Absolute Maximum Ratings

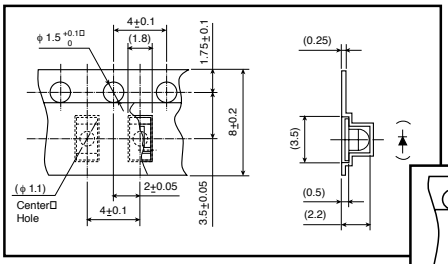
(Ta=25°C)

Item	Symbol	Red HBR, HKR	Orange HAA	Yellow HAY	Yellow-Green HPY	Green HPG	Pure Green HBG	Units
Power Dissipation	Pd	60(HBR),75(HKR)	75	75	75	75	75	mW
Forward Current	I_F	30	30	30	30	30	30	mA
Peak Forward Current	I_{FM}	70	70	70	70	70	70	mA
Reverse Voltage	V_R	4	4	4	4	4	4	V
Operating Temperature	Topr	-40 to +100					-40 to +85	°C
Storage Temperature	Tstg	-40 to +120					-40 to +100	°C
Derating*	ΔI_F	1.0 (DC) 2.33 (Pulse)					0.42 (DC) 0.93 (Pulse)	mA/°C

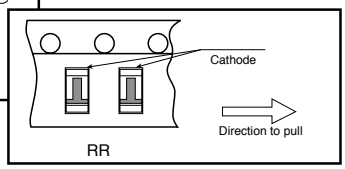
* Ta=25°C, I_{FM} applies for the pulse width ≤ 1msec. and duty cycle ≤1/20.
The current derating for operation applies when the temperature is above 25°C for HBG and 75°C for HVR, HBR, HKR, HAA, HAY, HPY & HPG

Taping Specifications

for Reverse Mount Type

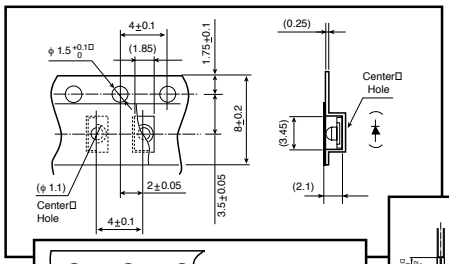


Quantity on tape:
2000 pieces
per reel

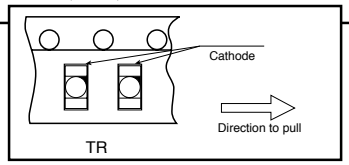


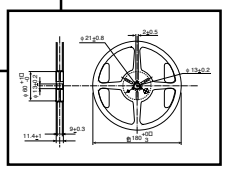
Taping Specifications

for Standard Mount Type

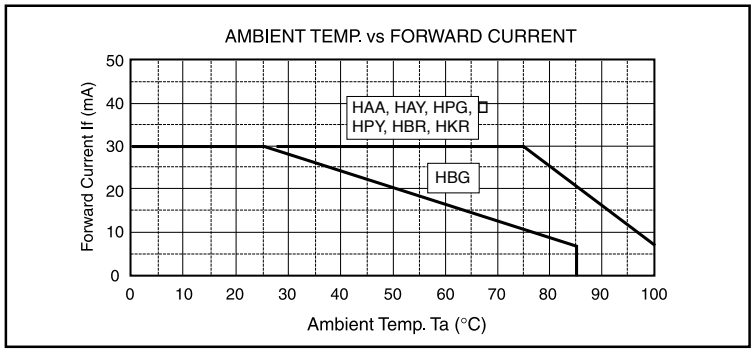


Quantity on tape:
2000 pieces
per reel

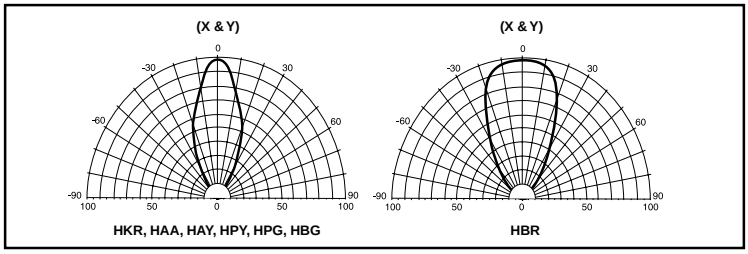




Operation Current Derating Chart (DC)



Spatial Distribution

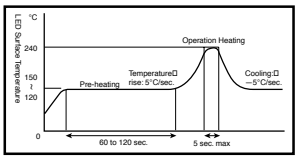


Precautions

Please follow these handling precautions to prevent damage to the chip and ensure its reliability.

1. Soldering conditions:

- Soldering iron: Temperature at tip of iron: 280°C max. (30W max.)
  Soldering time: 3 sec. max.
- Dip soldering: Preheating: 120 ~ 150°C max. (resin surface temp.)
  60 ~ 120 sec. max. Bath temperature: 260°C max. Dipping Time: 5 sec. max.
- Reflow Soldering:



2. Cleaning:

- If cleaning is required, use the following solutions for less than 1 minute, at less than 40°C.
- Appropriate chemicals: Ethyl alcohol and isopropyl alcohol.
- Effect of ultrasonic cleaning on the LED resin body differs depending on such factors as the oscillator output, size of PCB and LED mounting method. The use of ultrasonic cleaning should be enforced at proper output after confirming there is no problem.

Product specifications subject to change without notice. PGH__1105W-0301

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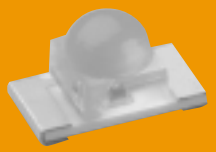
Product Guide

HD_1105W Series, Dome Lens Type InGaN/SiC SMT LED



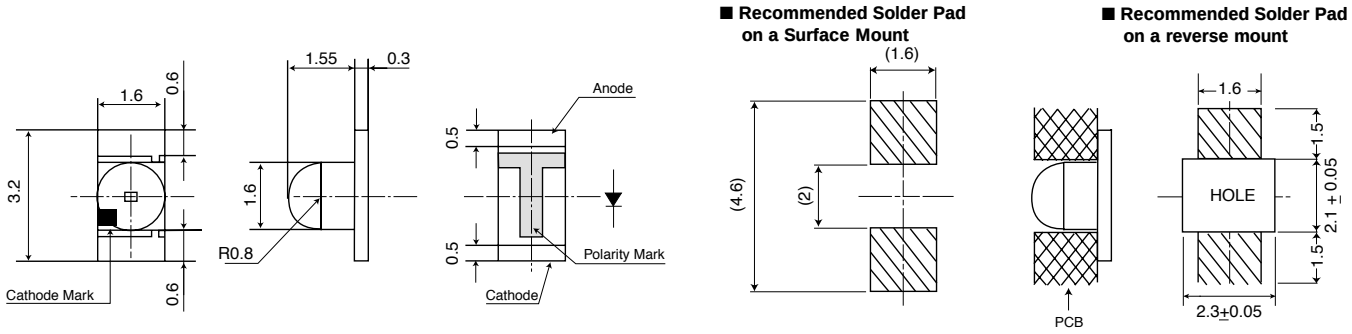
Features

- High brightness (InGaN/SiC) die material
- Available in green (525nm), bluish-green (505nm) and blue (470nm) colors
- Reflow and dip soldering compatible
- Available for both standard and reverse mounting
- 1000V minimum ESD protection

Applications

- Automotive indicator display
- Various other backlight uses

Outline Dimensions



Unit: mm
Tolerance ± 0.1

Electro-Optical Characteristics

(Ta=25°C)

Part No.	Material	Emitted Color	Lens Color	Luminous Intensity I_V			Wavelength				Forward Voltage V_F			Reverse Current I_R		Viewing Angle (2 θ 1/2)
							Peak λp	Dominant λd	Spectral Line Half Width Δλ							
				MIN.	TYP.	I_F	TYP.	TYP.	TYP.	I_F	TYP.	MAX.	I_F	MAX.	V_R	
HDG1105W	InGaN/SiC	Green	Water Clear	70	140	10	522	525	30	10	3.3	3.8	10	100	5	40°
HDC1105W	InGaN/SiC	Bluish-Green		70	140	10	502	505	30	10	3.3	3.8	10	100	5	
HDB1105W	InGaN/SiC	Blue		35	70	10	467	470	26	10	3.3	3.8	10	100	5	
Units				mcd		mA	nm			mA	V		mA	μA	V	Deg.

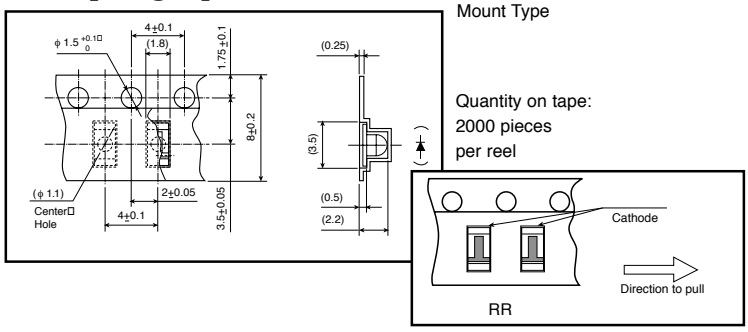
Absolute Maximum Ratings

(Ta=25°C)

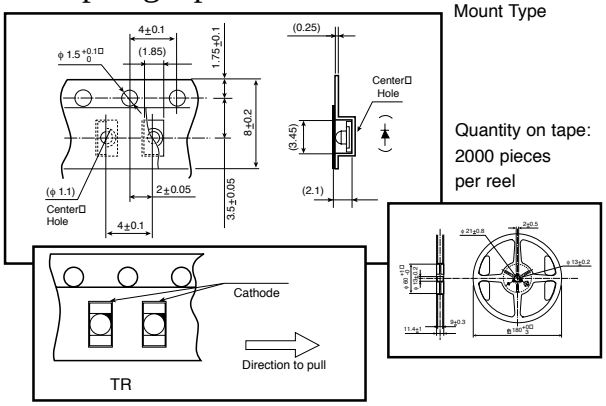
Item	Symbol	Green HDG	Bluish-Green HDC	Blue HDB	Units
Power Dissipation	Pd	76	76	76	mW
Forward Current	I_F	20	20	20	mA
Peak Forward Current	I_{FM}	48	48	48	mA
Reverse Voltage	V_R	5	5	5	V
Operating Temperature	Topr	-40 to +85			°C
Storage Temperature	Tstg	-40 to +100			°C
Derating*	ΔI_F	0.28 (DC) 0.69 (Pulse)			mA/°C

* Ta=25°C, I_{FM} applies for the pulse width ≤ 1msec. and duty cycle ≤1/20.

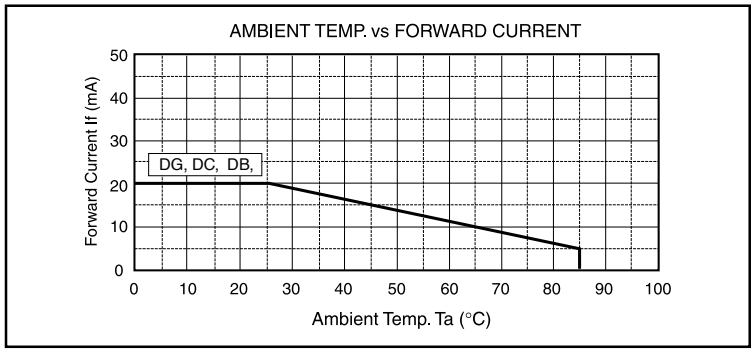
Taping Specifications for Reverse Mount Type



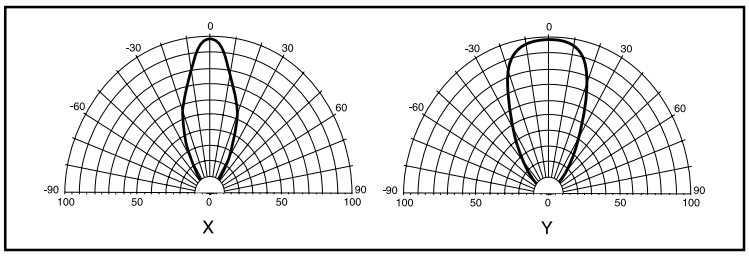
Taping Specifications for Standard Mount Type



Operation Current Derating Chart (DC)



Spatial Distribution

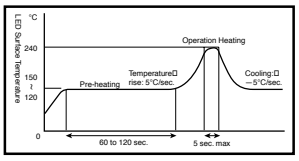


Precautions

Please follow these handling precautions to prevent damage to the chip and ensure its reliability.

1. Soldering conditions:

- Soldering iron: Temperature at tip of iron: 280°C max. (30W max.) Soldering time: 3 sec. max.
- Dip soldering: Preheating: 120 ~ 150°C max. (resin surface temp.) 60 ~ 120 sec. max. Bath temperature: 260°C max. Dipping Time: 5 sec. max.
- Reflow Soldering:



2. Cleaning:

- If cleaning is required, use the following solutions for less than 1 minute, at less than 40°C.
- Appropriate chemicals: Ethyl alcohol and isopropyl alcohol.
- Effect of ultrasonic cleaning on the LED resin body differs depending on such factors as the oscillator output, size of PCB and LED mounting method. The use of ultrasonic cleaning should be enforced at proper output after confirming there is no problem.

Product specifications subject to change without notice. PGHD1105W-0301

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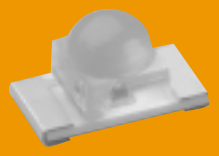
Product Guide

F_1105W Series, Dome Lens Type AlInGaP SMT LED



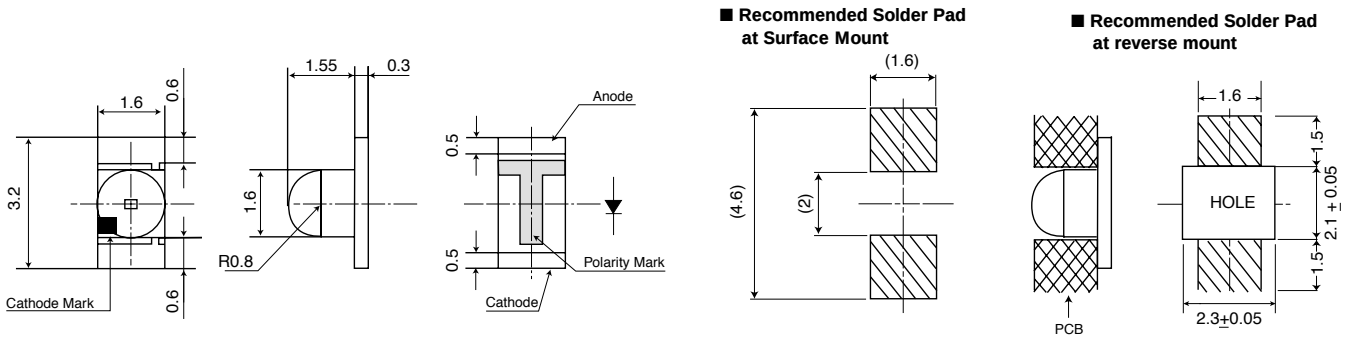
Features

- High brightness AlInGaP die material
- Dome lens provides intensified narrow, bright beam
- Available for both standard and reverse mounting
- Wider operating temperature: -40° ~ +100°C

Applications

- High-beam indicator for automotive use
- Backlighting for automotive dashboards
- Indoor / outdoor full-color signboards

Outline Dimensions



Unit: mm
Tolerance ± 0.1

Electro-Optical Characteristics

(Ta=25°C)

Part No.	Material	Emitted Color	Lens Color	Luminous Intensity I_V			Wavelength				Forward Voltage V_F			Reverse Current I_R		Viewing Angle (2 θ 1/2)
							Peak λp	Dominant λd	Spectral Line Half Width Δλ							
				MIN.	TYP.	I_F	TYP.	TYP.	TYP.	I_F	TYP.	MAX.	I_F	MAX.	V_R	
FR1105W	AlInGaP	Red	Water Clear	70	180	20	635	626	15	20	1.9	2.4	20	100	5	50°
FA1105W	AlInGaP	Orange		70	200	20	609	605	15	20	1.9	2.4	20	100	5	
FY1105W	AlInGaP	Yellow		70	180	20	592	590	15	20	1.9	2.4	20	100	5	
Units				mcd		mA	nm			mA	V		mA	μA	V	Deg.

Absolute Maximum Ratings

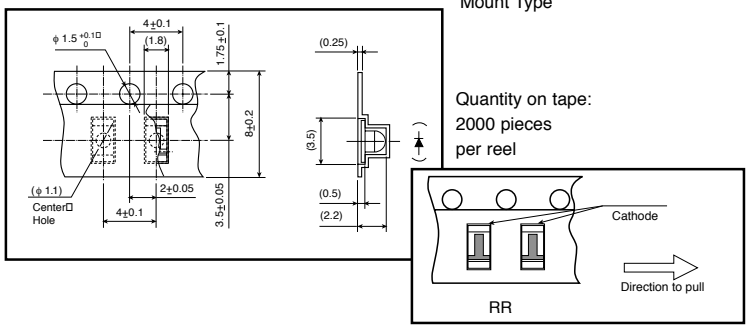
(Ta=25°C)

Item	Symbol	Red-Orange FR	Orange-Red FA	Amber FY	Units
Power Dissipation	Pd	81	81	81	mW
Forward Current	I_F	30	30	30	mA
Peak Forward Current	I_{FM}	100	100	100	mA
Reverse Voltage	V_R	5	5	5	V
Operating Temperature	Topr	-40 to +100			°C
Storage Temperature	Tstg	-40 to +120			°C
Derating*	ΔI_F	1.0 (DC) 3.33 (Pulse)			mA/°C

* Ta=25°C, I_{FM} applies for the pulse width ≤ 1msec. and duty cycle ≤1/20.

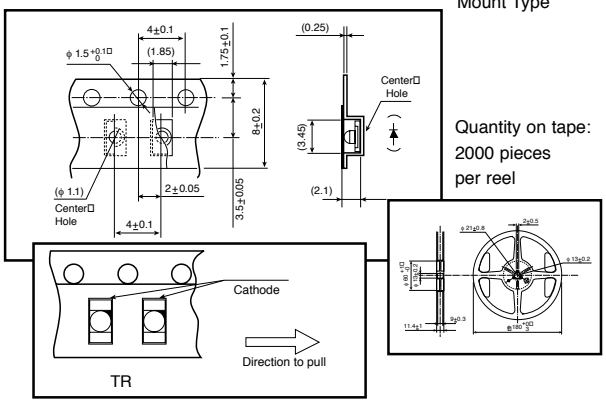
Taping Specifications

for Reverse Mount Type

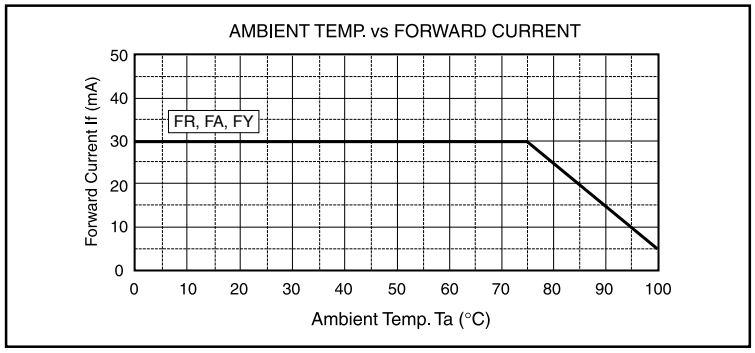


Taping Specifications

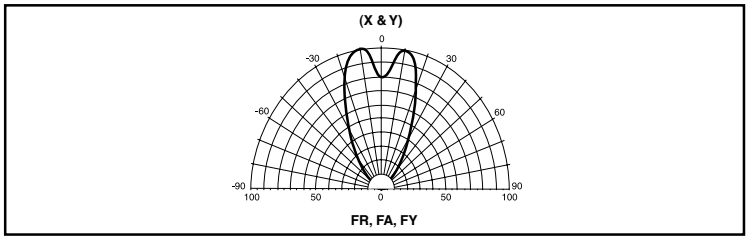
for Standard Mount Type



Operation Current Derating Chart (DC)



Spatial Distribution

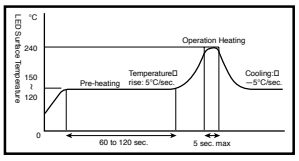


Precautions

Please follow these handling precautions to prevent damage to the chip and ensure its reliability.

1. Soldering conditions:

- Soldering iron: Temperature at tip of iron: 280°C max. (30W max.)
  Soldering time: 3 sec. max.
- Dip soldering: Preheating: 120 ~ 150°C max. (resin surface temp.)
  60 ~ 120 sec. max. Bath temperature: 260°C max. Dipping Time: 5 sec. max.
- Reflow Soldering:



2. Cleaning:

- If cleaning is required, use the following solutions for less than 1 minute, at less than 40°C.
- Appropriate chemicals: Ethyl alcohol and isopropyl alcohol.
- Effect of ultrasonic cleaning on the LED resin body differs depending on such factors as the oscillator output, size of PCB and LED mounting method. The use of ultrasonic cleaning should be enforced at proper output after confirming there is no problem.

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