

## MTRS9520

### Features

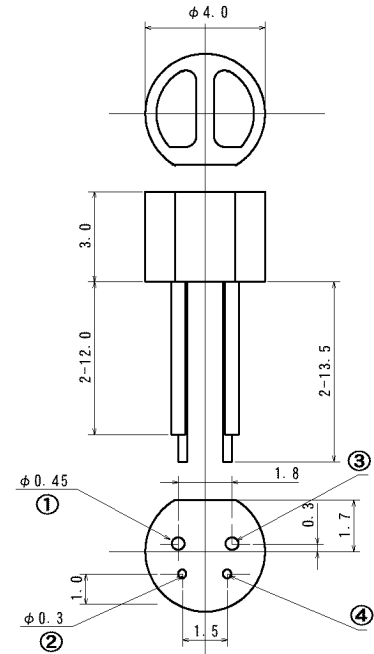
High Reliability  
Compact Package

### Applications

Card Reader  
Bar Code Reader  
Edge Sensing  
Money/Bill Reader

### Maximum Ratings (Ta=25°C)

Characteristic	Symbol	Max.	Test Condition	Unit
Forward Current	I <sub>F</sub>	60	-	mA
Pulsed Forward Current	I <sub>FP</sub>	1.00	tw=10μ S, T=10mS	A
Reverse Voltage	V <sub>R</sub>	5	-	V
Power Dissipation	P <sub>D</sub>	100.00	-	mW
Operating Temperature	T <sub>opr</sub>	-20 ~ +80	-	°C
Storage Temperature	T <sub>stg</sub>	-30 ~+100	-	°C
Soldering Temperature	T <sub>sol</sub>	260	for 5 sec. max	°C



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

### Opto-Electrical Characteristics (Ta=25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	-	1.10	1.40	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	-	-	10	μA
Light Current	I <sub>L</sub>	I <sub>F</sub> =20mA, V <sub>R</sub> =10V, d=1mm*	.50	.90	-	μA
Dark Current	I <sub>D</sub>	V <sub>R</sub> =10V	-	-	10	μA
Peak Sensitivity Wavelength	λ <sub>p</sub>	I <sub>F</sub> =20mA	-	950	-	nm
Spectral Line Half Width	Δλ	I <sub>F</sub> =20mA	-	50	-	nm
Cross-Talk	I <sub>X</sub>	I <sub>F</sub> =20mA, V <sub>ce</sub> =10V	-	-	1	%
Rise Time	T <sub>r</sub>	V <sub>ce</sub> =5V, I <sub>o</sub> =0.1mA, R <sub>L</sub> =1KΩ	-	2000.00	-	ns
Fall Time	T <sub>f</sub>	V <sub>ce</sub> =5V, I <sub>o</sub> =0.1mA, R <sub>L</sub> =1KΩ	-	2000.00	-	ns

\* Measured by reflecting with Aluminum evaporated mirror (d=1.00mm)

### Company Headquarters

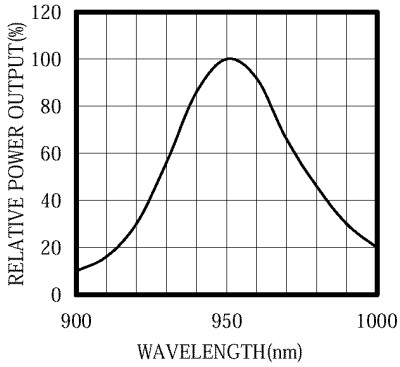
3 Northway Lane North  
Latham, New York 12110  
Toll Free: 800.984.5337  
Fax: 518.785.4725

### West Coast Sales Office

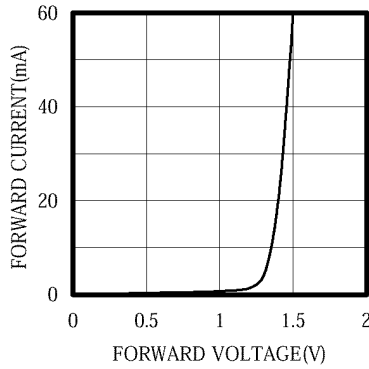
950 South Coast Drive, Suite 265  
Costa Mesa, California 92626  
Toll Free: 800.984.5337  
Fax: 714.850.9314

MTRS9520 Graphs

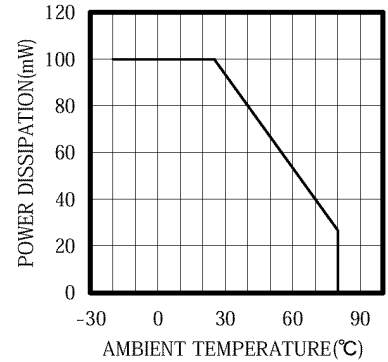
SPECTRAL OUTPUT



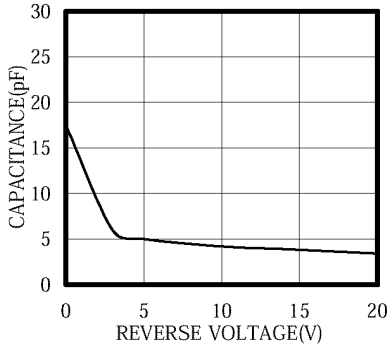
FORWARD I-V CHARACTERISTICS



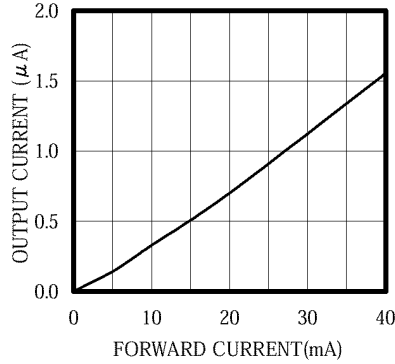
THERMAL DERATING CURVE



CAPACITANCE vs REVERSE VOLTAGE



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



I<sub>o</sub> VS DISTANCE

