

## MTE9040M

### Features

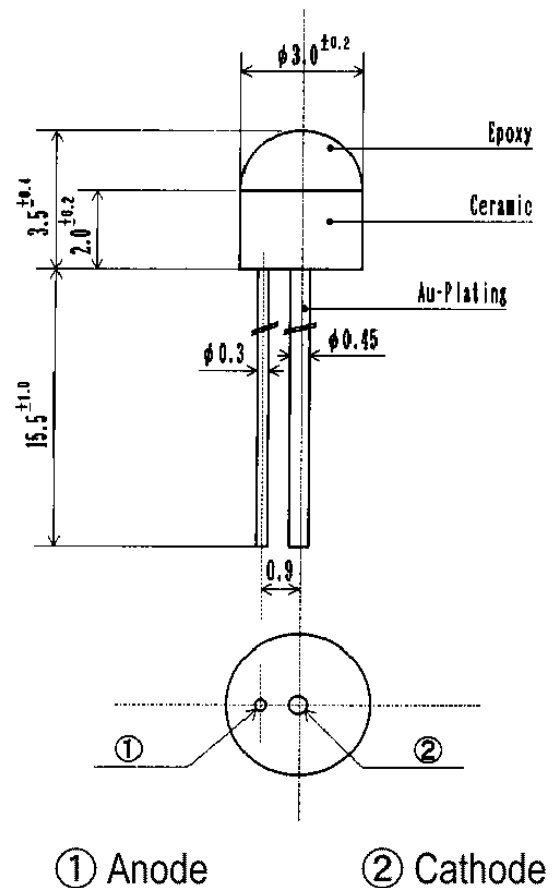
High Output Power  
High Reliability  
Compact Package

### Applications

Optical Switches  
Optical Sensors

### 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>	.50	tw=10μS, 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~+85	–	°C
Storage Temperature	T <sub>stg</sub>	-30 ~+100	–	°C
Junction Temperature	T <sub>j</sub>	100	–	°C
Soldering Temperature	T <sub>sol</sub>	260	for 5 sec. max	°C



### 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	–	1.20	1.50	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	–	–	10	μA
Power Output	P <sub>O</sub>	I <sub>F</sub> =20mA	–	4.00	–	mW
Half Intensity Beam Angle	θ	–	–	± 80°	–	deg.
Peak Wavelength	λ <sub>p</sub>	I <sub>F</sub> =20mA	–	940	–	nm
Spectral Line Half Width	Δλ	I <sub>F</sub> =20mA	–	50	–	nm
Rise Time	T <sub>r</sub>	I <sub>FP</sub> =50mA	–	1.00	–	ns
Fall Time	T <sub>f</sub>	I <sub>FP</sub> =50mA	–	1.00	–	ns
Temp Coefficient of PO	P/T	I <sub>F</sub> =10mA	–	–.50	–	%/°C
Temp Coefficient of VF	V/T	I <sub>F</sub> =10mA	–	–1.30	–	mV/°C
Junction Capacitance	C <sub>j</sub>	1 MHz, V=0V	–	20	–	pF

### Company Headquarters

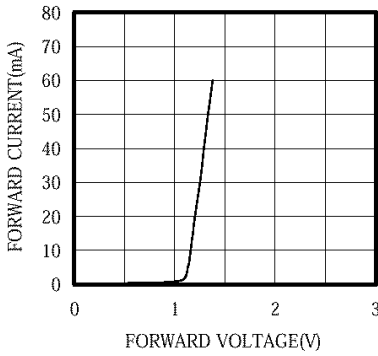
120 Broadway  
Menands, New York 12204  
Toll Free: 800.984.5337  
Fax: 518.432.7454

### West Coast Sales Office

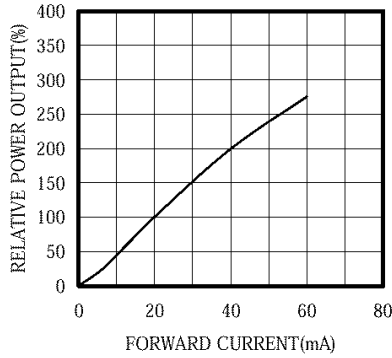
950 South Coast Drive, Suite 265  
Costa Mesa, California 92626  
Toll Free: 800.984.5337  
Fax: 714.850.9314

## MTE9040M Graphs

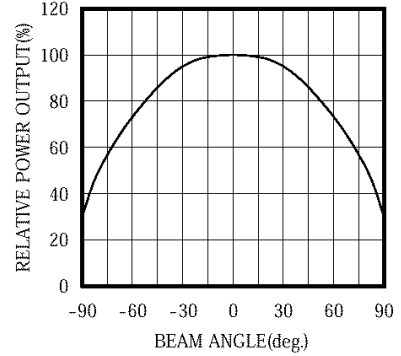
FORWARD I-V CHARACTERISTICS



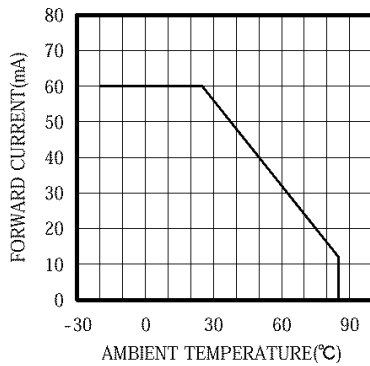
RELATIVE POWER vs FORWARD CURRENT



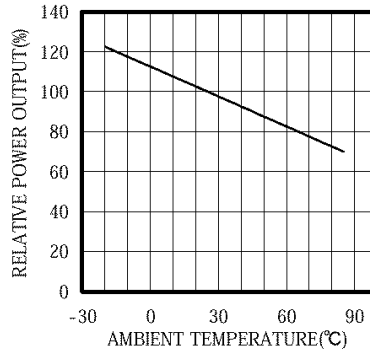
RADIATION PATTERN



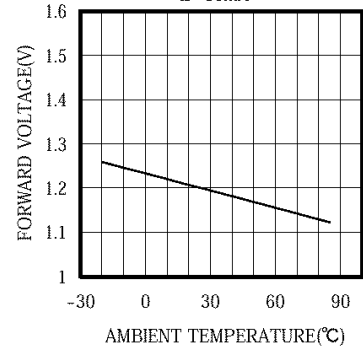
THERMAL DERATING CURVE



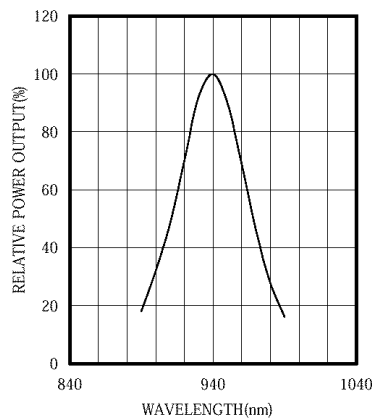
POWER OUTPUT vs TEMPERATURE  
IF=10mA



FORWARD VOLTAGE vs TEMPERATURE  
IF=10mA



SPECTRAL OUTPUT



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