Marktech Optoelectronics

Visible Light Photo Reflector

Product No: **MTRS6660**

Peak Emission Wavelength: 660nm

The 660nm reflective sensor consists of a 660nm visible emitter and high sensitivity photo transistor 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	40	mA
Pulse Forward Current (LED)*1	IFP	0.5	A
Reverse Voltage (LED)	VR	4	V
Power Dissipation (LED)	PD	100	mW
Collector-Emitter Voltage (PT)	Vce	20	V
Emitter-Collector Voltage (PT)	Vec	5	V
Collector Current (PT)	Ic	50	mA
Collector Power Dissipation (PT)	PC	75	mW
Total Power Dissipation	Ptot	100	mW
Operating Temperature Range	Topr	-20 ~ +80	°C

*1: Tw=10μsec, T=10msec.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	VF	IF=20mA	--	1.8	2.2	V
Reverse Current	IR	VR=4V	--	--	10	μA
Peak Emission Wavelength	λp	IF=20mA	--	660	--	nm
Spectral Line Half Width	Δλ	IF=20mA	--	25	--	nm
Dark Current (Iceo)	ID	Vce=10V	--	--	100	nA
Output Current	Io	IF=20mA, Vce=10V, d=1mm *	800	1200	--	μA
Cross-talk Current	Ix	IF=20mA, Vce=10V	--	--	1.0	nA
Rise Time (10 to 90%)	Tr	Vcc=5V, Io=0.1mA, RL=1KΩ	--	30	--	μS
Fall Time (10 to 90%)	Tf	Vcc=5V, Io=0.1mA, RL=1KΩ	--	30	--	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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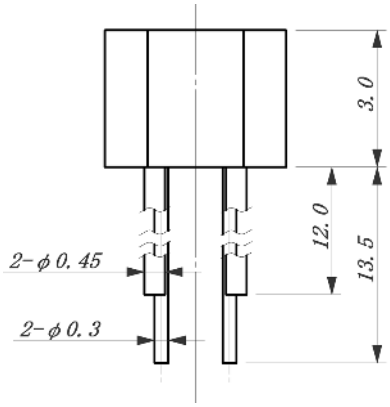

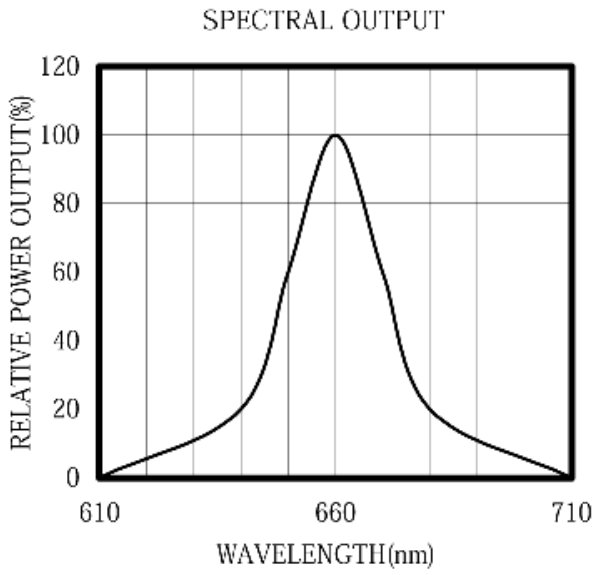

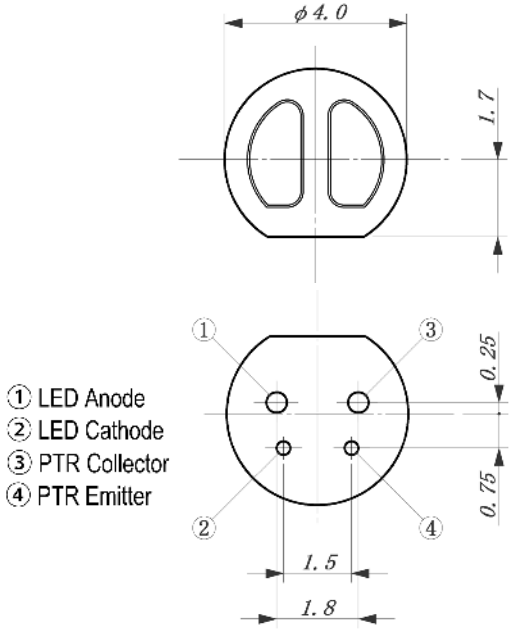

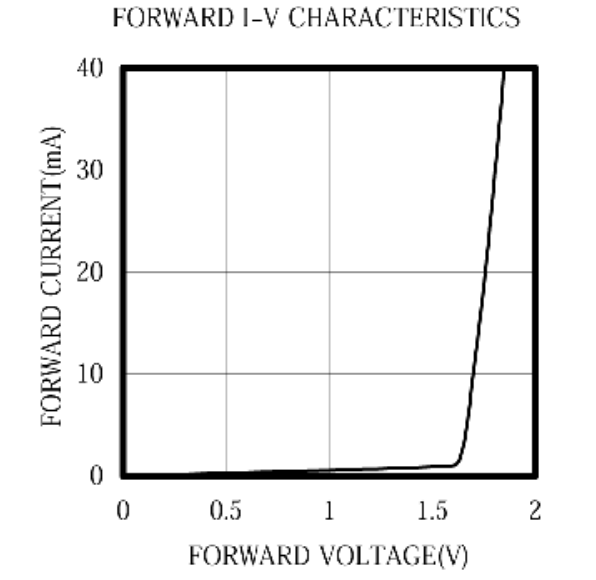

Unit: mm, Tolerance: ±0.2

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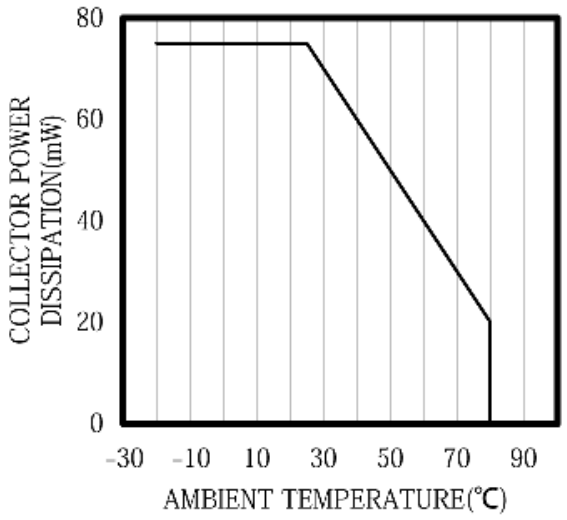
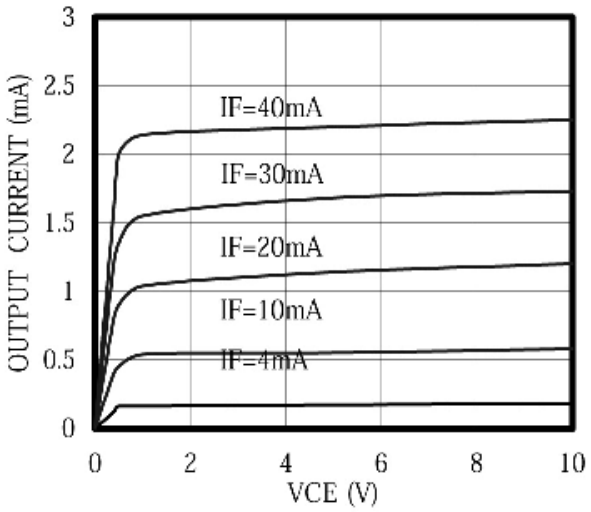
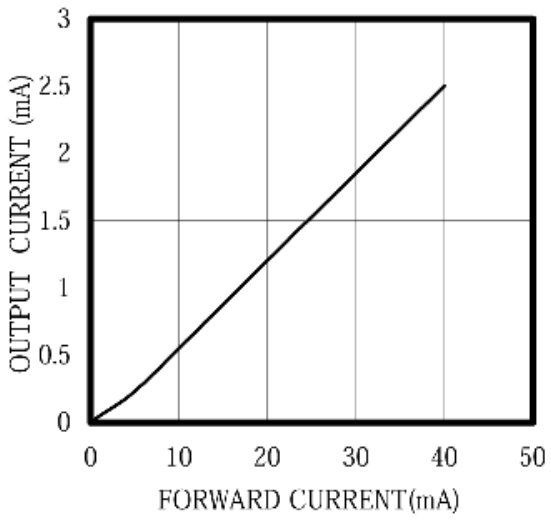
THERMAL DERATING CURVE



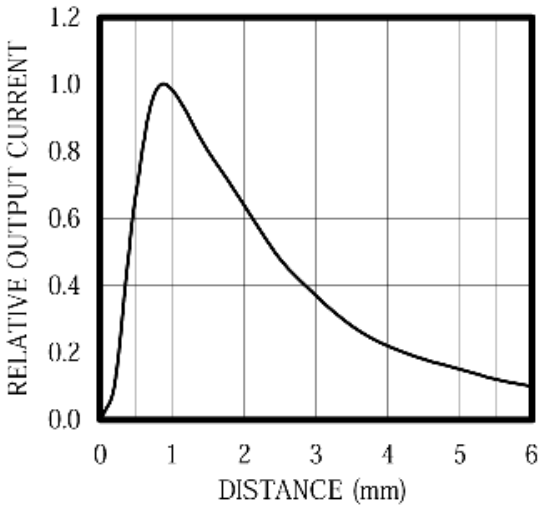
Io vs VCE



IF VS Io
VCE=10V



Io VS DISTANCE



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