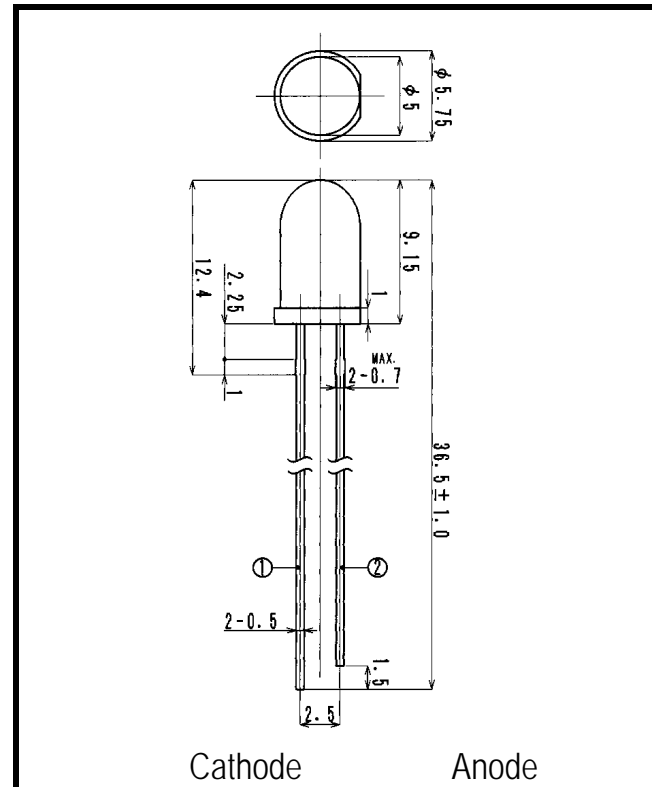
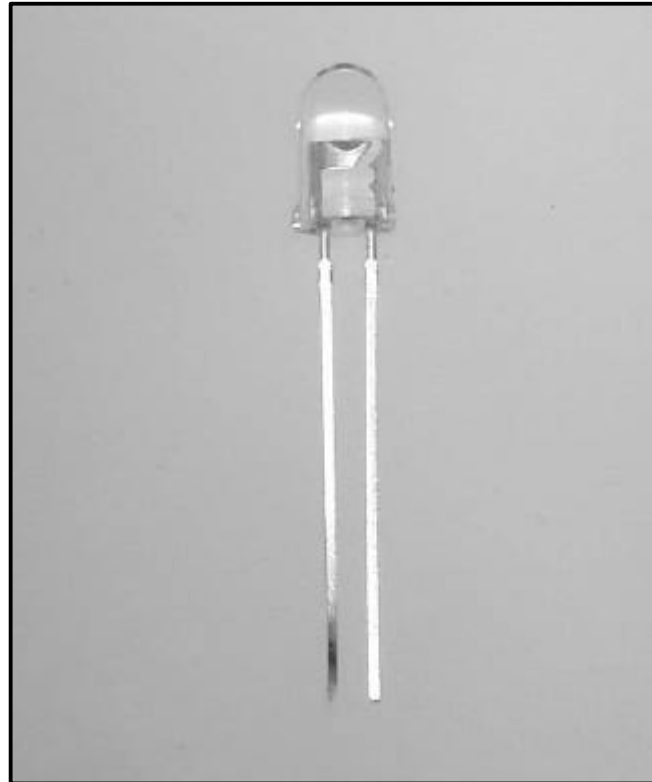


# LSF944N5

# Infrared Emitting Diode



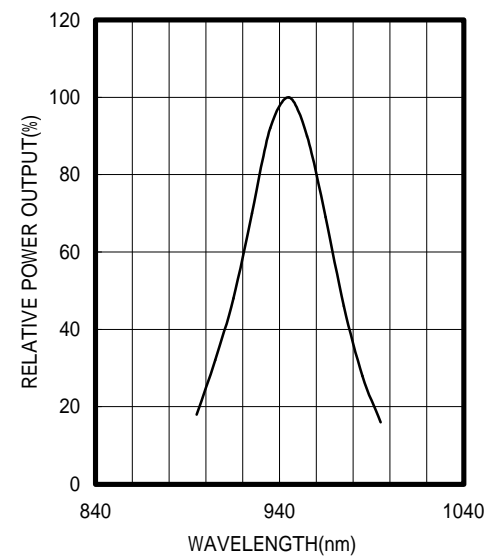
Cathode Anode  
Dimensions (Unit:mm)

- FEATURES**
- High-output Power
  - Narrow Beam Angle
  - High Reliability
- APPLICATIONS**
- Optical Switches
  - Bar-code Reader

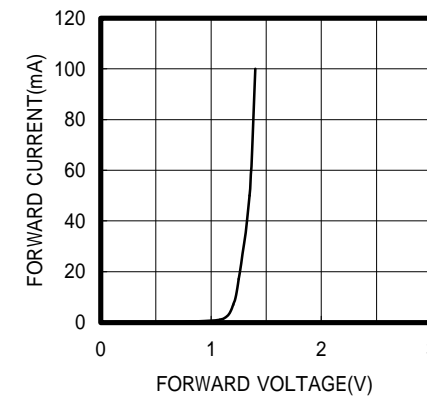
## 2. ELECTRICAL & OPTICAL CHARACTERISTICS (Ta=25 °C)

| ITEM                      | SYMBOL | CONDITIONS | MIN | TYP  | MAX | UNIT  |
|---------------------------|--------|------------|-----|------|-----|-------|
| Power Output              | PO     | IF=50mA    |     | 10.0 |     | mW    |
| Forward Voltage           | VF     | IF=50mA    |     | 1.35 | 1.7 | V     |
| Reverse Current           | IR     | VR=5V      |     |      | 10  | μA    |
| Peak Wavelength           | λ      | IF=50mA    |     | 945  |     | nm    |
| Spectral Line Half Width  |        | IF=50mA    |     | 50   |     | nm    |
| Half Intensity Beam Angle |        | IF=50mA    |     | ±7   |     | deg.  |
| Rise Time                 | Tr     | IFP=50mA   |     | 1.0  |     | μS    |
| Fall Time                 | Tf     | IFP=50mA   |     | 1.0  |     | μS    |
| Junction Capacitance      | Cj     | 1MHz, V=0V |     | 20   |     | pF    |
| Temp. Coefficient of PO   | P/T    | IF=10mA    |     | -0.5 |     | %/°C  |
| Temp. Coefficient of VF   | V/T    | IF=10mA    |     | -1.3 |     | mV/°C |

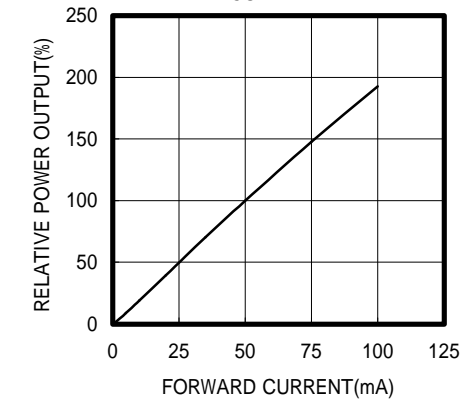
SPECTRAL OUTPUT



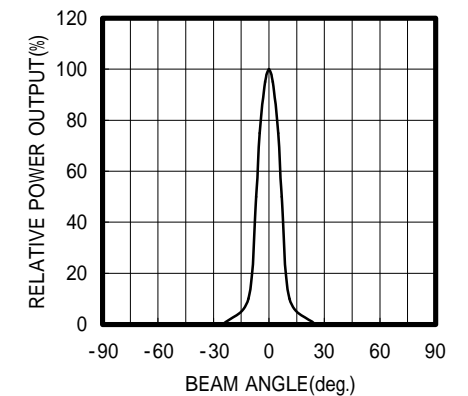
FORWARD I-V CHARACTERISTICS



RELATIVE POWER vs FORWARD CURRENT



RADIATION PATTERN



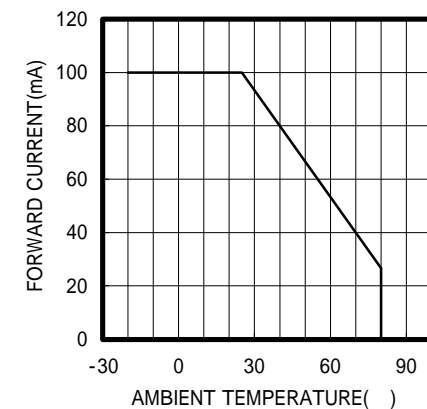
## 1. ABSOLUTE MAXIMUM RATINGS (Ta=25 °C)

| 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     | 180        | mW   |
| Operating Temp.           | Topr   | -20 TO 80  |      |
| Storage Temp.             | Tstg   | -30 TO 100 |      |
| Junction Temp.            | Tj     | 100        |      |
| Lead Soldering Temp.*2    | Tls    | 260        |      |

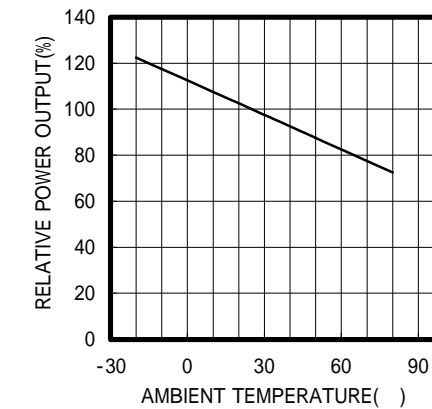
\*1: Tw=10μs, T=10mS

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

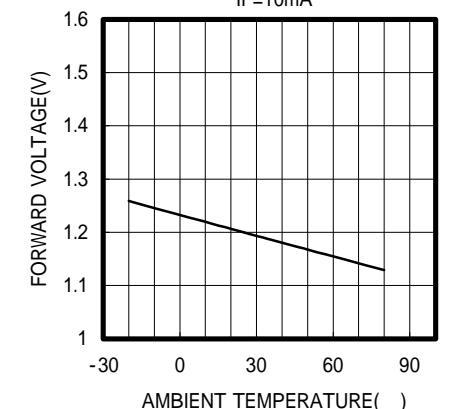
THERMAL DERATING CURVE



POWER OUTPUT vs TEMPERATURE  
IF=10mA



FORWARD VOLTAGE vs TEMPERATURE  
IF=10mA



**OPTRANS**

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