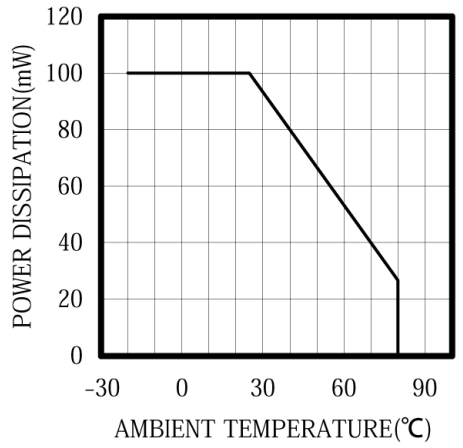
FORWARD I-V CHARACTERISTICS



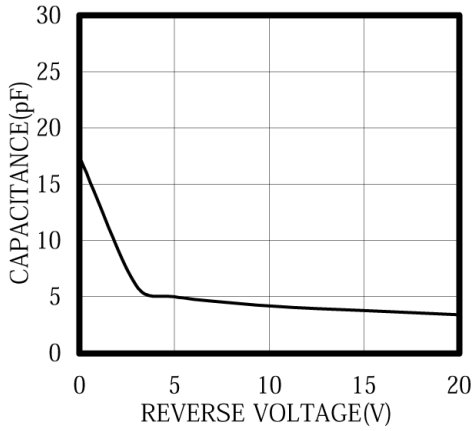
Unit: mm, Tolerance: ±0.2

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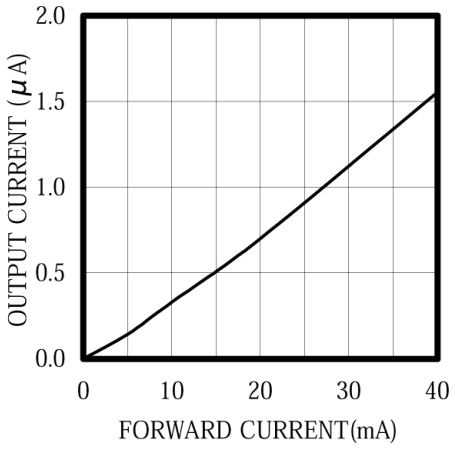
THERMAL DERATING CURVE



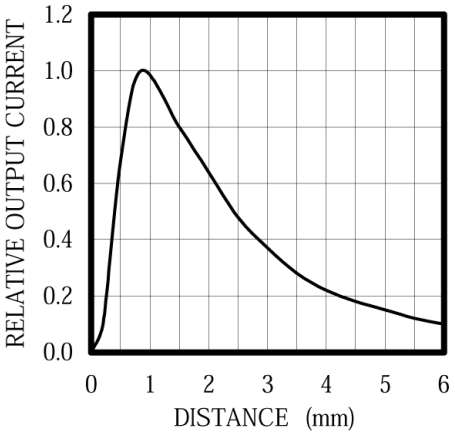
CAPACITANCE vs REVERSE VOLTAGE



IF VS Io @VR=10V



Io VS DISTANCE



The information contained herein is subject to change without notice.

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