



Infrared Product Data Sheet LTE-11L2D

Spec No. :DS50-2021-0009
Effective Date: 02/20/2021
Revision: -

LITE-ON DCC

RELEASE

Infrared Emitter LTE-11L2D

1. Description

LTE-11L2D is an infrared, 940nm emitting diode with high radiant power. It is molded in a standard T-1 package with a dark blue lens.

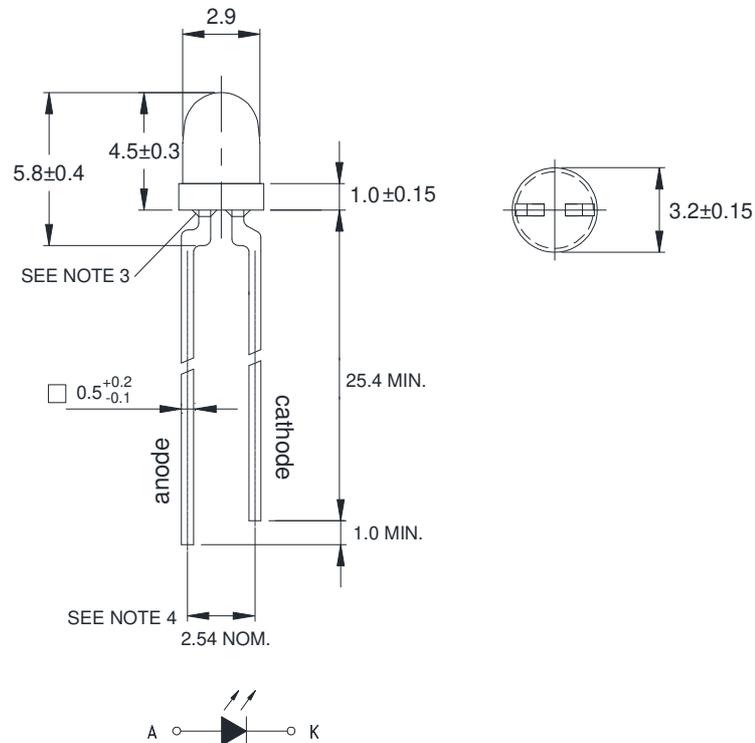
1.1. Features

- Popular T-1 Ø3mm diameter.
- Dark blue lens
- Peak wavelength: 940nm
- Half angle: $\pm 22^\circ$
- Available for pulse operating
- Lead (Pb) free product and RoHS compliant.

1.2. Applications

- Infrared signal of remote controller
- Data transmission
- Sensor technology

2. Outline Dimensions



Notes :

1. All dimensions are in millimeters
2. Tolerance is ± 0.25 mm unless otherwise noted.
3. Protruded resin under flange is 0.7mm (max).
4. Lead spacing is measured where the leads emerge from the package.

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3. Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	Maximum Rating	Unit
Power Dissipation	P_V	170	mW
Surge Forward Current (tp=100µs)	I_{FSM}	700	mA
Continuous Forward Current	I_F	100	mA
Reverse Voltage	V_R	5	V
Junction Temperature	T_j	100	°C
Thermal resistance junction – ambient (J-STD-051, leads 7mm soldered on PCB)	R_{thJA}	300	K/W
Operating Temperature Range	T_{amb}	-40°C to + 85°C	
Storage Temperature Range	T_{stg}	-40°C to + 100°C	
Lead Soldering Temperature [2.0mm From Body]	T_{sd}	260°C (max 5 Seconds)	

4. Electrical / Optical Characteristics at TA=25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Radiant Intensity ^{*(see note 1)}	I_E	40	68		mW/sr	$I_F = 100\text{mA}$, tp=20mS
Peak Emission Wavelength	λ_P		940		nm	$I_F = 100\text{mA}$, tp=20mS
Spectral Bandwidth	$\Delta\lambda$		50		nm	$I_F = 100\text{mA}$, tp=20mS
Forward Voltage	V_F		1.5	1.8	V	$I_F = 100\text{mA}$, tp=20mS
Reverse Current	I_R			10	µA	$V_R = 5\text{V}$
Rise and Fall Time	t_r , t_f		20		ns	$I_F = 100\text{mA}$, 10% to 90%
Half Angle ^{*(see note 2)}	$\theta_{1/2}$		±22		deg.	

Note 1: Tolerance ±10% should be considered.

Note 2: Half angle is emission angle measured at 50% intensity.

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5. Typical Electrical / Optical Characteristics Curves

(25°C Ambient Temperature Unless Otherwise Noted)

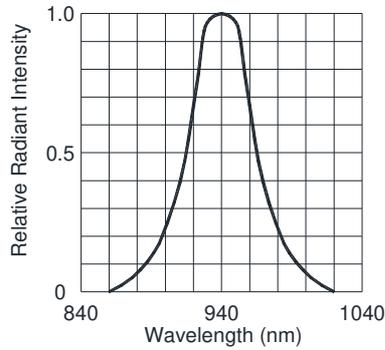


FIG.1 RELATIVE SPECTRAL DISTRIBUTION

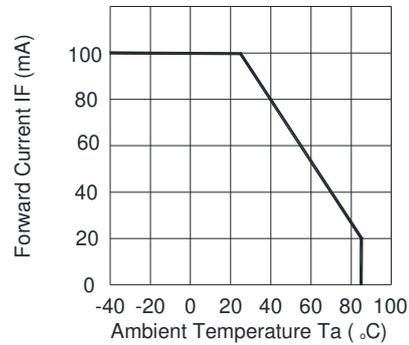


FIG.2 FORWARD CURRENT LIMIT vs. AMBIENT TEMPERATURE

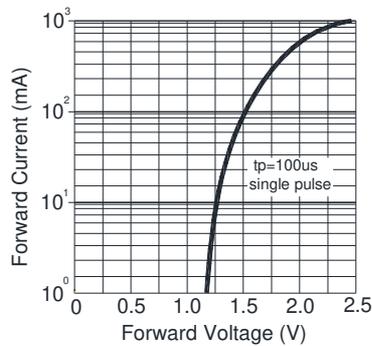


FIG.3 FORWARD CURRENT vs. FORWARD VOLTAGE

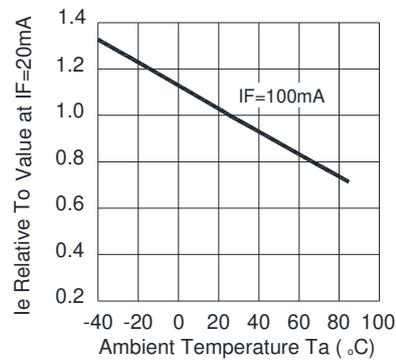


FIG.4 RELATIVE RADIANT INTENSITY vs. AMBIENT TEMPERATURE

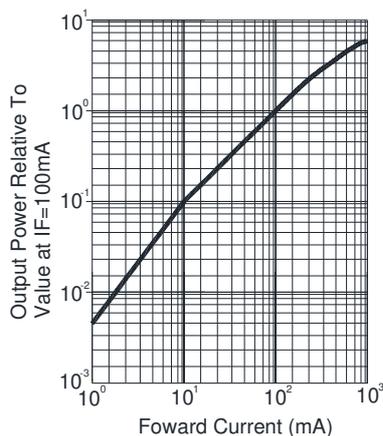


FIG.5 RELATIVE RADIANT INTENSITY VS. FORWARD CURRENT

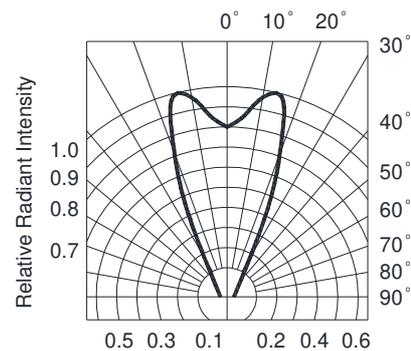


FIG.6 RADIATION DIAGRAM

**Infrared Emitter
LTE-11L2D**

6. Recommended Solder Pad and Soldering Profile

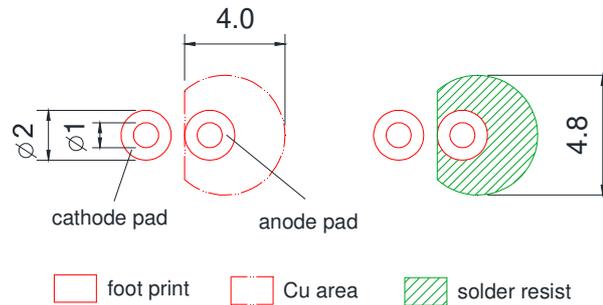


FIG.8 RECOMMENDED SOLDER PAD

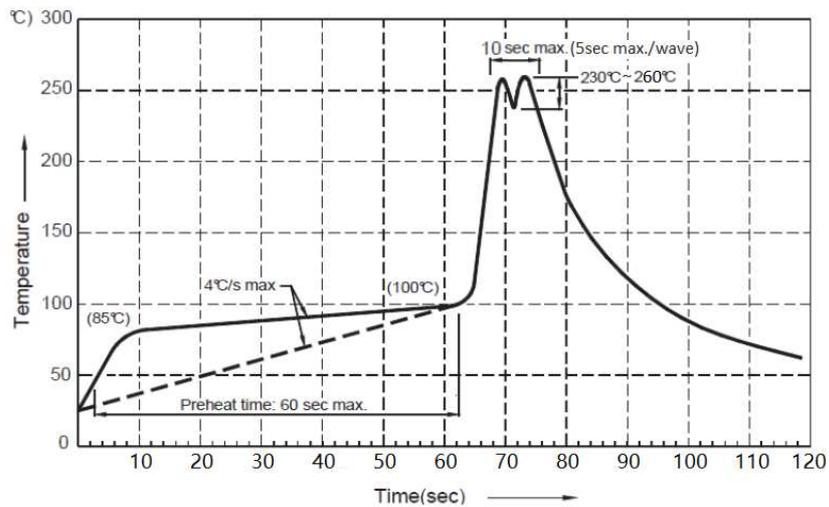


FIG.9 RECOMMENDED LEAD FRAME WAVE SOLDERING PROFILE