

AT228-16-30

DATA SHEET

REV. : 1.0

DATE : 20-Apr.-2006

■ FEATURES:

- High reliability.
- High radiant intensity.
- Peak wavelength at 850nm.
- Standard $\phi 8$ mm.
- Lead Free product, in compliance with RoHS.

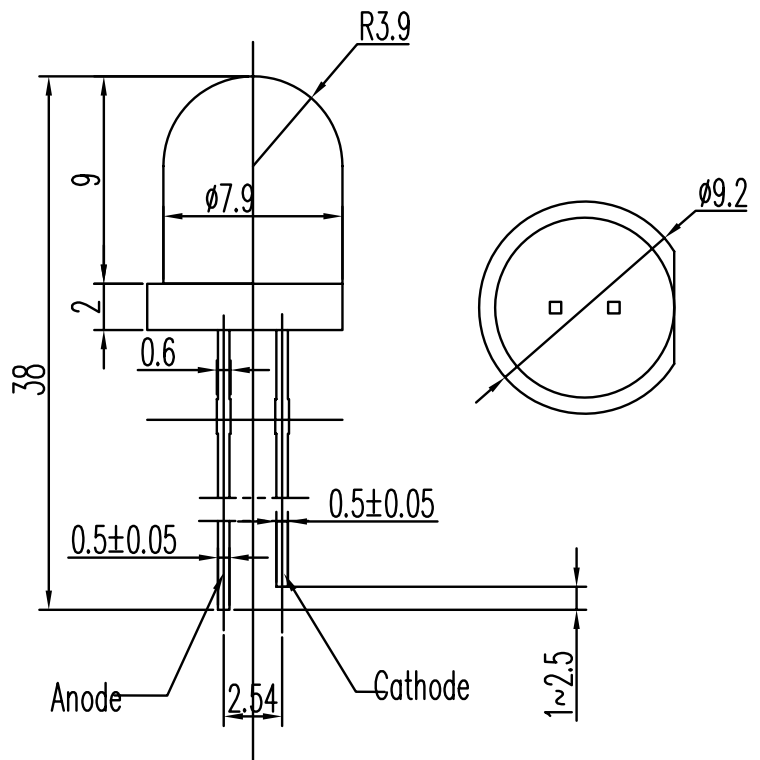
■ DESCRIPTIONS:

- AT228-16-30 is a high response speed and high radiant intensity infrared emitting diode with exceptionally stable characteristics and high illumination sensitivity.
- Moulded in 8mm diameter and water clear package.

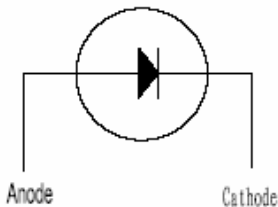
■ APPLICATIONS:

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

■ DIMENSIONS:



■ INTERNAL CIRCUIT:



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

Parameter	Symbol	Rating	Unit
Continuous Forward Current	I _F	100	mA
Power Dissipation	P _D	140	mW
Peak Forward Current	I _{FP}	1.3	A
Reverse voltage	V _R	5	V
Operating Temperature	T _{opr}	-40 ~ +85	
Storage Temperature	T _{stg}	-40 ~ +85	
Soldering Temperature	T _{sol}	270 for 6 sec Max (2mm from Body)	

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

■ TYPICAL ELECTRICAL & OPTICAL CHARACTERISTICS (Ta=25)

Parameter	Symbol	Min.	Type	Max.	Unit	Test Condition
Radiant Intensity	E _e		30		mW/sr	I _F =20mA
			125		mW/sr	I _F =100mA, t _p =100 μ s, t _p /T=0.01
			830		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 ±3	10 SEC	11 pcs	0 DEFECT
2	Temperature Cycle	H:+85 60min ↕ 10min L:-25 60min	16 cycles	22 pcs	0 DEFECT
3	Thermal Shock	H:+85 30min ↕ 30sec L:-25 30min	10 cycles	11 pcs	0 DEFECT
4	High Temperature Storage	TEMP : +85	1000 HRS	22 pcs	0 DEFECT
5	Low Temperature Storage	TEMP : -25	1000 HRS	22 pcs	0 DEFECT
6	High Temperature High Humidity Storage	85 /93% RH	1000HRS	22 pcs	0 DEFECT

■ TYPICAL ELECTRO-OPTICAL CHARACTERISTICS CURVES:

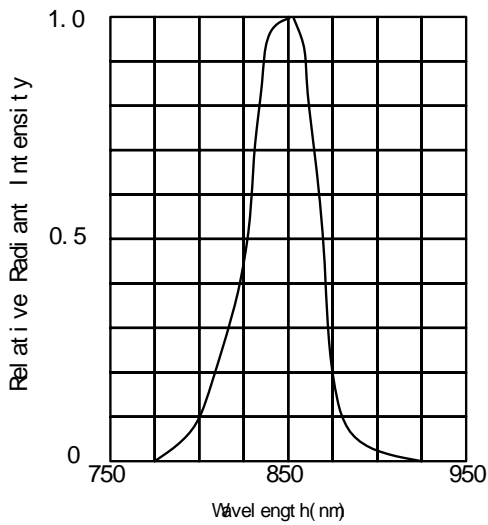


FIG.1 SPECTRAL DISTRIBUTION

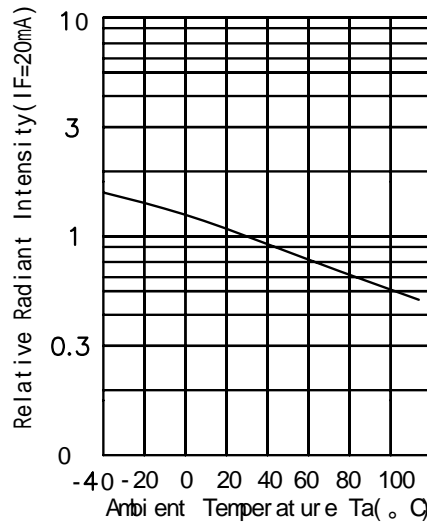


FIG.2 RELATIVE RADIANT INTENSITY VS AMBIENT TEMPERATURE

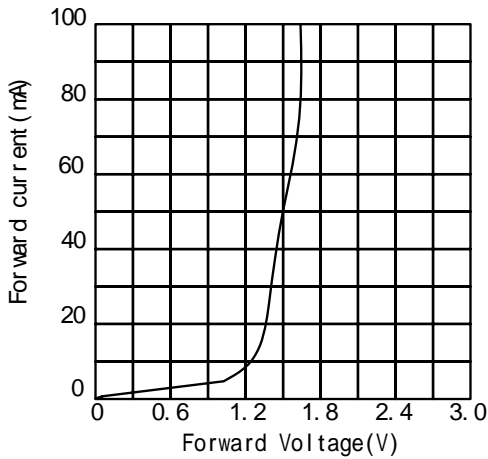


FIG.3 FORWARD CURRENT VS FORWARD VOLTAGE

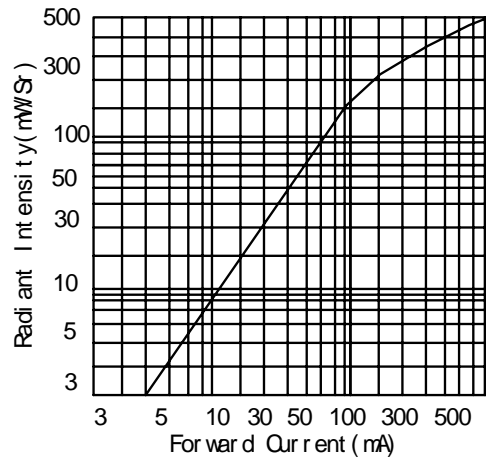


FIG.4 FORWARD CURRENT VS RADIANT INTENSITY

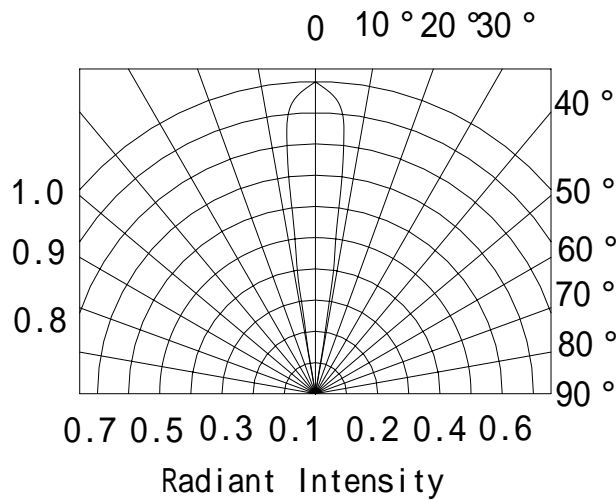


Fig.5 Angle Vs Radiant Intensity