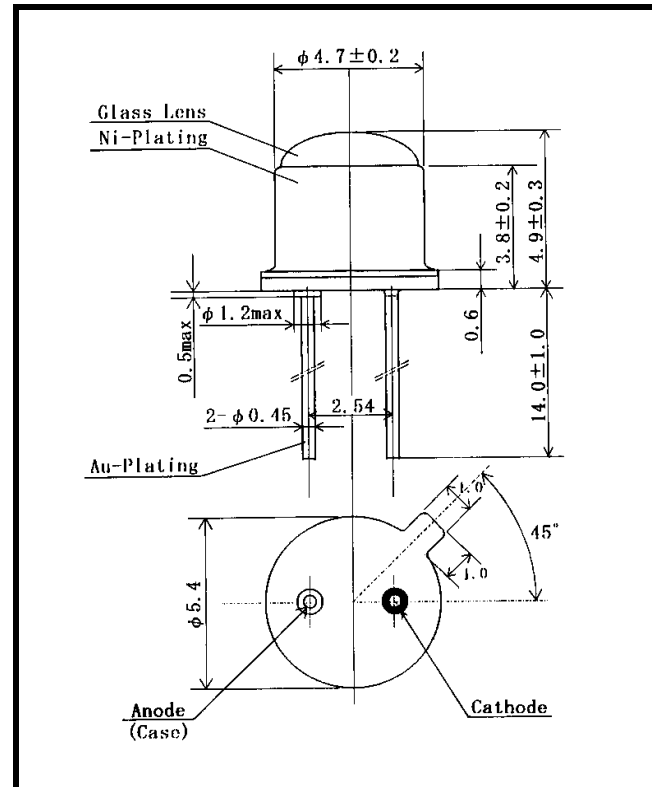


IR-870-TO-10NN



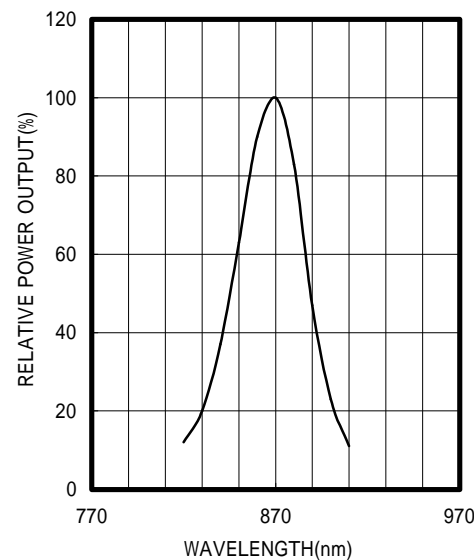
Dimensions (Unit:mm)

2. ELECTRICAL & OPTICAL CHARACTERISTICS (Ta=25 °C)

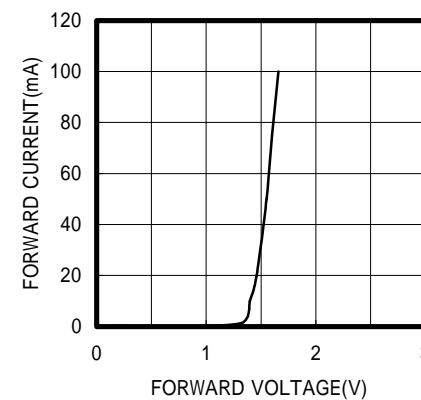
| ITEM | SYMBOL | CONDITIONS | MIN | TYP | MAX | UNIT |
|---------------------------|-----------|-------------------------|-----|---------|-----|---------|
| Power Output | PO | IF=50mA | 7.0 | 10.0 | | mW |
| Forward Voltage | VF | IF=50mA | | 1.55 | 2.0 | V |
| Reverse Current | IR | VR=5V | | | 10 | μ A |
| Peak Wavelength | λ | IF=50mA | | 870 | | nm |
| Spectral Line Half Width | | IF=50mA | | 45 | | nm |
| Half Intensity Beam Angle | | IF=50mA | | ± 5 | | deg. |
| Cut-Off Frequency | fc | IFP=50mA \pm 10mA p-p | | 12 | | MHz |
| Junction Capacitance | Cj | 1MHz, V=0V | | 50 | | pF |
| Temp. Coefficient of PO | P/T | IF=10mA | | -0.3 | | %/°C |
| Temp. Coefficient of VF | V/T | IF=10mA | | -2.1 | | mV/°C |

- FEATURES**
- High-output Power
 - Parallel Rays (Excellent)
 - High Reliability in Demanding Environments
- APPLICATIONS**
- Linear & Rotary Encoder
 - Optical Switches

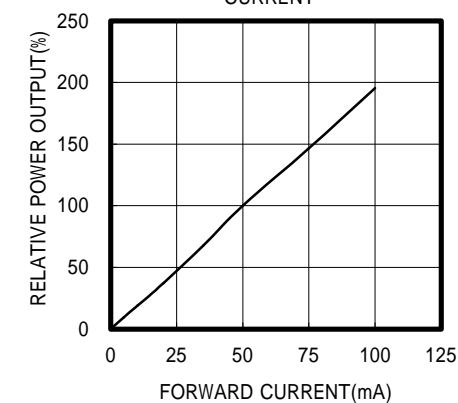
SPECTRAL OUTPUT



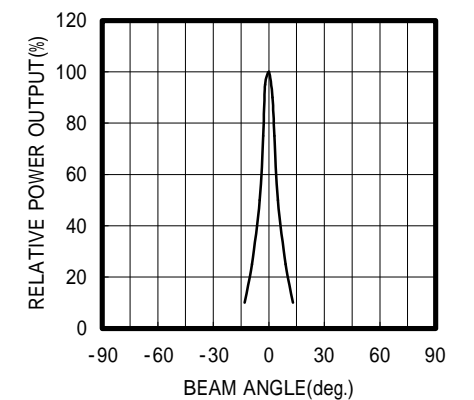
FORWARD I-V CHARACTERISTICS



RELATIVE POWER vs FORWARD CURRENT



RADIATION PATTERN



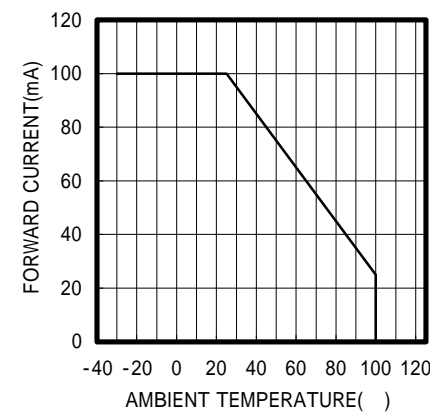
1. ABSOLUTE MAXIMUM RATINGS

| ITEM | SYMBOL | RATINGS | UNIT |
|---------------------------|--------|------------|------|
| Forward Current (DC) | IF | 100 | mA |
| Forward Current (Pulse)*1 | IFP | 1 | A |
| Reverse Voltage | VR | 5 | V |
| Power Dissipation | PD | 200 | mW |
| Operating Temp. | Topr | -30 TO 100 | |
| Storage Temp. | Tstg | -40 TO 125 | |
| Junction Temp. | Tj | 125 | |
| Lead Soldering Temp.*2 | Tls | 260 | |

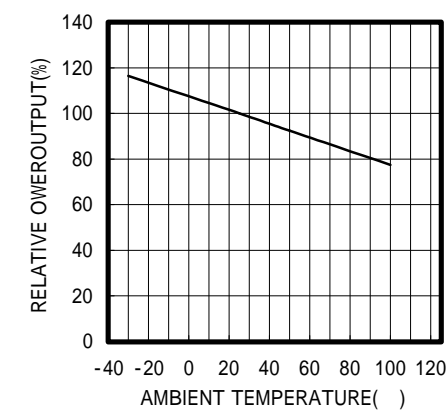
*1: Tw=10uS, T=10mS

*2: Time 5 Sec max, Position: Up to 3mm from the body

THERMAL DERATING COEFFICIENT



POWER OUTPUT vs TEMPERATURE IF=10mA



FORWARD VOLTAGE vs TEMPERATURE IF=10mA

