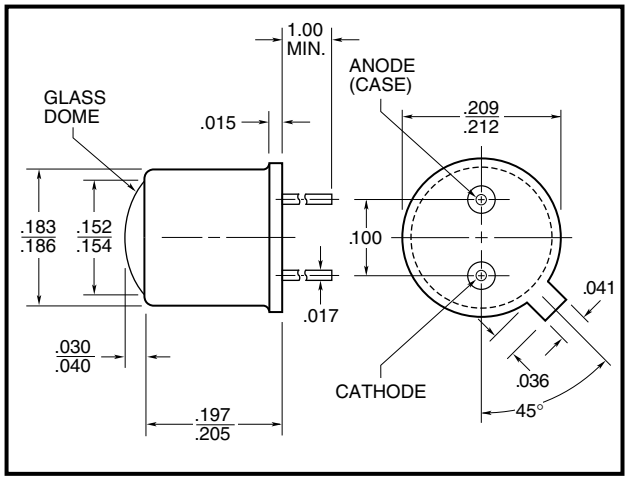
# HIGH-POWER GaAlAs IR EMITTERS — OD-880F




## FEATURES

- High reliability liquid-phase epitaxially grown GaAlAs
- 880nm peak emission for optimum matching with ODD-45W photodiode
- Wide range of linear power output
- Hermetically sealed TO-46 package
- Narrow angle for long distance applications
- OD-880F1 selected to meet minimum radiant intensity

All surfaces are gold plated. Dimensions are nominal values in inches unless otherwise specified. Window caps are welded to the case.

## ELECTRO-OPTICAL CHARACTERISTICS AT 25°C

| PARAMETERS | | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|---|---|---|---|---|---|---|
| Total Power Output, $P_o$ | OD-880F<br>OD-880F1 | $I_F$ = 100mA | 15 | 17<br>8 | | mW |
| Radiant Intensity, $I_e$ | OD-880F<br>OD-880F1 | $I_F$ = 100mA | 120 | 135<br>160 | | mW/sr |
| Peak Emission Wavelength, $\lambda_P$ | | $I_F$ = 50mA | | 880 | | nm |
| Spectral Bandwidth at 50%, $\Delta\lambda$ | | $I_F$ = 50mA | | 80 | | nm |
| Half Intensity Beam Angle, $\theta$ | | $I_F$ = 50mA | | 8 | | Deg |
| Forward Voltage, $V_F$ | | $I_F$ = 100mA | | 1.55 | 1.9 | Volts |
| Reverse Breakdown Voltage, $V_R$ | | $I_R$ = 10µA | 5 | 30 | | Volts |
| Capacitance, C | | $V_R$ = 0V | | 17 | | pF |
| Rise Time | | | | 0.5 | | µsec |
| Fall Time | | | | 0.5 | | µsec |

## ABSOLUTE MAXIMUM RATINGS AT 25°C CASE

| | |
|---|---|
| Power Dissipation[1] | 190mW |
| Continuous Forward Current | 100mA |
| Peak Forward Current (10µs, 400Hz)[2] | 3A |
| Reverse Voltage | 5V |
| Lead Soldering Temperature (1/16" from case for 10sec) | 240°C |

[1]Derate per Thermal Derating Curve above 25°C
[2]Derate linearly above 25°C

## THERMAL PARAMETERS

| | |
|---|---|
| Storage and Operating Temperature Range | -55°C to 100°C |
| Maximum Junction Temperature | 100°C |
| Thermal Resistance, $R_{THJA}$[1] | 350°C/W Typical |
| Thermal Resistance, $R_{THJA}$[2] | 115°C/W Typical |

[1]Heat transfer minimized by measuring in still air with minimum heat conducting through leads
[2]Air circulating at a rapid rate to keep case temperature at 25°C

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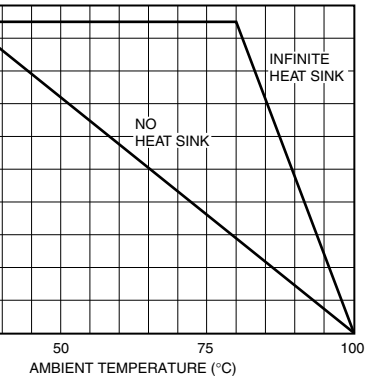
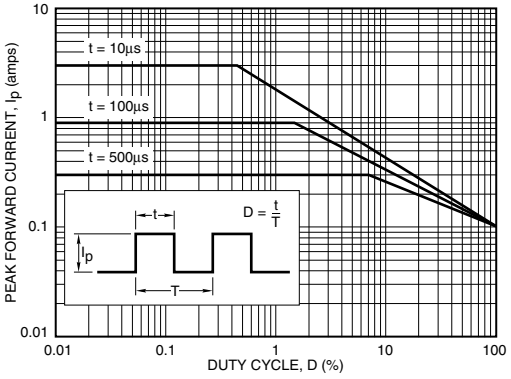
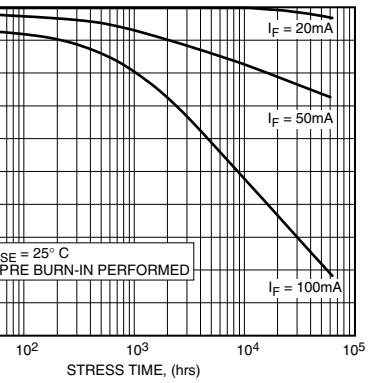
**AL DERATING CURVE**



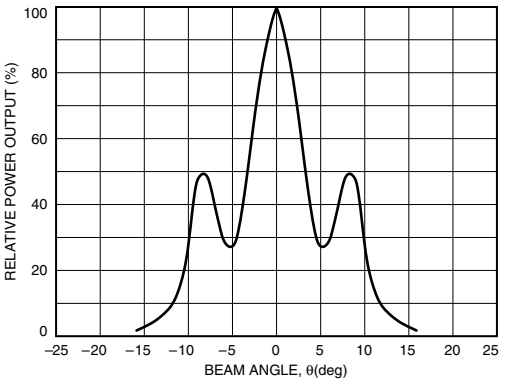

**MAXIMUM PEAK PULSE CURRENT**



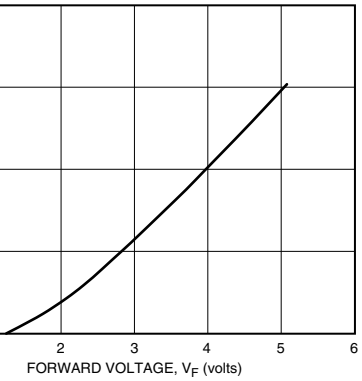

**ATION CURVE**



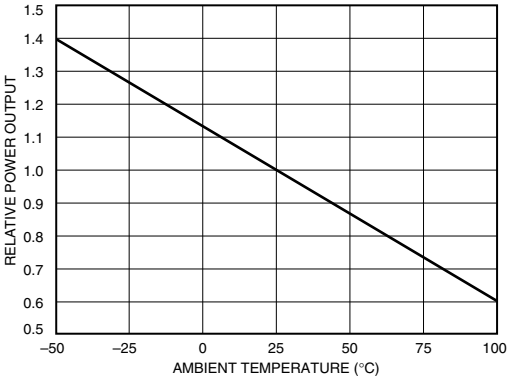

**RADIATION PATTERN**



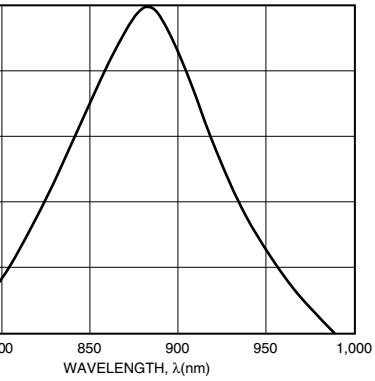

**RD I-V CHARACTERISTICS**



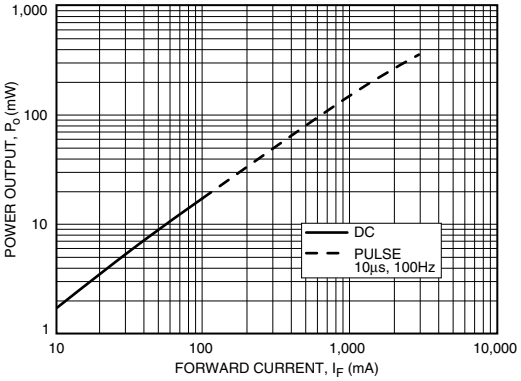

**POWER OUTPUT vs TEMPERATURE**




**AL OUTPUT**




**POWER OUTPUT vs FORWARD CURRENT**

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