



# Product Guide

## 1111C Series Ultra Compact SMT LED



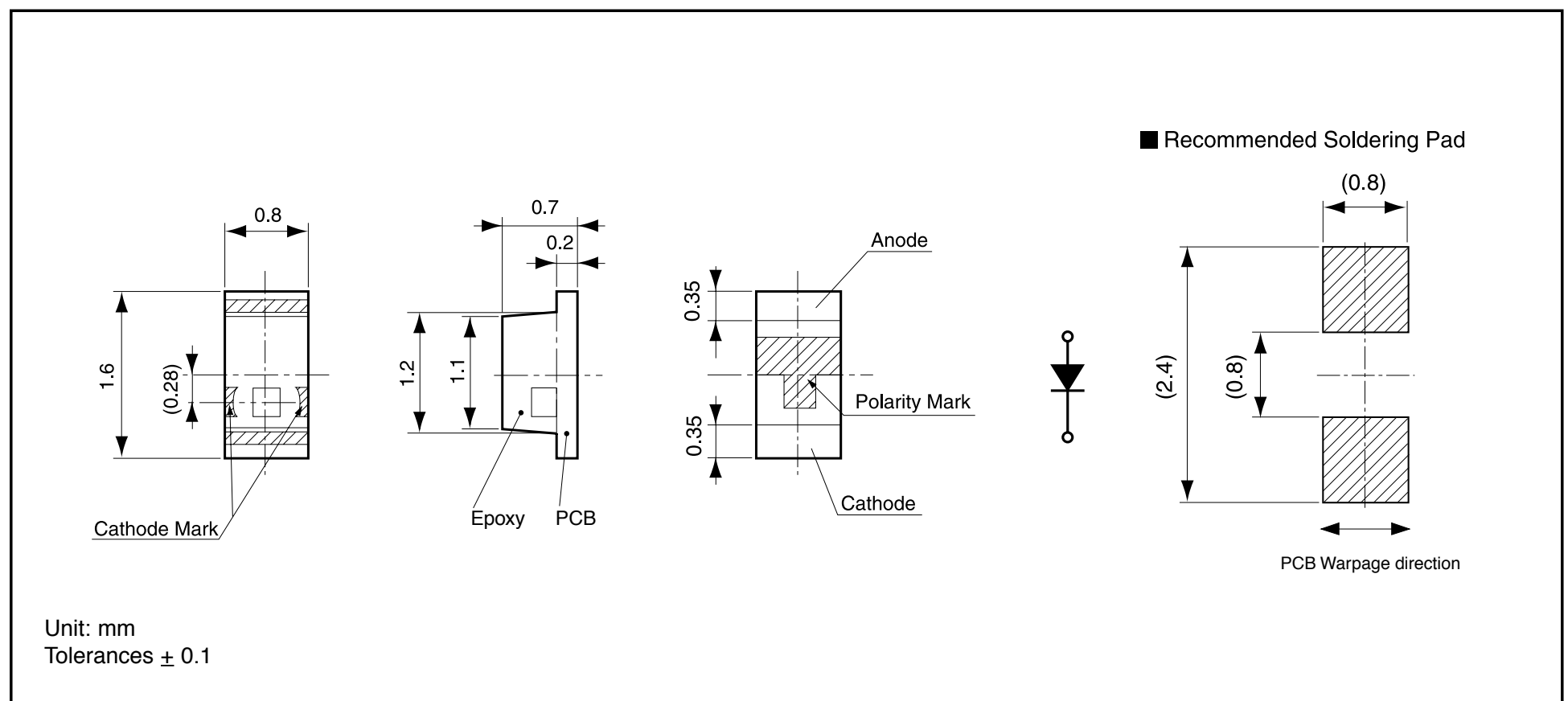
### ■ Features

- Meets industry standards for 1608 (0603) footprint
- Provides bright, wide and uniform spatial distribution
- Excellent for cellular telephone key pads, LCD backlighting and pager display application.

### ■ Applications

- Mobile devices (cellular telephones, PDAs, pagers)
- Industrial / Medical instrumentation

### ■ Outline Dimensions



### ■ Electro-Optical Characteristics

(Ta=25°C)

Type No.	Material	Emitted Color	Lens Color	Luminous Intensity $I_V$			Wavelength				Forward Voltage $V_F$			Reverse Current $I_R$		Viewing Angle (2 $\theta$ 1/2)
				MIN.	TYP.	$I_F$	Peak $\lambda_p$ TYP.	Dominant $\lambda_d$ TYP.	Spectral Line Half Width $\Delta\lambda$ TYP.	$I_F$	TYP.	MAX.	$I_F$	MAX.	$V_R$	
BR1111C	GaAlAs	Red	Milky White	7.0	11.7	20	660	647	30	20	1.7	2.3	20	100	4	140°
AA1111C	GaAsP	Orange		2.0	3.4	20	605	606	30	20	2.2	2.8	20	100	4	
AY1111C	GaAsP	Yellow		2.0	3.4	20	580	590	30	20	2.2	2.8	20	100	4	
PY1111C	GaP	Yellow Green		7.0	11.7	20	570	572	30	20	2.1	2.8	20	100	4	
PG1111C	GaP	Green		3.8	6.4	20	560	567	30	20	2.1	2.8	20	100	4	
BG1111C	GaP	Pure Green		1.4	2.4	20	555	558	30	20	2.1	2.8	20	100	4	
Units				mcd	mA		nm			mA	V	mA	$\mu$ A	V	Deg.	

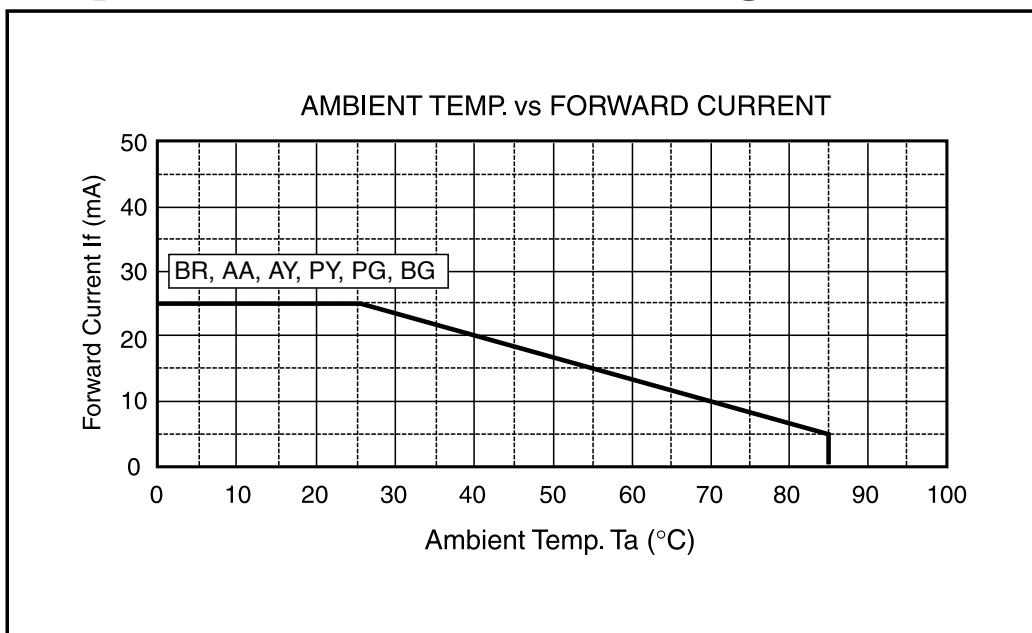
## Absolute Maximum Ratings

(Ta=25°C)

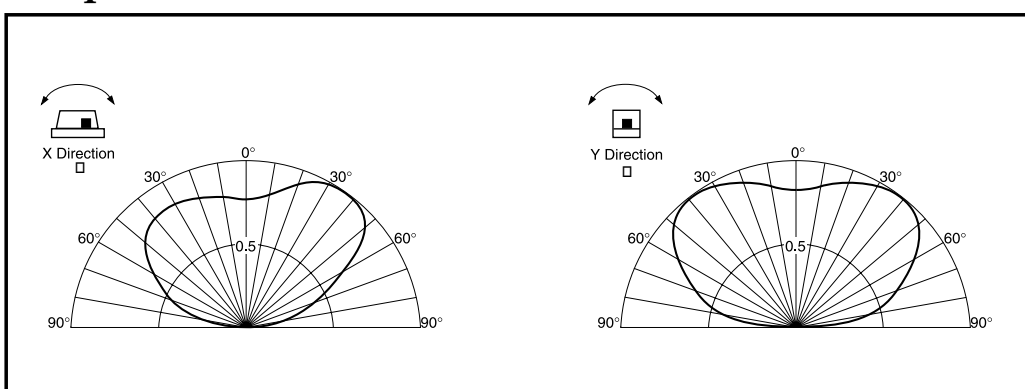
Item	Symbol	Red	Orange	Yellow	Yellow Green	Green	Pure Green	Units
		BR	AA	AY	PY	PG	PY	
Power Dissipation	Pd	57.5	70	70	70	70	70	mW
Forward Current	I <sub>F</sub>	25	25	25	25	25	25	mA
Peak Forward Current	I <sub>FM</sub>	60	60	60	60	60	60	mA
Reverse Voltage	V <sub>R</sub>	4	4	4	4	4	4	V
Operating Temperature	Topr	-30 to +85						°C
Storage Temperature	Tstg	-40 to +100						°C
Derating*	ΔI <sub>F</sub>	0.36 (DC) 0.86 (Pulse)						mA/°C

\* Ta=25°C, I<sub>FM</sub> applies for the pulse width ≤ 1msec. and duty cycle ≤ 1/20.

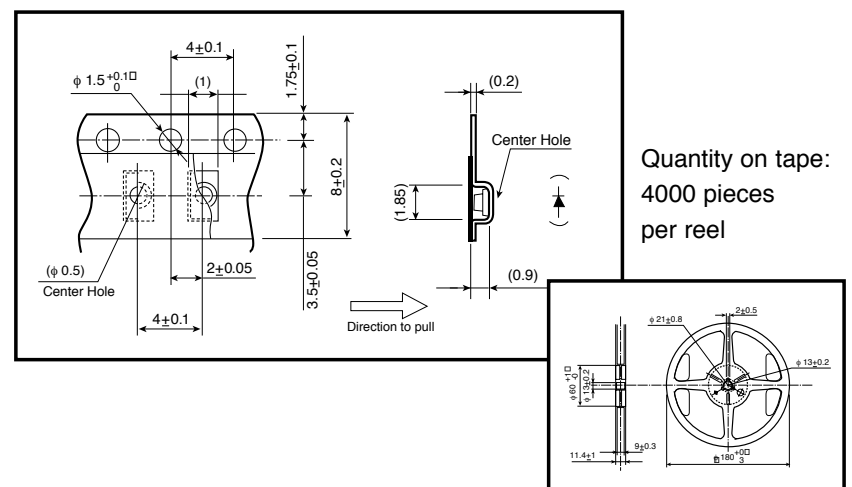
## Operation Current Derating Chart (DC)



## Spatial Distribution



## Taping Specifications

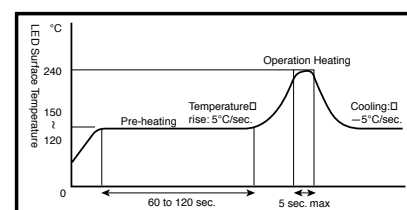


## Precautions

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. PG1111C-0301