

# Infrared Emitter

## MTE4094P

### Applications -

- Remote Controls
- Position Sensor
- Optical Switch

### Features -

- High Output Power
- Optical Grade Glass Lens
- Precise Optical/Mechanical Axis Alignment
- Intermediate Radiation Pattern

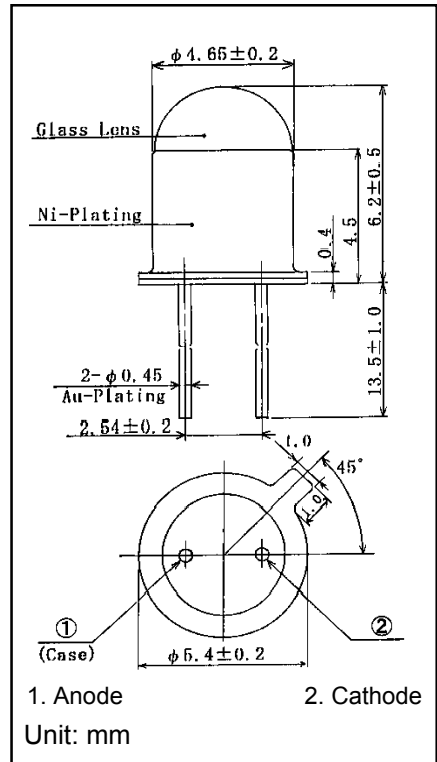
### MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC        | SYMBOL    | RATING  | UNIT |
|-----------------------|-----------|---------|------|
| Forward Current       | $I_F$     | 100     | mA   |
| Pulse Forward Current | $I_{FP}$  | 1.0*    | A    |
| Reverse Voltage       | $V_R$     | 5       | V    |
| Power Dissipation     | $P_D$     | 180     | mW   |
| Operating Temperature | $T_{opr}$ | -30~100 | °C   |
| Storage Temperature   | $T_{stg}$ | -40~125 | °C   |
| Junction Temperature  | $T_J$     | 125     | °C   |

\*  $t_w = 10\mu s$ ,  $T = 10ms$

### OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC                | SYMBOL          | TEST CONDITION | MIN. | TYP.    | MAX. | UNIT    |
|-------------------------------|-----------------|----------------|------|---------|------|---------|
| Power Output                  | PO              | $I_F = 50mA$   | —    | 5.5     | —    | mW      |
| Forward Voltage               | $V_F$           | $I_F = 50mA$   | —    | 1.35    | 1.7  | V       |
| Reverse Current               | $I_R$           | $V_R = 5V$     | —    | —       | 10   | $\mu A$ |
| Peak Wavelength               | $\lambda_p$     | $I_F = 20mA$   | —    | 945     | —    | nm      |
| Spectral Line Half Width      | $\Delta\lambda$ | $I_F = 20mA$   | —    | 50      | —    | nm      |
| Rise Time                     | $T_r$           | —              | —    | 1000    | —    | ns      |
| Fall Time                     | $T_f$           | —              | —    | 1000    | —    | ns      |
| Beam Angle                    | $\theta$        | —              | —    | $\pm 8$ | —    | °       |
| Temperature Coefficient of PO | TC of PO        | $I_F = 10mA$   | —    | -0.5    | —    | % / °C  |
| Temperature Coefficient of VF | TC of VF        | $I_F = 10mA$   | —    | -1.3    | —    | mV / °C |
| Junction Capacitance          | $C_j$           | 1MHz, V = 0V   | —    | 50      | —    | pF      |



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## MTE4094P Graphs -

