

SMD LED



Lead-Free Parts

LG-1205DGM-CT/T

DATA SHEET

DOC.NO : IMQW0905-LG-1205DGM-CT/T

REV. : B

DATE : 13 -Dec. - 2019

Features:

1. Package in 8mm carrier tape on 7" diameter reel.
2. Compatible with automatic placement equipment.
3. Compatible with infrared and vapor phase reflow solder process.
4. Pb-free.
5. The product itself will remain within RoHS compliant version.

Descriptions:

1. The LG-1205 SMD Taping is much smaller than lead frame type components, thus enable smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained.
2. Besides, lightweight makes them ideal for miniature applications. etc.

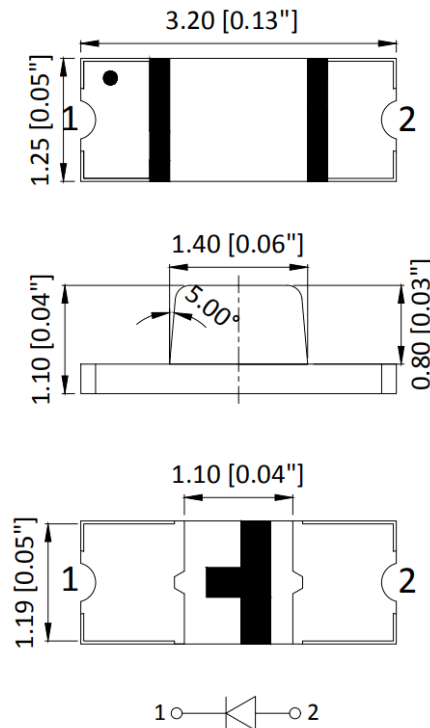
Applications:

1. Automotive : backlighting in dashboard and switch.
2. Telecommunication : indicator and backlighting in telephone and fax.
3. Flat backlight for LCD, switch and symbol
4. General use.

Device Selection Guide

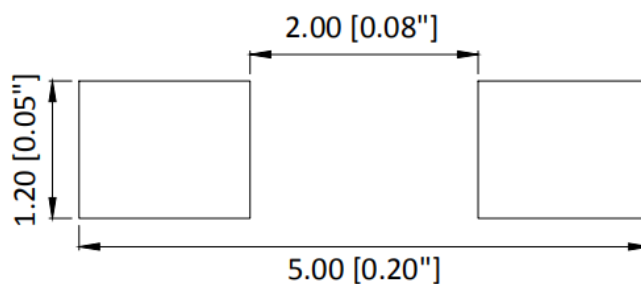
Part No.	Material	COLOR	
		Emitted	Lens
LG-1205DGM-CT/T	InGaN/GaN	Green	Water Clear

Package Outline Dimensions



- Note : 1.All dimension are in millimeter tolerance is $\pm 0.1\text{mm}$ unless otherwise noted.
2.Specifications are subject to change without notice.

Recommended Soldering Pad Dimensions



Note : The tolerances unless mentioned is $\pm 0.1\text{mm}$, Angle ± 0.5 . Unit=mm.

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Ratings	UNIT
Power Dissipation	PD	99	Mw
Peak pulse current Duty 1/8@1KHz	I _{FP}	125	mA
Forward Current	I _F	30	mA
Reverse Voltage	V _r	5	V
Electrostatic Discharge	ESD	2k	V
Operating Temperature	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +85	°C

Typical Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	IV	125	180	320	mcd	IF=5mA
Dominant Wavelength	λ_d	526	----	536	nm	
Spectrum Radiation Bandwidth	$\Delta\lambda$	----	33	----	nm	
Forward Voltage	VF	2.4	----	3.3	V	
Viewing Angle	2 θ 1/2	----	120	----	Deg	

- Note : 1.The forward voltage data did not including $\pm 0.1V$ testing tolerance.
 2.The luminous intensity data did not including $\pm 15\%$ testing tolerance.
 3.The dominant wavelength data did not including $\pm 1nm$ testing tolerance

Luminous Intensity Classification

Unit(mcd) at 5mA		
BIN CODE	Min	Max
K	125	160
L	160	200
M	200	250
N	250	320

Dominant Wavelength Classification

Unit(nm) at 5mA		
BIN CODE	Min	Max
Gn	526	528
Go	528	530
Gp	530	532
Gq	532	534
Gr	534	536

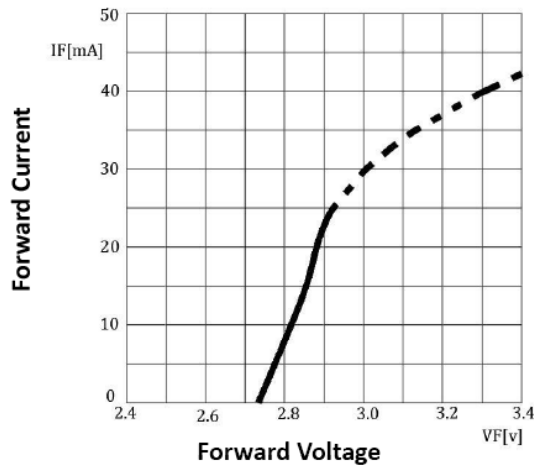
Forward Voltage Classification

Unit(V) at 5mA		
BIN CODE	Min	Max
D	2.4	2.5
E	2.5	2.6
F	2.6	2.7
G	2.7	2.8
H	2.8	2.9
I	2.9	3
J	3	3.1
K	3.1	3.2
L	3.2	3.3

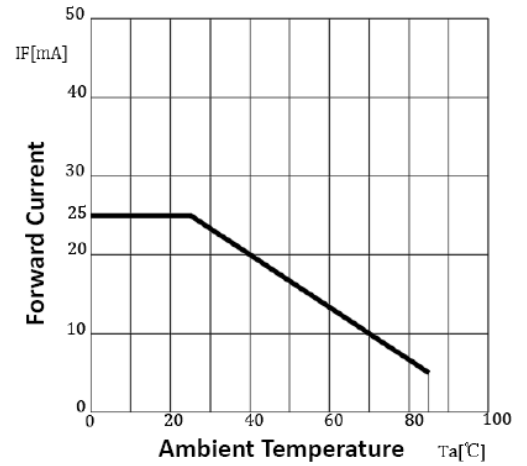
Typical Electro-Optical Characteristics Curve

Forward Current vs Forward Voltage

Ta=25°C

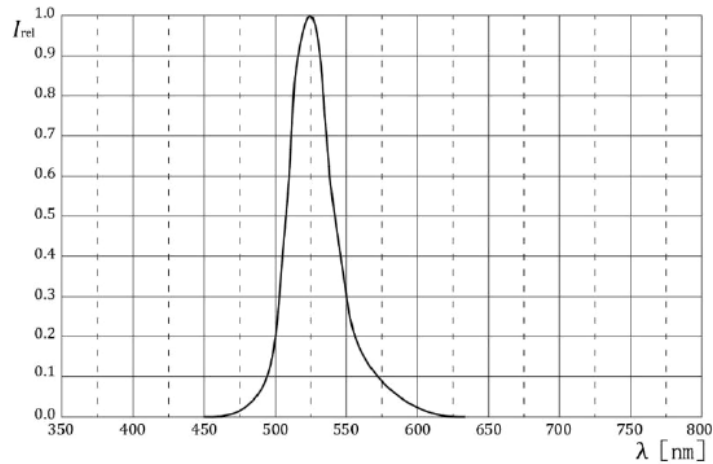


Forward Current Derating Curve



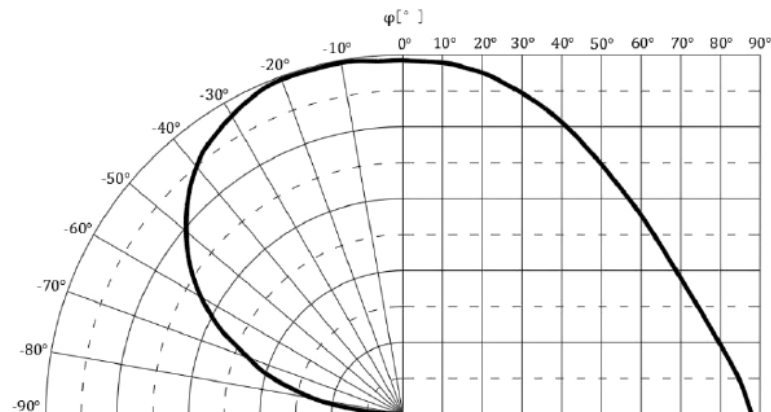
Relative Spectral Emission

IF=5mA, Ta=25°C

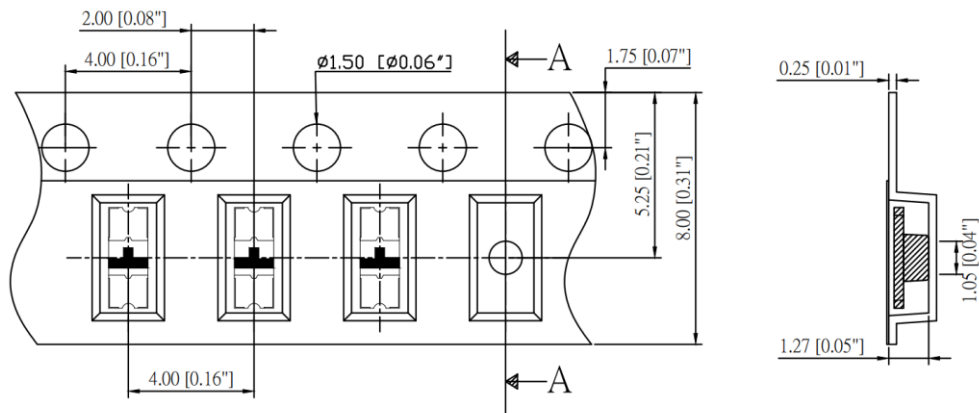


Radiation Characteristics

IF=10mA, Ta=25°C

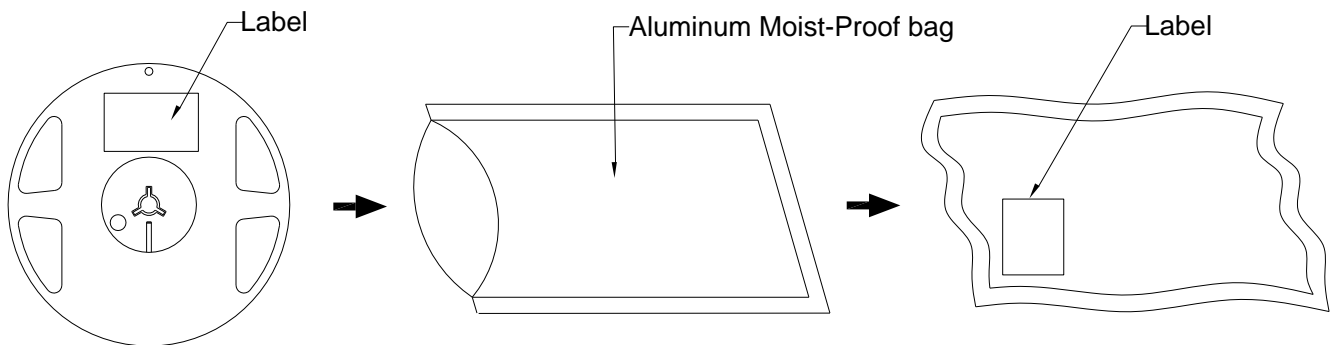


Carrier Tape Dimensions









Note : The tolerances unless mentioned is ± 0.1 mm, Angle ± 0.5 . Unit=mm.

Packing Specifications



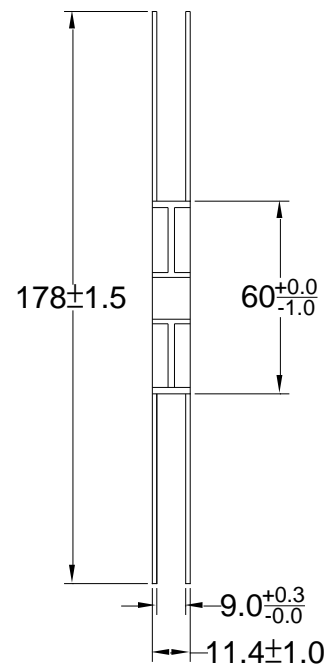
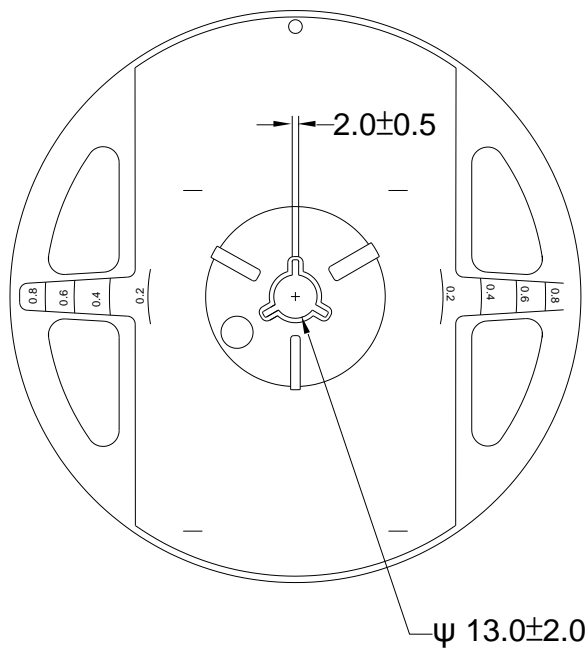
Part No.	Description	Quantity/Reel
LG-1205DGM-CT/T	8.0mm tape, 7" reel	3000 devices

Label Explanation

	LIGITEK ELECTRONICS CO., LTD.	
PART :	LG-1205DGM-CT/T	
LOT :	GS11910168	
QTY(PCS):	3000	
BIN/HUE :	K/Gn	  VF: 2.8-2.9

BIN : Luminous Intensity
HUE :Dominant Wavelength
VF: Forward Voltage

Reel Dimensions



Precautions For Use:

Storage time

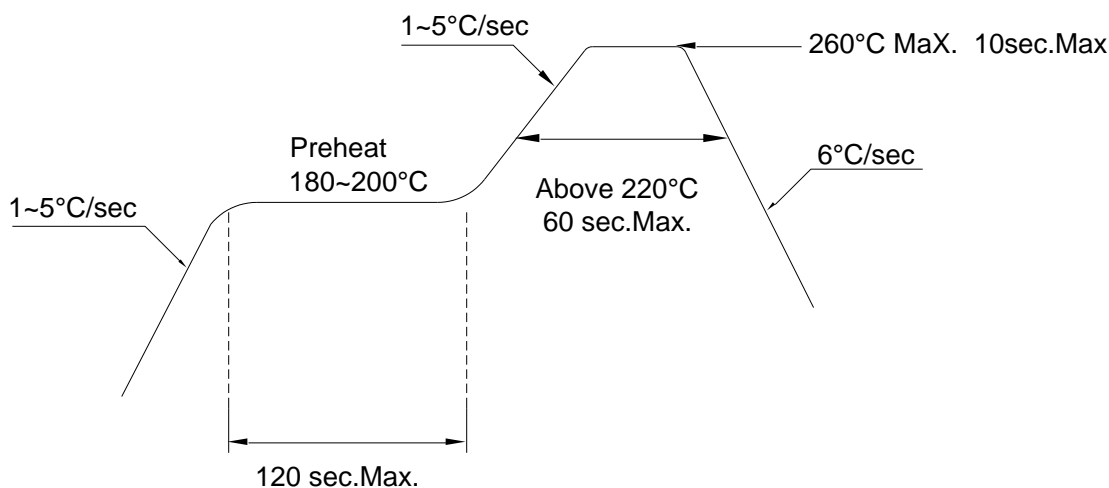
1. Calculated shelf life before opening is 12 months at $< 30^{\circ}\text{C}$ and $< 90\%$ relative humidity (RH)
2. After bag is opened, devices which will be subjected to reflow soldering or other high temperature processes must be
 - a) Assembled within 168 hours in an environment of $\leq 30^{\circ}\text{C} / 60\%$ RH, or
 - b) Stored at ambient of 10% RH or less
3. Devices are required baking before assembly if:
 - a) Humidity Indicator Card reads $>10\%$ (for level 2a -5a) or $>60\%$ (for level 2) at ambient temperature $23\pm 5^{\circ}\text{C}$
 - b) 2.a) or 2.b) doesn't meet
4. If baking is required, devices should be baked for >72 hours at $60\pm 5^{\circ}\text{C} / 5\%$ RH. Performing baking only once, and using the baked devices within 72 hours.

MSL LEVEL 3

Over current- protection

The LEDs is sensitive parts, slight voltage shift will cause big change and will cause burn out. Customer must apply resistors for protection.

LED soldering



Note:

1. Reflow soldering should not be done more than two times.
2. When soldering, do not put stress on the LEDs during heating.
3. After soldering, do not warp the circuit board.

Repairing

In principle repair should not be done after the LEDs have been soldered. When repairing is unavoidable, it should be confirmed before hand not to be damaged whether the characteristics of the LEDs by repairing and a double-head soldering iron should be used (as below description figure).

