

Absolute Maximum Ratings

(Ta=25°C)

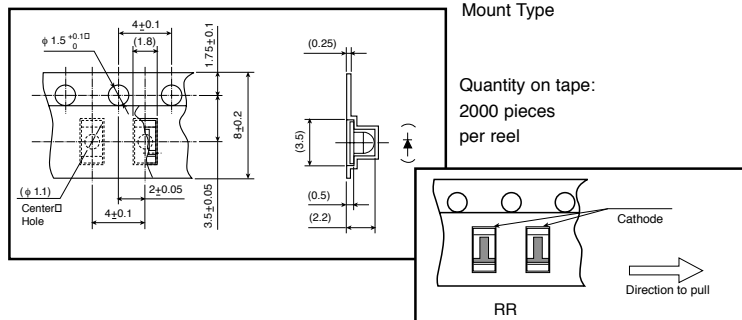
Item	Symbol	Red	Orange	Yellow	Yellow-Green	Green	Pure Green	Units
		HBR, HKR	HAA	HAY	HPY	HPG	HBG	
Power Dissipation	Pd	60 ^(HBR) , 75 ^(HKR)	75	75	75	75	75	mW
Forward Current	I _F	30	30	30	30	30	30	mA
Peak Forward Current	I _{FM}	70	70	70	70	70	70	mA
Reverse Voltage	V _R	4	4	4	4	4	4	V
Operating Temperature	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

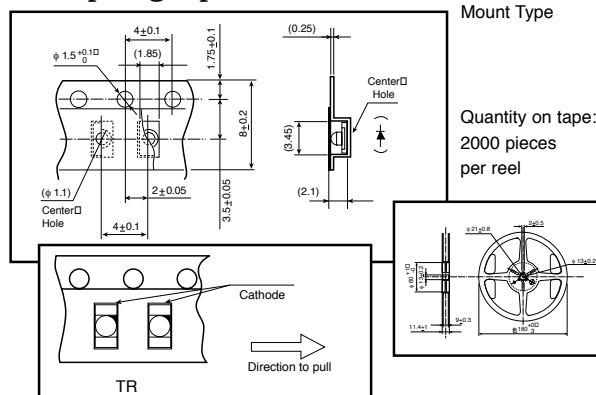
Taping Specifications

for Reverse Mount Type

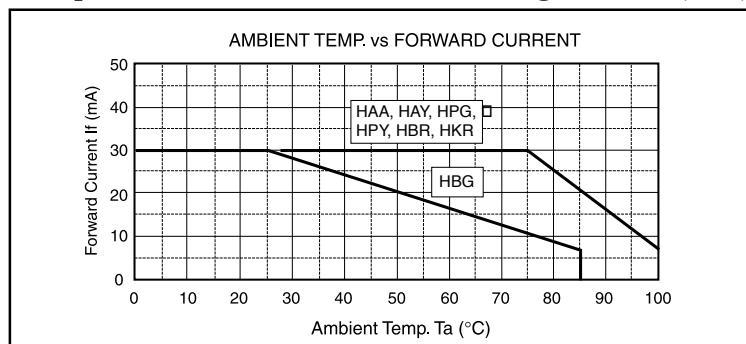


Taping Specifications

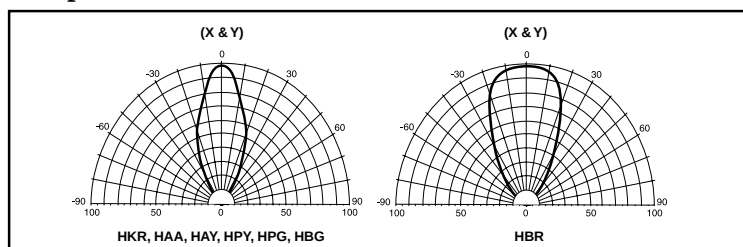
for Standard Mount Type



Operation Current Derating Chart (DC)



Spatial Distribution

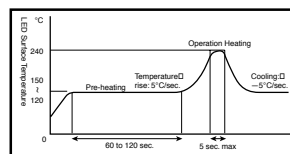


Precautions

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. PGH_1105W-0301

Stanley Electric Sales of America, Inc.

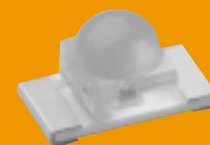
2660 Barranca Parkway, Irvine, CA 92606 • Tel: 800-LED-LCD1 (533-5231) • Fax: 949-222-0555
Website: www.stanley-electric.com

STANLEY



Product Guide

HD_1105W Series, Dome Lens Type InGaN/SiC SMT LED



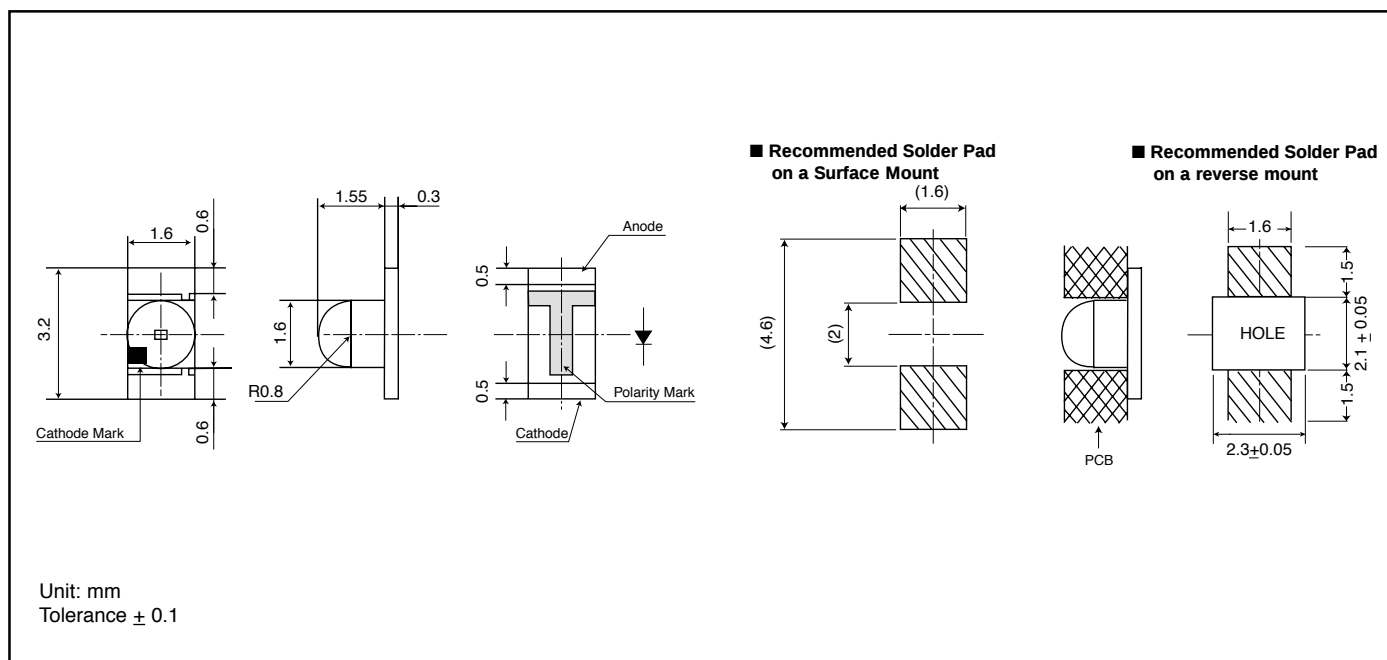
Features

- 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



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)
				MIN.	TYP.	I _f	Peak λ _p TYP.	Dominant λ _d TYP.	Spectral Line Half Width Δλ 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.

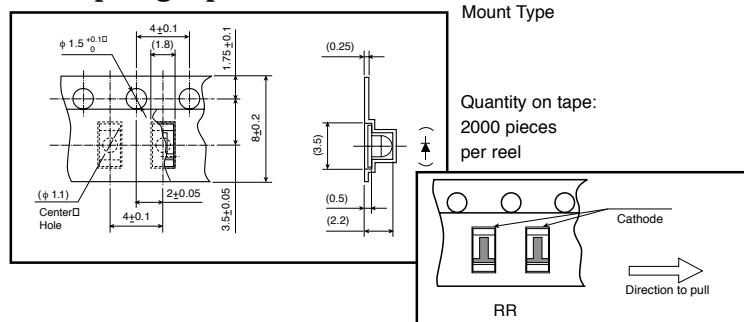
Absolute Maximum Ratings

(Ta=25°C)

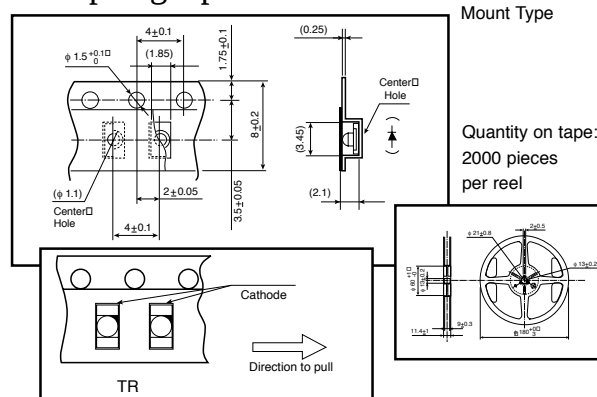
Item	Symbol	Green	Bluish-Green	Blue	Units
		HDG	HDC	HDB	
Power Dissipation	Pd	76	76	76	mW
Forward Current	I _F	20	20	20	mA
Peak Forward Current	I _{FM}	48	48	48	mA
Reverse Voltage	V _R	5	5	5	V
Operating Temperature	Topr	-40 to +85			°C
Storage Temperature	Tstg	-40 to +100			°C
Derating*	ΔI _F	0.28 (DC)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

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

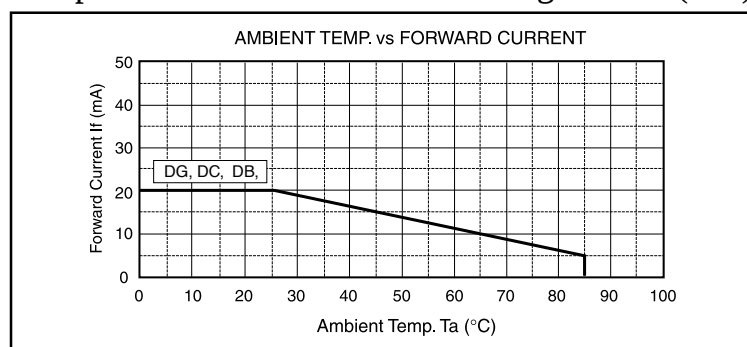
Taping Specifications for Reverse Mount Type



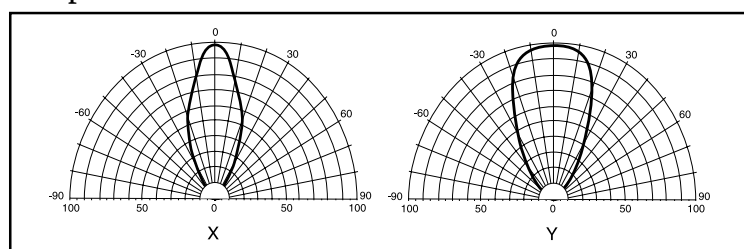
Taping Specifications for Standard Mount Type



Operation Current Derating Chart (DC)



Spatial Distribution

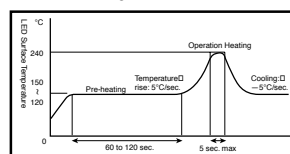


Precautions

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

Stanley Electric Sales of America, Inc.

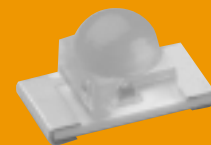
2660 Barranca Parkway, Irvine, CA 92606 • Tel: 800-LED-LCD1 (533-5231) • Fax: 949-222-0555
Website: www.stanley-electric.com

STANLEY



Product Guide

F_1105W Series, Dome Lens Type AlInGaP SMT LED



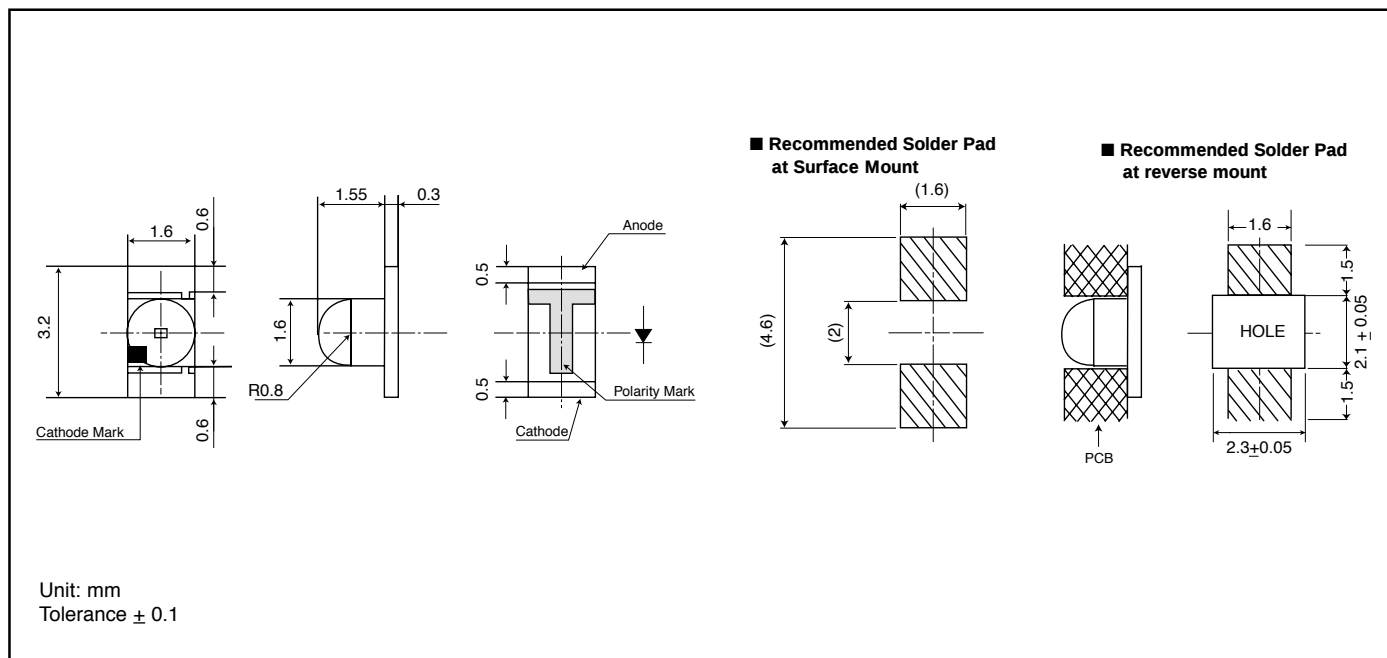
Features

- High brightness AlInGaP die material
- Dome lens provides intensified narrow, bright beam
- Available for both standard and reverse mounting
- Wider operating temperature: $-40^{\circ} \sim +100^{\circ}\text{C}$

Applications

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

Outline Dimensions



Electro-Optical Characteristics

($T_a=25^{\circ}\text{C}$)

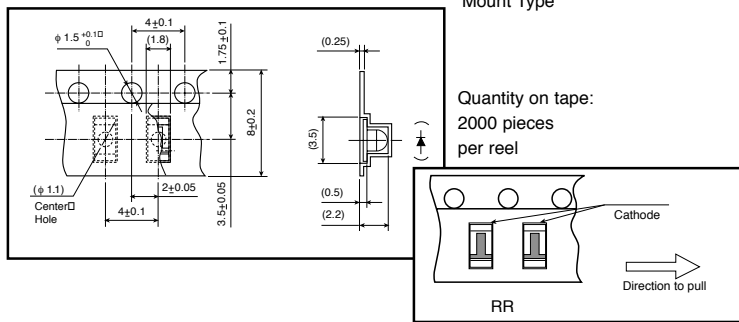
Part No.	Material	Emitted Color	Lens Color	Luminous Intensity I _v			Wavelength				Forward Voltage V _f			Reverse Current I _R		Viewing Angle (2 θ 1/2)
				MIN.	TYP.	I _f	Peak λ _p TYP.	Dominant λ _d TYP.	Spectral Line Half Width Δλ TYP.	I _f	TYP.	MAX.	I _f	MAX.	V _R	
FR1105W	AlInGaP	Red	Water Clear	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

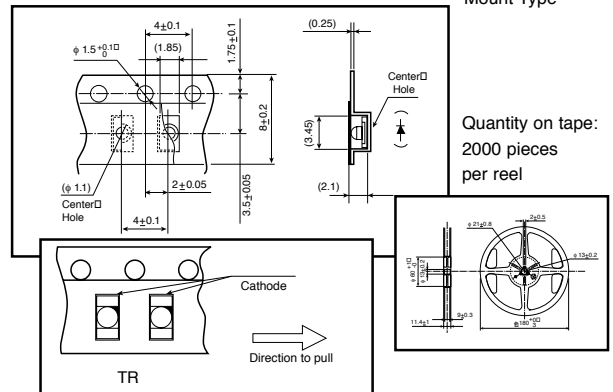
Item	Symbol	Red-Orange	Orange-Red	Amber	(Ta=25°C) Units
		FR	FA	FY	
Power Dissipation	Pd	81	81	81	mW
Forward Current	I _F	30	30	30	mA
Peak Forward Current	I _{FM}	100	100	100	mA
Reverse Voltage	V _R	5	5	5	V
Operating Temperature	Topr	-40 to +100			°C
Storage Temperature	Tstg	-40 to +120			°C
Derating*	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.

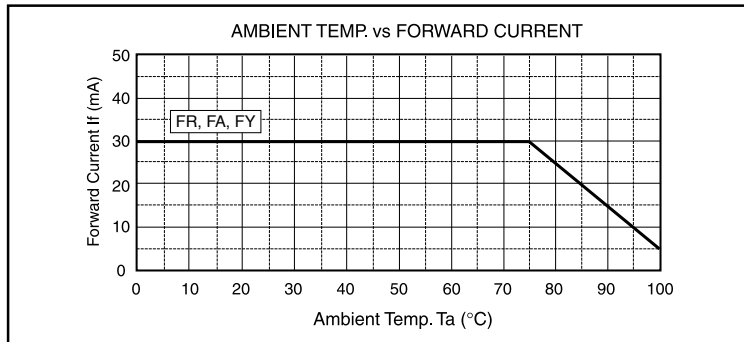
Taping Specifications for Reverse Mount Type



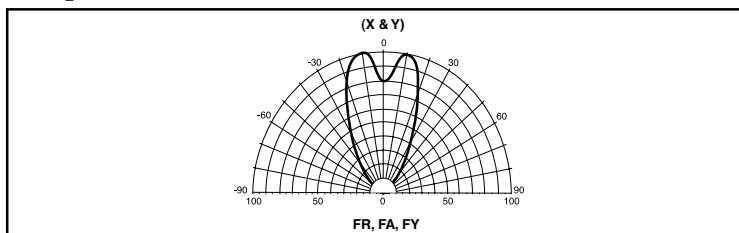
Taping Specifications for Standard Mount Type



Operation Current Derating Chart (DC)



Spatial Distribution

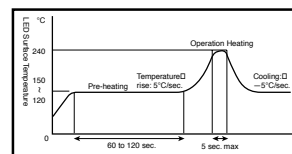


Precautions

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.

Product specifications subject to change without notice. PGF_1105W-0301

Stanley Electric Sales of America, Inc.

2660 Barranca Parkway, Irvine, CA 92606 • Tel: 800-LED-LCD1 (533-5231) • Fax: 949-222-0555
Website: www.stanley-electric.com

STANLEY