LITEON®
OPTOELECTRONICS

Infrared
Product Data Sheet
LTE-4208M

Spec No. :DS50-2005-011
Effective Date: 08/16/2023
Revision: C

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

LITE-ON Technology Corp. / Optoelectronics
No.90,Chien 1 Road, Chung Ho, New Taipei City 23585, Taiwan, R.O.C.
Tel: 886-2-2222-6181 Fax: 886-2-2221-1948 / 886-2-2221-0660
http://www.liteon.com/opto

Infrared Emitter
LTE-4208M

1. Description

LTE-4208 series is a 940nm IR emitting diode with high radiant power. It is molded in T-1¾ package with a water clear lens.

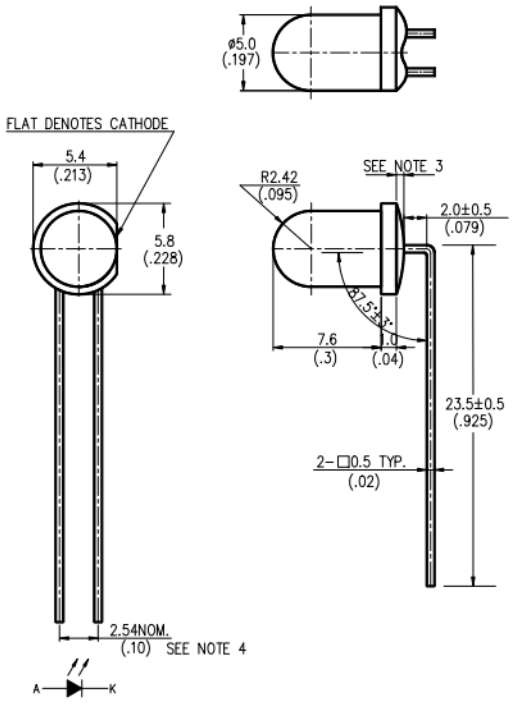
1. 1. Features

- Selected to specific on-line intensity and radiant intensity ranges
- Low cost miniature plastic end looking package
- Mechanically and spectrally matched to the LTR-3208 series of phototransistor
- Clear transparent color package

1.2. Applications

- Smoke detector
- IR emitter

2. Outline Dimensions



Notes :

1. All dimensions are in millimeters.
2. Tolerance is ±0.25mm (.010”) unless otherwise noted.
3. Protruded resin under flange is 1.0mm (.039”) max.
4. Lead spacing is measured where the leads emerge from the package.
5. Specifications are subject to change without notice.

3. Absolute Maximum Ratings at TA=25℃

Parameter	Maximum Rating	Unit
Power Dissipation	100	mW
Peak Forward Current (300pps, 10μs pulse)	3	A
Continuous Forward Current	50	mA
Reverse Voltage	5	V
Operating Temperature Range	-40℃ to + 85℃	
Storage Temperature Range	-55℃ to + 100℃	
Lead Soldering Temperature [4.0mm (.157") From Body]	260℃ for 5 Seconds	

4. Electrical / Optical Characteristics at TA=25℃

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition	BIN NO
Radiant Intensity	I_E	3.6		13.2	mW/sr	I_F = 20mA	BIN A
		10.8		17.6			BIN B
		14.4		22.0			BIN C
		18.0		26.4			BIN D
		21.6		30.8			BIN E
		25.2		35.2			BIN F
		28.8		-			BIN G
Peak Emission Wavelength	λ_{Peak}		940		nm	I_F = 20mA	
Spectral Line Half-Width	Δλ		50		nm	I_F = 20mA	
Forward Voltage	V_F		1.2	1.6	V	I_F = 20mA	
Reverse Current	I_R			100	μA	V_R = 5V	
Viewing Angle (See Fig.6)	$2\theta_{1/2}$		20		deg.		

NOTE: Reverse voltage (VR) condition is applied to IR test only. The device is not designed for reverse operation.

5. Typical Electrical / Optical Characteristics Curves

(25℃ Ambient Temperature Unless Otherwise Noted)

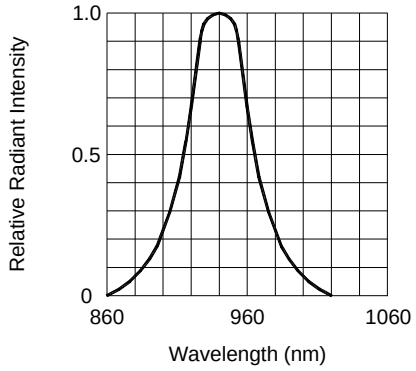


FIG.1 SPECTRAL DISTRIBUTION

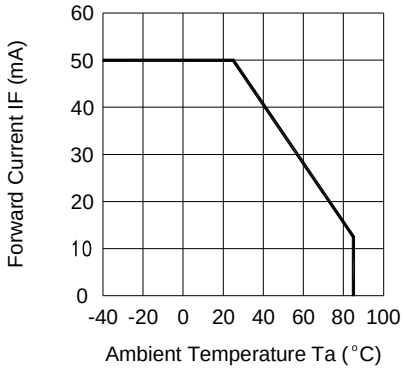


FIG.2 FORWARD CURRENT VS. AMBIENT TEMPERATURE

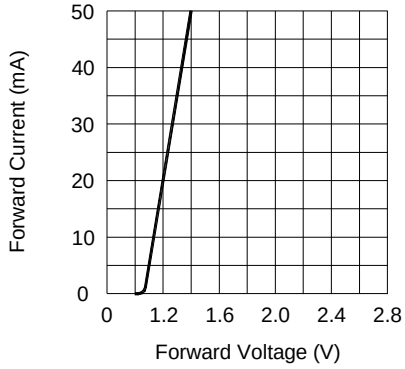


FIG.3 FORWARD CURRENT VS. FORWARD VOLTAGE

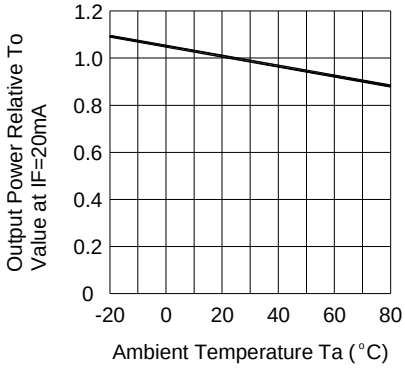


FIG.4 RELATIVE RADIANT INTENSITY VS. AMBIENT TEMPERATURE

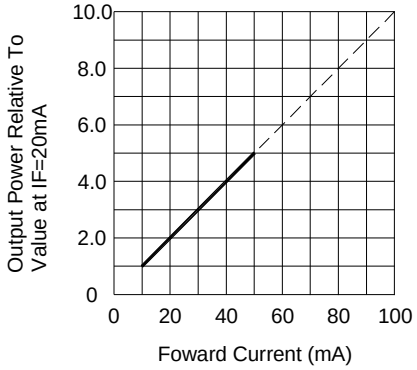


FIG.5 RELATIVE RADIANT INTENSITY VS. FORWARD CURRENT

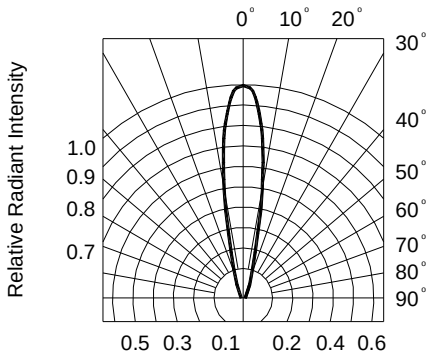


FIG.6 RADIATION DIAGRAM