

SMD ■ Top View LEDs

67-11-GHC-Y0U1V2A6E-2T8-AM



Features

- RoHS compliant.
- P-LCC-2 package.
- Colorless clear resin.
- Wide viewing angle 120°.
- Inner reflector and white package.
- Brightness: 450 to 1120 mcd at 20mA.
- Qualification according to AEC-Q101 rev C
- Precondition: Bases on JEDEC J-STD 020 Level 3.
- Useable in severe lead free processes with automotive reflow profile (IR reflow or wave soldering)

Applications

- Automotive backlighting or indicator: Dashboard, switch, audio and video equipments...etc.
- Backlight: LCD, switches, symbol, mobile phone and illuminated advertising.
- Display for indoor and outdoor application.
- Ideal for coupling into light guides.
- Substitution of traditional light.
- Optical indicator.
- General applications.

Device Selection Guide

Chip Materials	Emitted Color	Resin Color
InGaN	Brilliant Green	Water Clear

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	5	V
Forward Current	I_F	30	mA
Peak Forward Current (Duty 1/10 @1KHz)	I_{FP}	100	mA
Power Dissipation	P_d	110	mW
Junction Temperature	T_j	125	°C
Operating Temperature	T_{opr}	-40 ~ +100	°C
Storage Temperature	T_{stg}	-40 ~ +110	°C
Thermal Resistance	$R_{th\ J-A}$	250	K/W
	$R_{th\ J-S}$	150	K/W
ESD (Classification acc. AEC Q101)	ESD_{HBM}	2000	V
	ESD_{MM}	200	V
Soldering Temperature	T_{sol}	Reflow Soldering: 260 °C for 30 sec. Hand Soldering : 350 °C for 3 sec.	

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	450	---	1120	mcd	I _F =20mA
Viewing Angle	2θ _{1/2}	---	120	---	deg	I _F =20mA
Peak Wavelength	λ _p	---	518	---	nm	I _F =20mA
Dominant Wavelength	λ _d	520	---	535	nm	I _F =20mA
Spectrum Radiation Bandwidth	Δλ	---	35	---	nm	I _F =20mA
Forward Voltage	V _F	2.6	---	3.8	V	I _F =20mA
Reverse Current	I _R	---	---	50	μA	V _R =5V

Note:

1. Tolerance of Luminous Intensity: ±11%
2. Tolerance of Dominant Wavelength: ±1nm
3. Tolerance of Forward Voltage: ±0.1V

Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
U1	450	560	mcd	I _F =20mA
U2	560	710		
V1	710	900		
V2	900	1120		

Note:

Tolerance of Luminous Intensity: ±11%

Bin Range of Dominant Wavelength

Bin Code	Min.	Max.	Unit	Condition
X	520	525	nm	$I_F = 20\text{mA}$
Y	525	530		
Z	530	535		

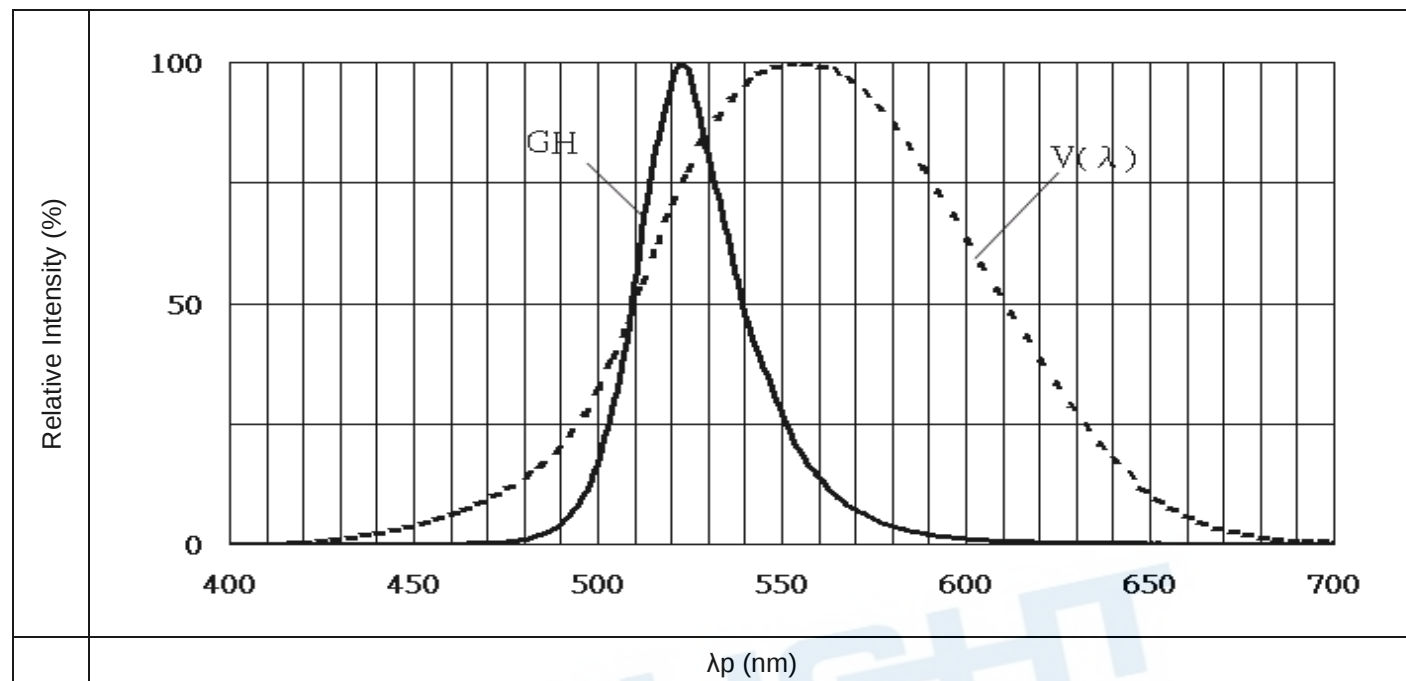
Note:

Tolerance of Dominant Wavelength: $\pm 1\text{nm}$

EVERLIGHT

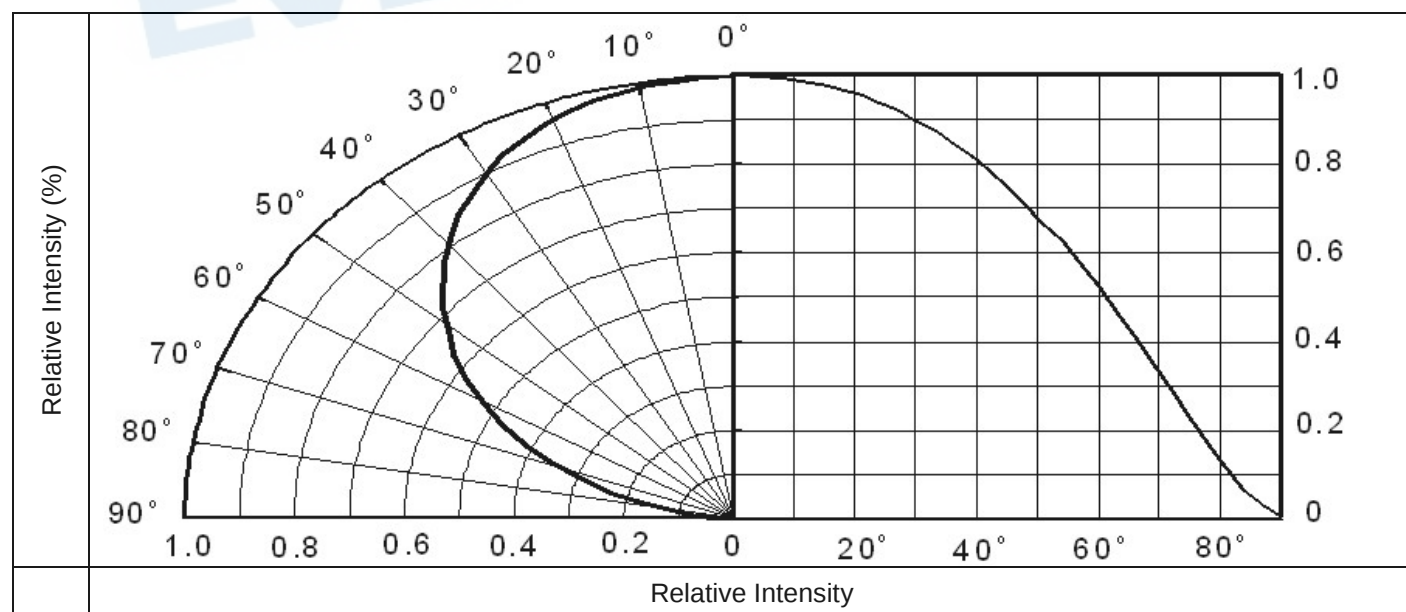
Typical Electro-Optical Characteristics Curves

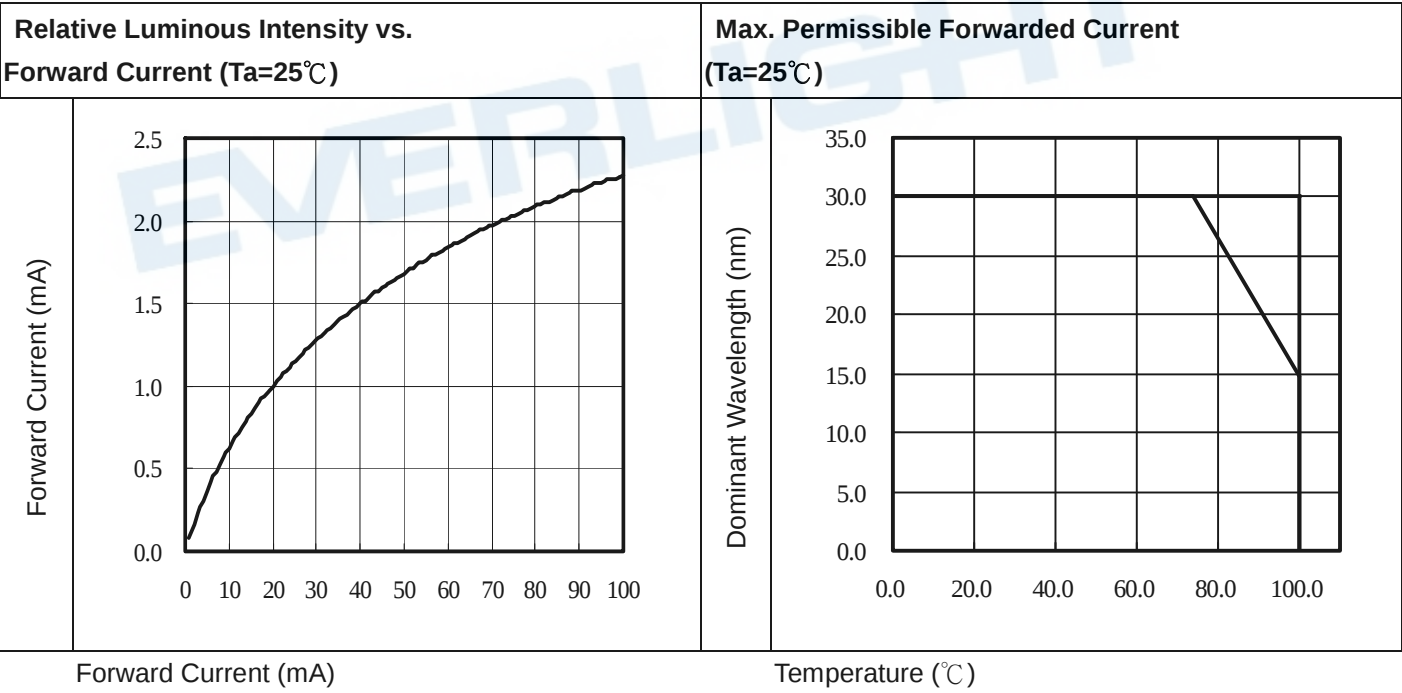
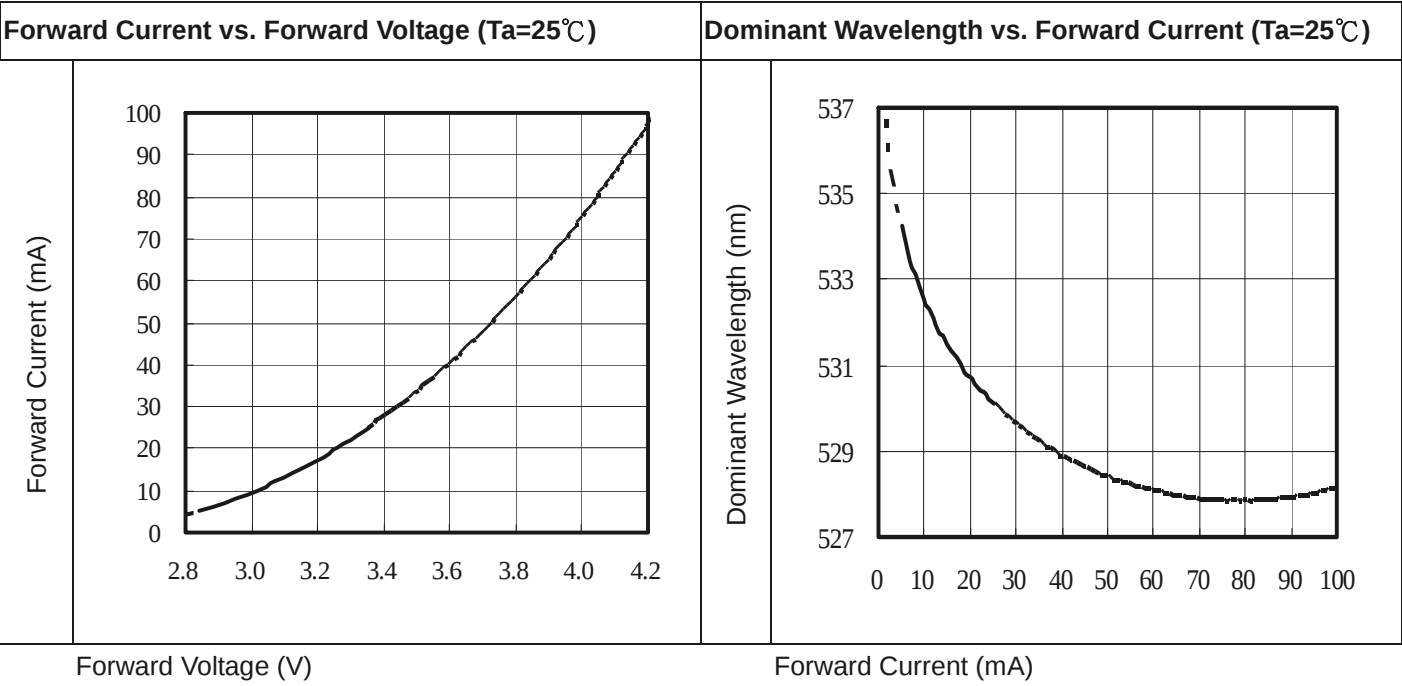
Typical Curve of Spectral Distribution



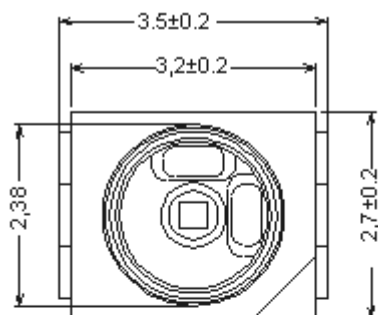
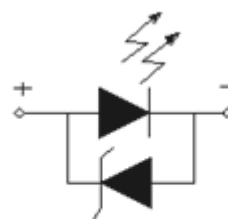
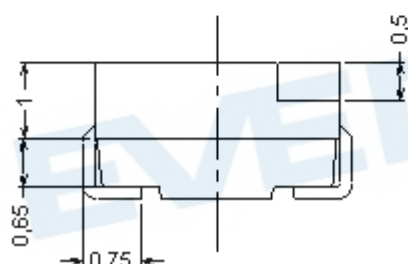
Note: $V(\lambda)$ = Standard eye response curve; $I_F = 20\text{mA}$

Diagram Characteristics of Radiation

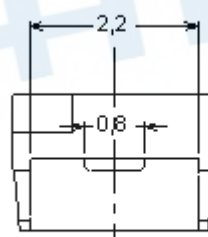




Package Dimension

Chip position

Polarity



Note: Tolerances unless mentioned ± 0.1 mm. Unit = mm

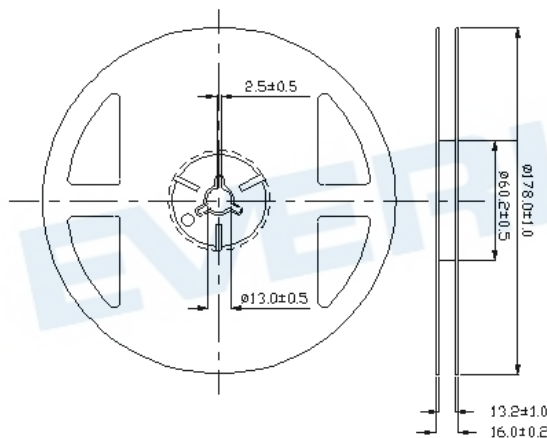
Moisture Resistant Packing Materials

Label Explanation

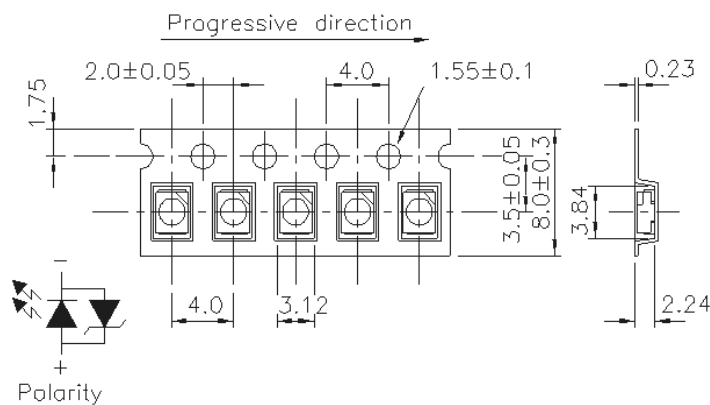


- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

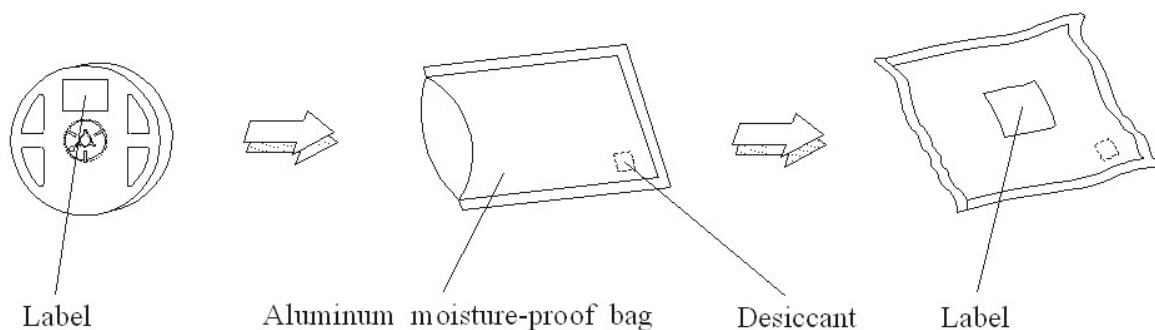
Reel Dimensions



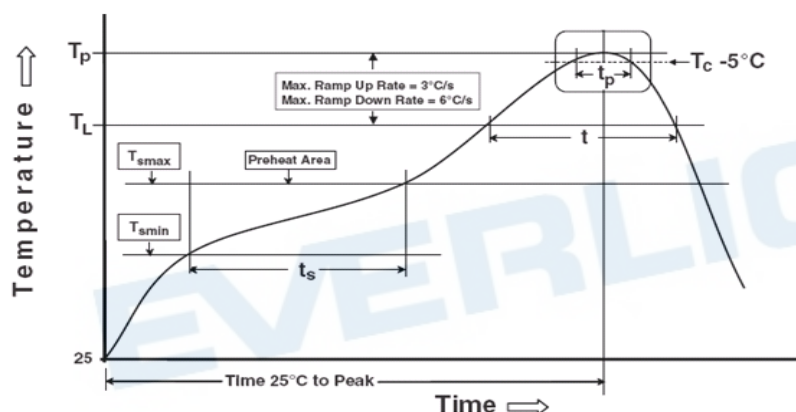
Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel



Note: Tolerances unless mentioned $\pm 0.1\text{mm}$. Unit = mm

Moisture Resistant Packing Process

Note: Tolerances unless mentioned $\pm 0.1\text{mm}$. Unit = mm

Precautions for Use**1. Soldering Condition****1.1 (A) Maximum Body Case Temperature Profile for evaluation of Reflow Profile**

Note:

Preheat

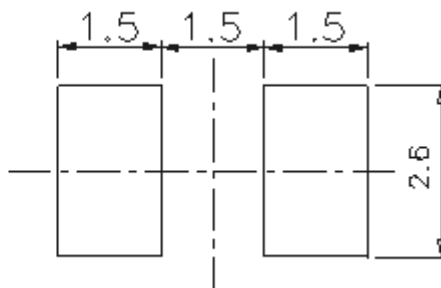
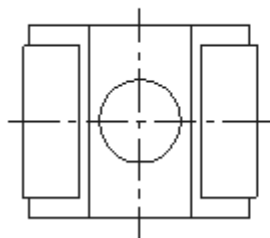
Temperature min (T_{smin})	150 °C
Temperature max (T_{smax})	200°C
Time (T_{smin} to T_{smax}) (t_s)	60-120 seconds
Average ramp-up rate (T_{smax} to T_p)	3 °C/second max

Other

Liquidus Temperature (T_L)	217 °C
Time above Liquidus Temperature (t_L)	60-150 sec
Peak Temperature (T_p)	260°C
Time within 5 °C of Actual Peak Temperature: $T_p - 5^\circ\text{C}$	30 s
Ramp- Down Rate from Peak Temperature	6°C /second max.
Time 25°C to peak temperature	8 minutes max.
Reflow times	3 times

All parameters are maximum body case temperature values and cannot be considered as a soldering profile. The body case temperature was measured by soldering a thermal couple to the soldering point of LEDs.

(B) Recommend soldering pad



Note: Tolerances unless mentioned $\pm 0.1\text{mm}$. Unit = mm

2. Current limiting

A resistor should be used to limit current spikes that can be caused by voltage fluctuations. Otherwise damage could occur.

3. Storage

- 3.1 Moisture proof bag should only be opened immediately prior to usage.
- 3.2 Environment should be less than 30°C and 60% RH when moisture proof bag is opened.
- 3.3 After opening the package MSL Conditions stated on page 1 of this spec should not be exceeded.
- 3.4 If the moisture sensitivity card indicates higher than acceptable moisture, the component should be baked at min. 60°deg $\pm 5^{\circ}\text{deg}$ for 24 hours.

4. Iron Soldering

Hand soldering is not recommended for regular production. These guidelines are for rework only. Soldering iron tip should contact each terminal no more than 3 sec at 350°C , using soldering iron with nominal power less than 25W. Allow min. 2 sec. between soldering intervals.

5. Usage

Do not exceed the values given in this specification.