

AT225-14-30

DATA SHEET

REV. : 1.0

DATE : 20-Apr.-2007

■ **FEATURES:**

- High reliability.
- High radiant intensity.
- Peak wavelength at 850nm.
- Standard $\phi 5\text{mm}$.
- Lead Free product, in compliance with RoHS.

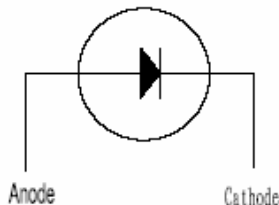
■ **DESCRIPTIONS:**

- AT225-14-30 is a high response speed and high radiant intensity infrared emitting diode with exceptionally stable characteristics and high illumination sensitivity.
- Moulded in 5mm diameter and water clear package.

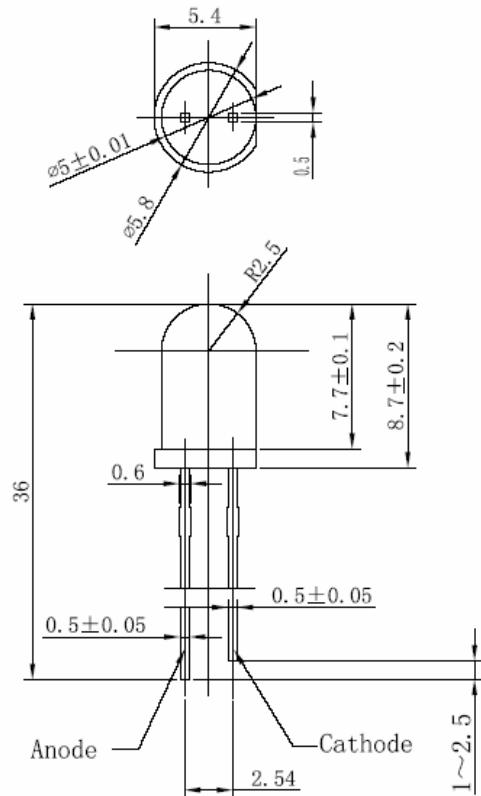
■ **APPLICATIONS:**

- Free air transmission system.
- Security System.
- Infrared applied system
- Night viewing.

■ **INTERNAL CIRCUIT:**



■ **DIMENSIONS:**



NOTE: 1. All dimensions are in millimeter, tolerance is ± 0.25 unless otherwise noted.
 2. Epoxy meniscus extends ≤ 1 mm down to the lead is allowed.

■ ABSOLUTE MAXIMUM RATINGS AT Ta=25°C

| Parameter | Symbol | Ratings | Unit |
|----------------------------|------------------|-------------------------------------|------|
| Continuous Forward Current | I _F | 50 | mA |
| Power Dissipation | P _D | 100 | mW |
| Peak Forward Current | I _{FP} | 1 | A |
| Reverse voltage | V _R | 5 | V |
| Operating Temperature | T _{opr} | -40~+85 | °C |
| Storage Temperature | T _{stg} | -55~+100 | °C |
| Soldering Temperature | T _{sol} | 270°C for 6 sec Max (2mm from Body) | |

NOTE: I_{FP} Conditions Pulse Width ≤ 100μS And Duty ≤ 1%.

■ TYPICAL ELECTRICAL & OPTICAL CHARACTERISTICS (Ta=25°C)

| Parameter | Symbol | Min. | Type | Max. | Unit | Test Condition |
|--------------------------|-------------------|------|------|------|-------|--|
| Radiant Intensity | E _e | | 25 | | mW/sr | I _F =20mA |
| | | | 100 | | mW/sr | I _F =100mA, t _p =100 μ s, t _p /T=0.01 |
| | | | 800 | | mW/sr | I _F =1000mA, t _p =100 μ s, t _p /T=0.01 |
| Forward Voltage | V _F | | 1.4 | 1.6 | V | I _F =20mA |
| Reverse Current | I _R | | | 10 | μA | V _R =5V |
| Peak Wavelength | λ _p | | 850 | | | I _F =20mA |
| Spectral Line Half-Width | Δλ | | 40 | | nm | I _F =20mA |
| View Angle | 2θ _{1/2} | | 15 | | deg | I _F =20mA |

■ RELIABILITY TEST ITEMS AND CONDITIONS:

| NO | Item | Test Conditions | Test Hours/Cycle | Sample Quantity | Test Result |
|----|--|--|------------------|-----------------|-------------|
| 1 | Solder Heat | TEMP: 270°C ± 3°C | 10 SEC | 11 pcs | 0 DEFECT |
| 2 | Temperature Cycle | H: +85°C 60min \updownarrow 10min L: -40°C 60min | 16 cycles | 22 pcs | 0 DEFECT |
| 3 | Thermal Shock | H: +85°C 30min \updownarrow 30sec L: -40°C 30min | 10 cycles | 11 pcs | 0 DEFECT |
| 4 | High Temperature Storage | TEMP: +100°C | 1000 HRS | 22 pcs | 0 DEFECT |
| 5 | Low Temperature Storage | TEMP: -55°C | 1000 HRS | 22 pcs | 0 DEFECT |
| 6 | High Temperature High Humidity Storage | 85°C / 93% RH | 1000HRS | 22 pcs | 0 DEFECT |

■ TYPICAL ELECTRO-OPTICAL CHARACTERISTICS CURVES:

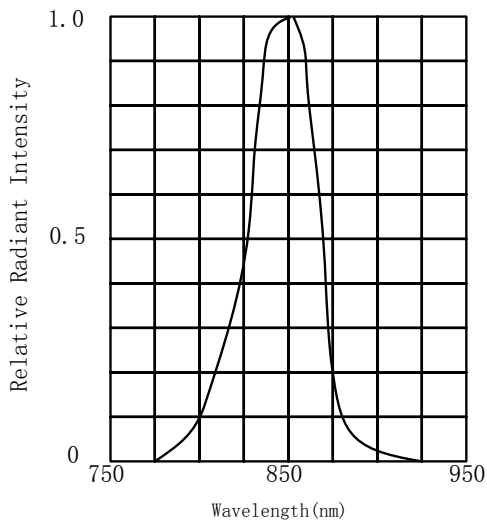


FIG. 1 SPECTRAL DISTRIBUTION

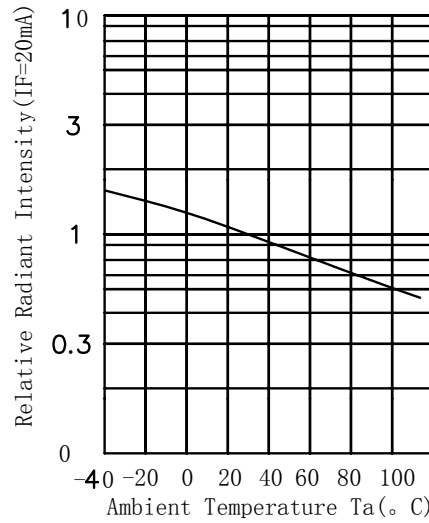


FIG. 2 RELATIVE RADIANT INTENSITY VS AMBIENT TEMPERATURE

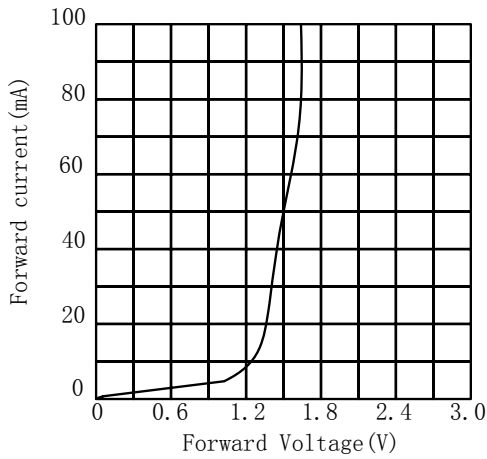


FIG. 3 FORWARD CURRENT VS FORWARD VOLTAGE

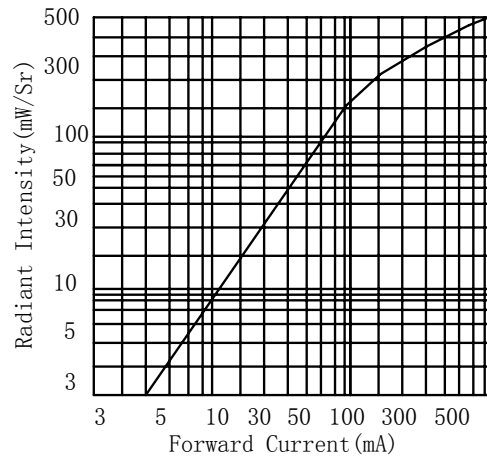


FIG. 4 FORWARD CURRENT VS RADIANT INTENSITY

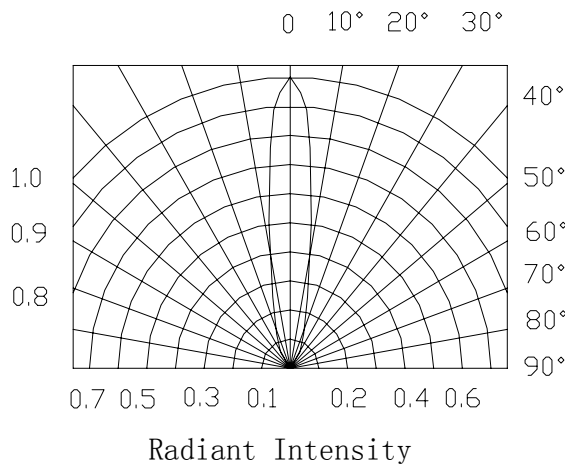


Fig.5 Angle Vs Radiant Intensity