

Product Code: YL-5050F-C7H2024000

PRODUCT CHARACTERISTICS (T_j = 25 °C; IF = 1000 mA)

Parameter	Values	Unit
Chromaticity coordinates acc. To CIE 1931 (typ.)	CIE-x : 0.323 CIE-y : 0.333	
Viewing Angle (FWHM)	120	°
Forward voltage	(min.)	6.2 V
	(typ.)	6.6 V
	(max.)	7.0 V
Reversed Current	not designed for reversed operation	
Thermal resistance junction / board (typ.)	2.5	K/W
Radiating surface	2.66	mm ²

JEDEC MOISTURE SENSITIVITY

Level	Floor Life	
	Time	Conditions
1	unlimited	≦ 30°C / 85 % RH

BRIGHTNESS GROPEs

Item	Group	Form Factor	Measured Test Condition
			1200 mA Pulsed Operation Case Temperature $T_c = 25^\circ\text{C}$ Minimum Luminous Flux (lm)
5050 PKG	Z14	1x2	500
	Z15	1x2	560
	Z16	1x2	630
	Z17	1x2	700

Notes:

- YesLED maintains a tolerance of $\pm 7\%$ on flux
- Calculated flux values are for reference only

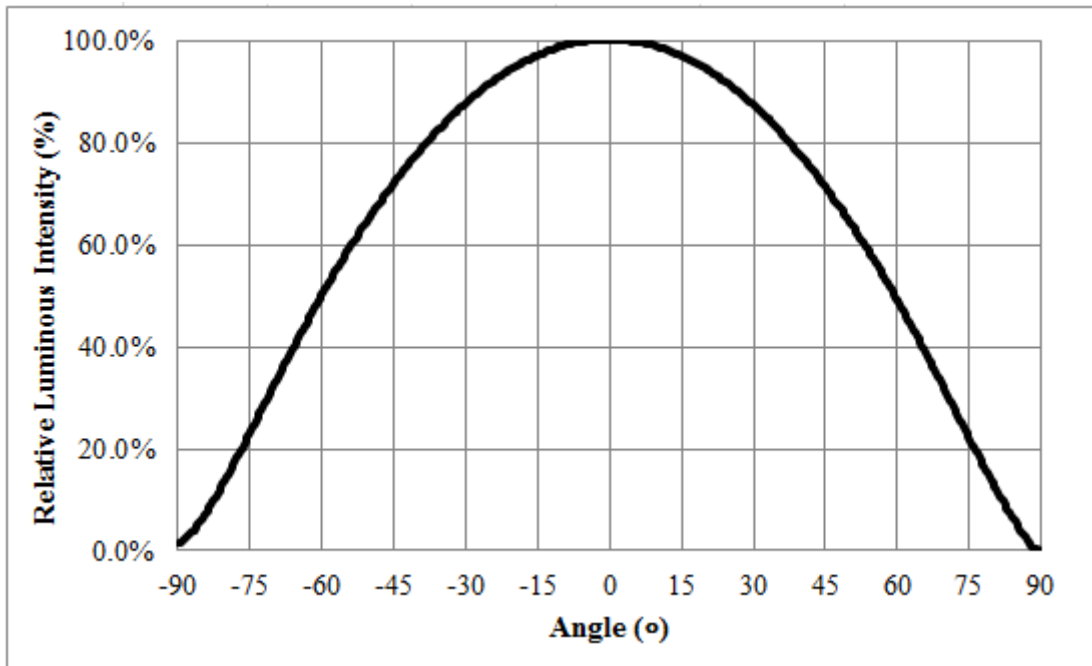
PERFORMANCE GROUPS – FORWARD VOLTAGE (IF = 1000 mA)

Group code	Minimum Forward Voltage (V)	Maximum Forward Voltage (V)
JF	6.0	6.4
JG	6.4	6.8
JH	6.8	7.2

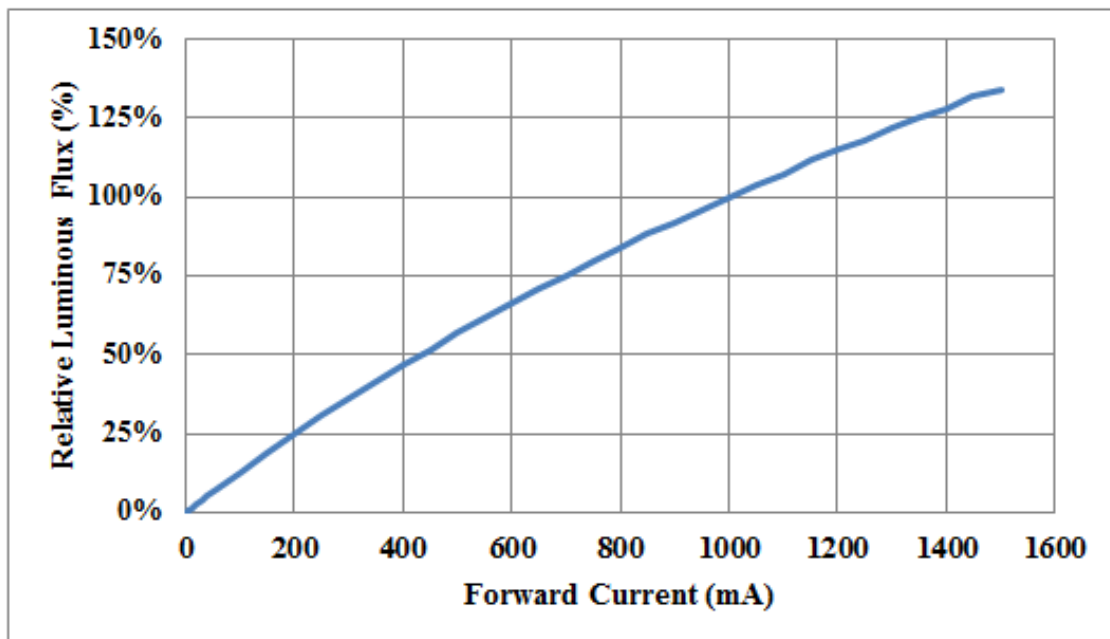
MAXIMUM RATINGS

Parameter	Values	Unit	
Operating temperature range	-40 ... 125	°C	
Storage temperature range	-40 ... 125	°C	
Junction temperature	150	°C	
Forward Current	(typ.) (max.)	1000 1500	mA mA
Reversed voltage	not designed for reversed operation	V	

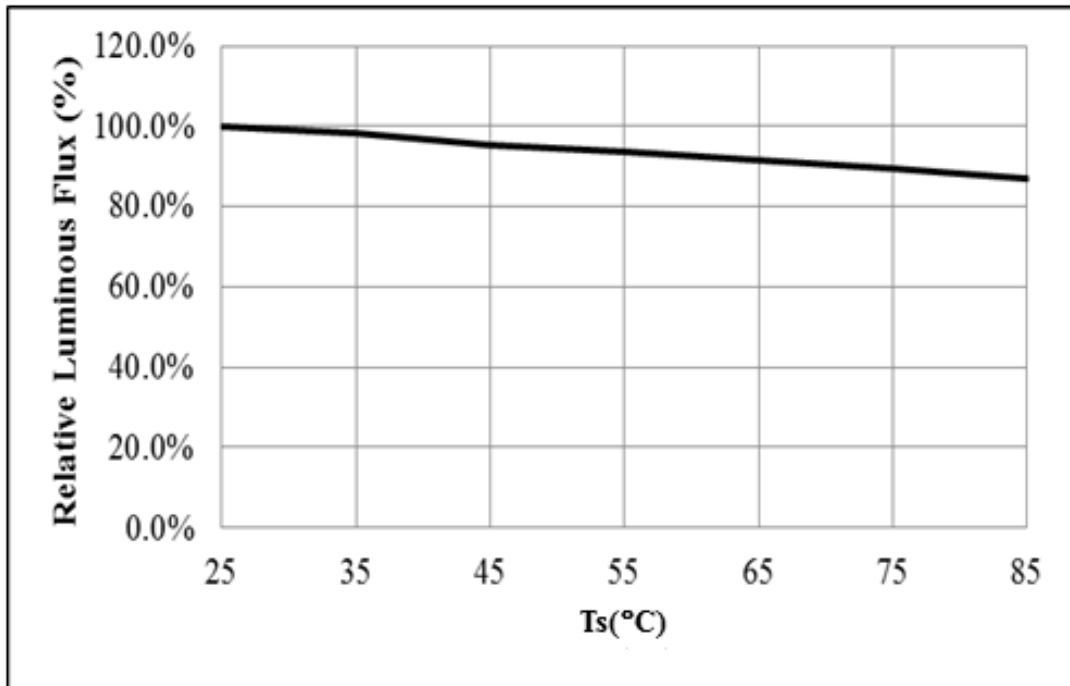
TYPICAL SPATIAL DISTRIBUTION – WHITE



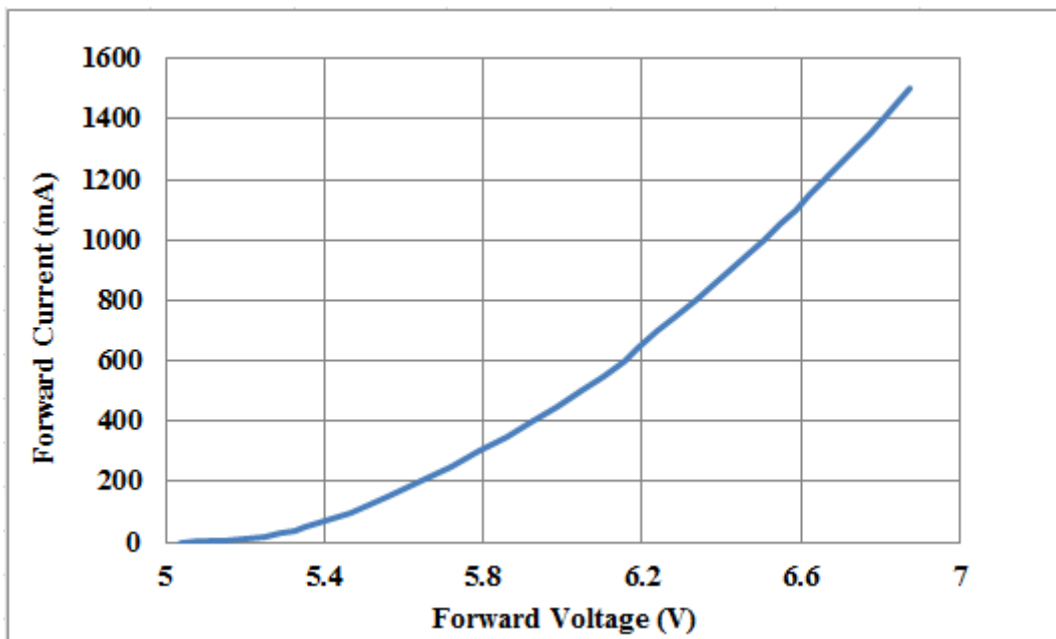
RELATIVE LUMINOUS FLUX VS. CURRENT (TS = 25 °C)



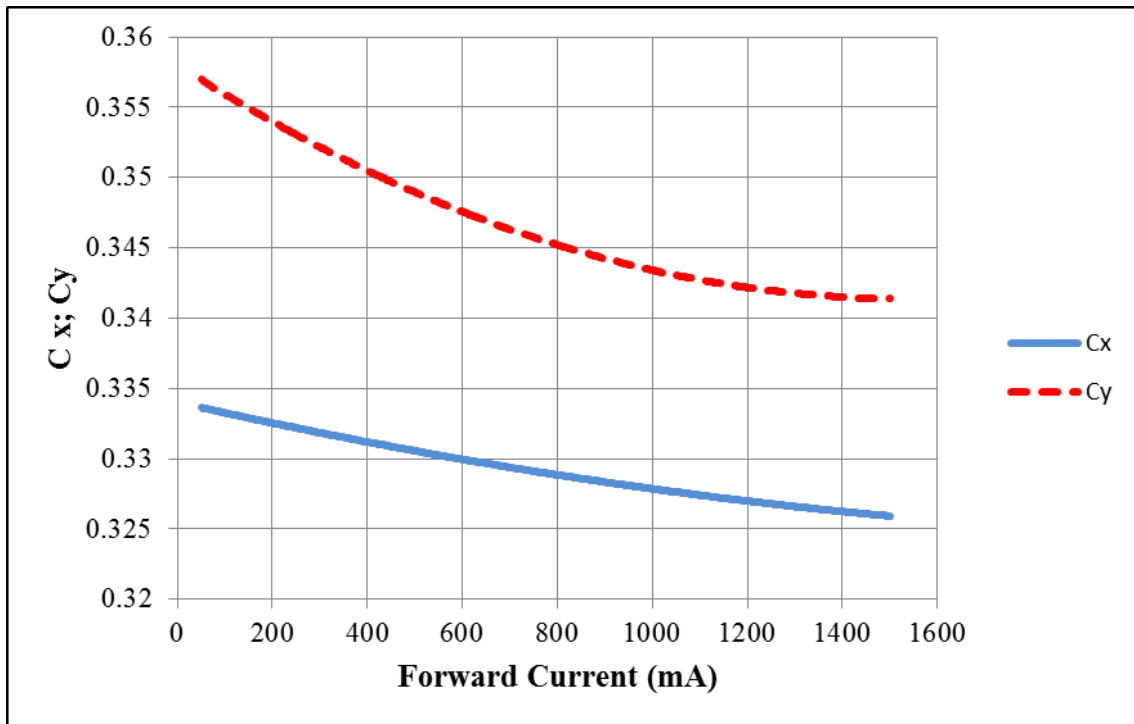
RELATIVE LUMINOUS FLUX VS. JUNCTION TEMPERATURE (IF = 1000 mA)



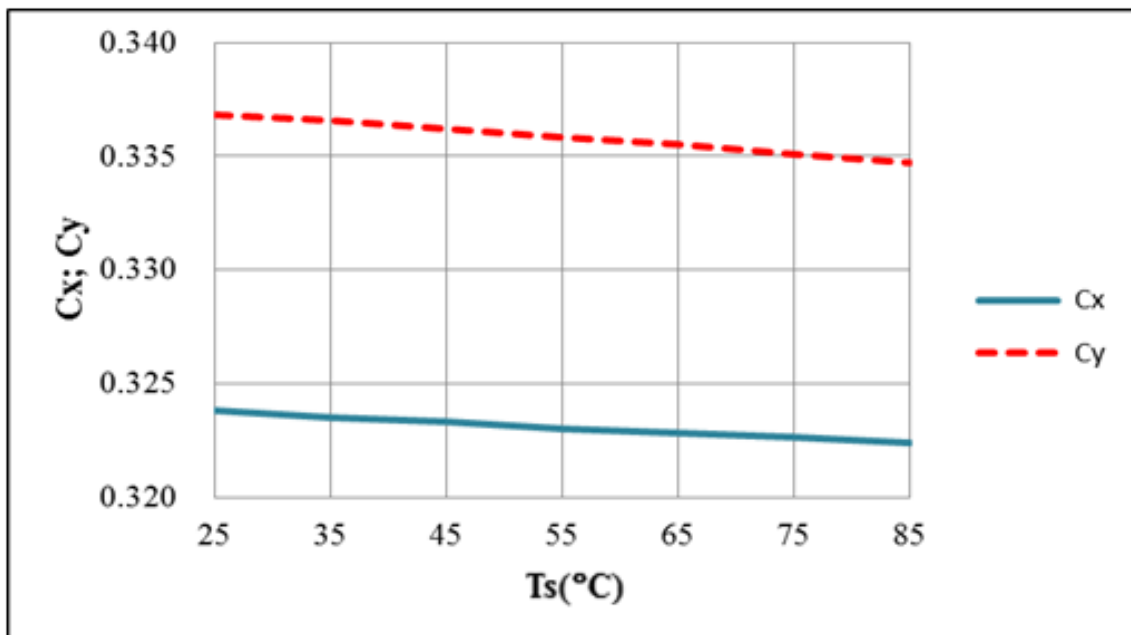
FORWARD VOLTAGE VS. FORWARD CURRENT (TS = 25 °C)



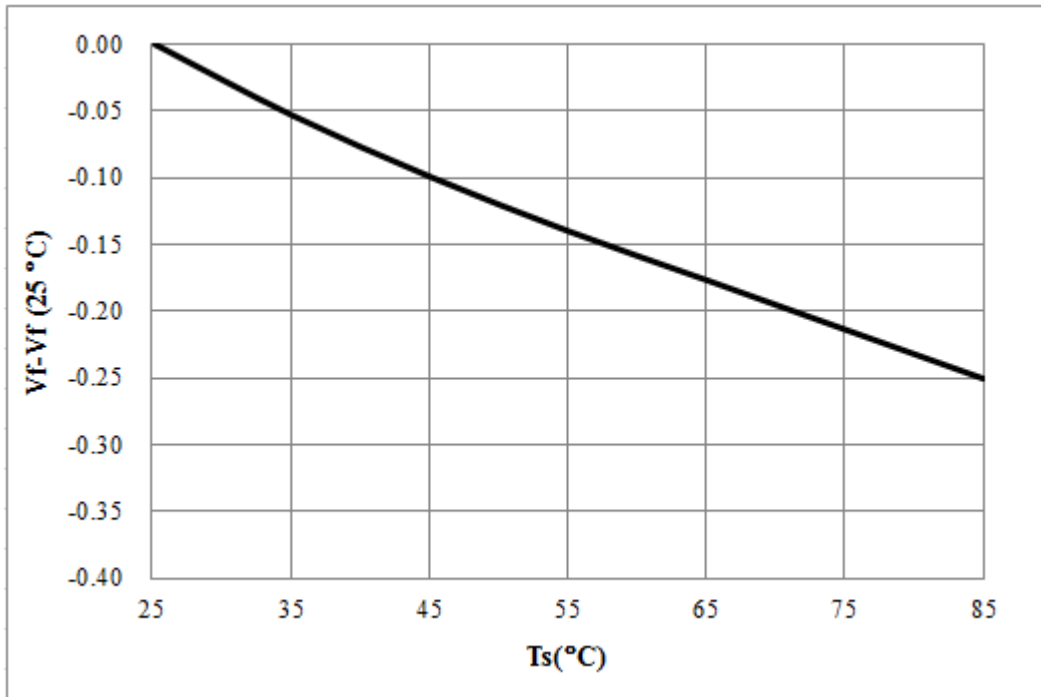
CHROMATICITY COORDINATE SHIFT (TS = 25 °C)



CHROMATICITY COORDINATE SHIFT (IF = 1000 mA)



RELATIVE FORWARD VOLTAGE (IF = 1000 mA)



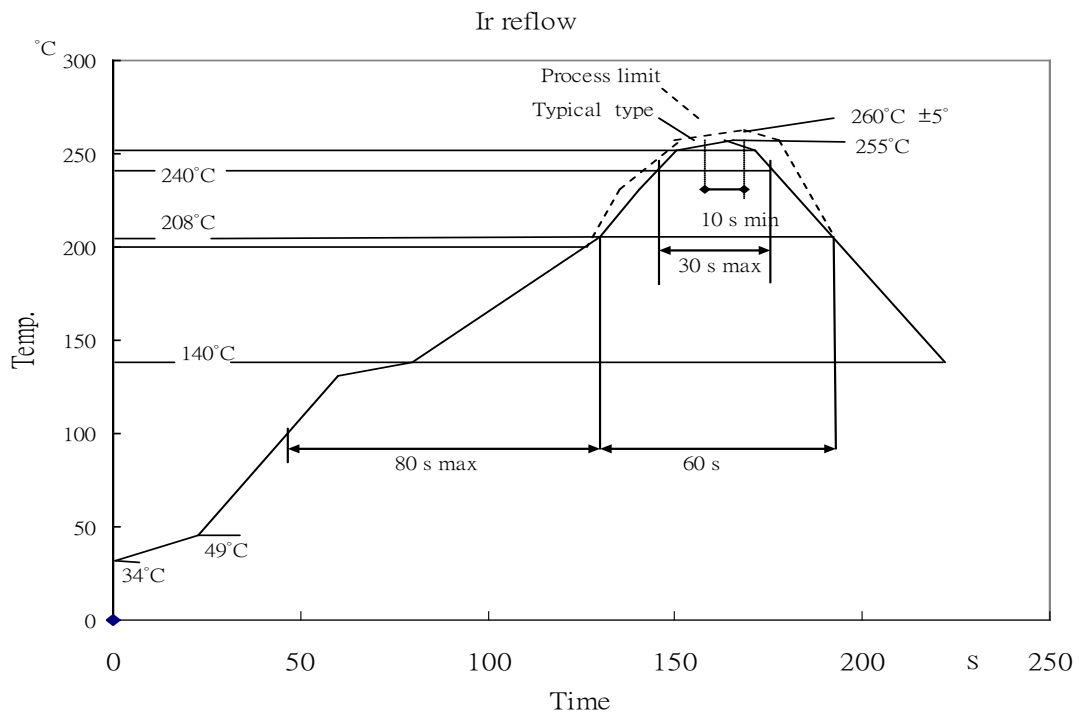
RELIABILITY

Test Item	Test Conditions	Test Period	Ac/Re
High Temperature Forward Bias (HTFB)	TA=85°C ; IF=1000mA DC	1000 hours	0/1
High Temperature High Humidity Bias (HTHHB)	TA=85°C ; 85% humidity IF=1000mA DC	1000 hours	0/1
Temperature Cycle (TC)	-40°C / 125°C 15min dwell, 5min transfer	1000 cycles	0/1
Power and Temperature Cycle (PTC)	-40°C / 125°C 10min dwell, 30min transfer ton/off = 2 min IF=1000mA DC	500 hours	0/1

Notes:

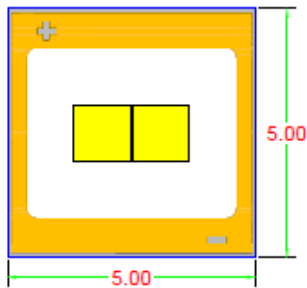
- No catastrophic (LED Fail)
- Lumen maintenance > 85%
- Change in Vf < 10%
- Change in white color point $\Delta x \Delta y \pm 0.01$
- No corrosion
- Moisture Sensitivity Level 1 (IPC/JEDEC J-STD-020)

Reflow Soldering Characteristics



MECHANICAL DIMENSIONS

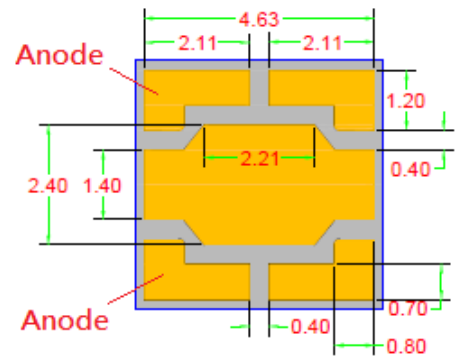
All measurements are ± 0.10 mm unless otherwise indicated.



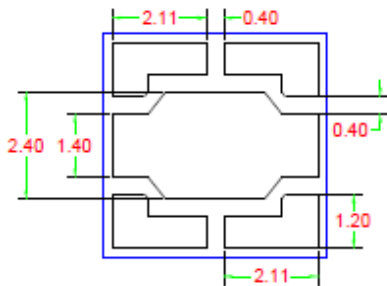
TOP



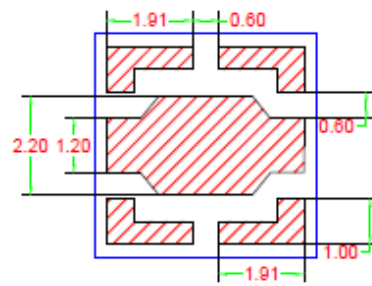
SIDE



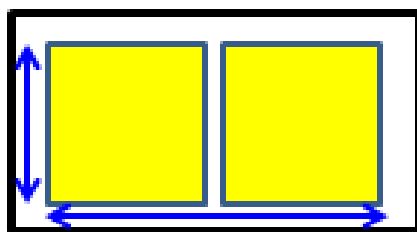
BOTTOM



Recommended Soldering Pad Pattern



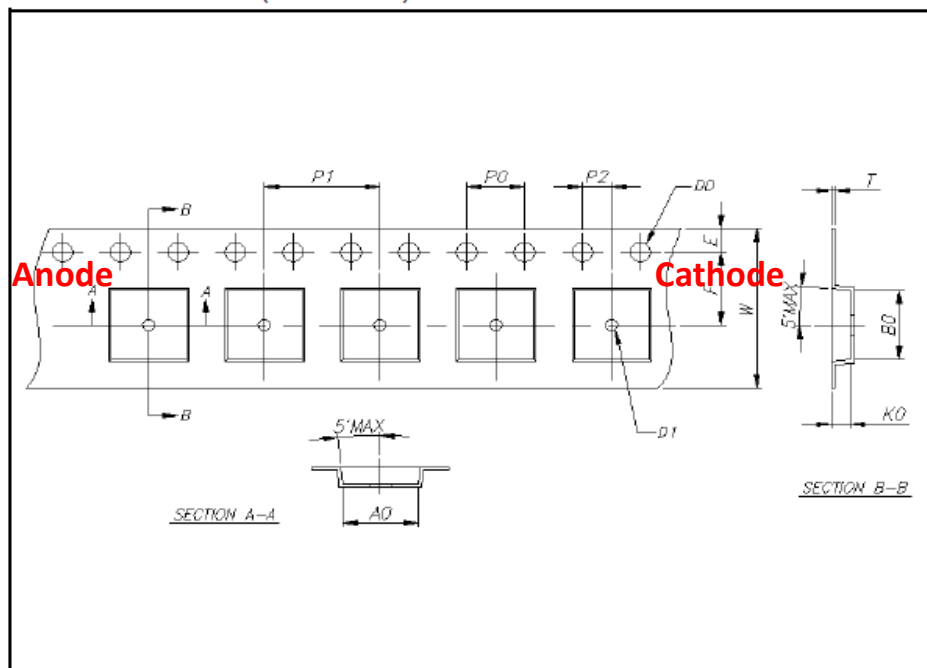
Recommended Metal Solder Stencil Aperture



Emitting Area:
2.33mm*1.15 mm

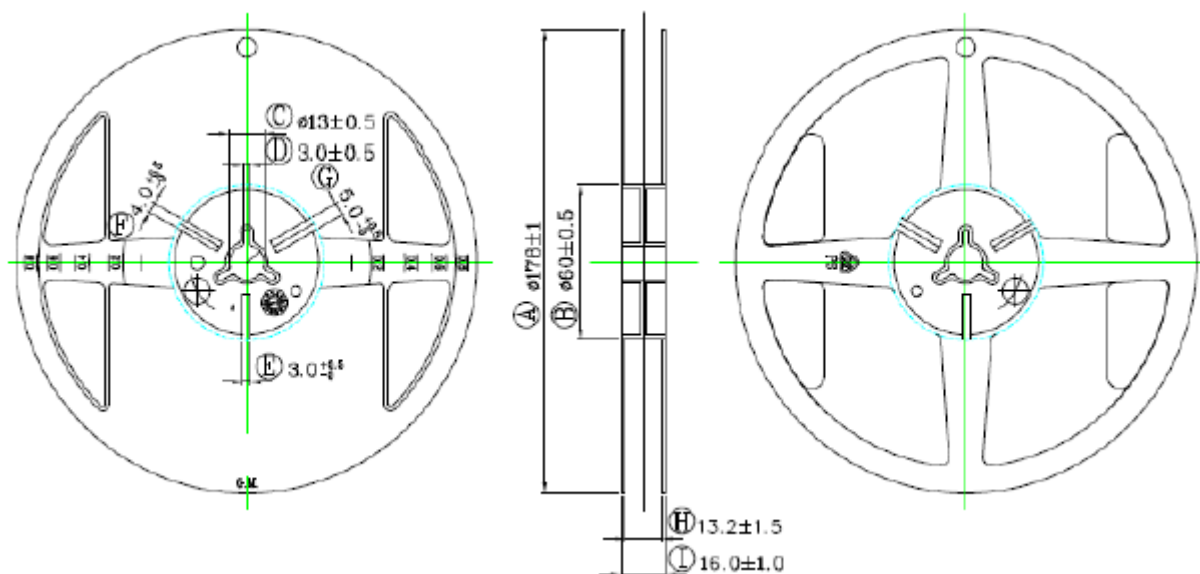
TAPE AND REEL

Dimensions. (Unit: mm)

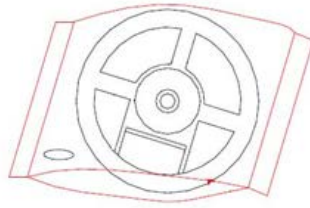


Item	Specification	Tol. (+/-)
W	12.00	± 0.20
E	1.75	± 0.10
F	5.50	± 0.10
D0	1.50	± 0.10
D1	1.50	± 0.10
P0	4.00	± 0.10
P1	8.00	± 0.10
P2	2.00	± 0.05
P0 x 10	40.00	± 0.20

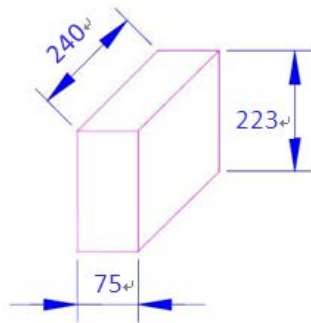
t	0.25	± 0.02
A0	5.25	± 0.10
B0	5.25	± 0.10
K0	1.10	± 0.10



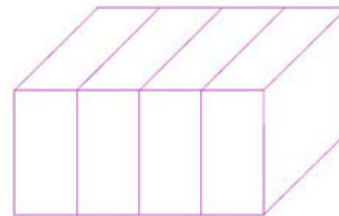
PACKING



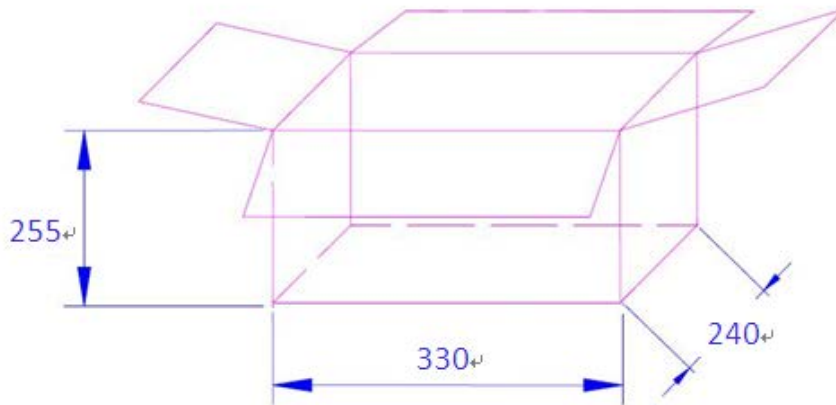
1 Anti-Static Reel in 1 Moistureproof Foil Bag.
(Within Moisture Absorbent Material)



4 Moistureproof Foil Bag in 1 Inner Box.



4 Inner Box in 1 Carton.



CAUTIONS

1. Moisture Sensitivity

In testing, YesLED has found 5050 LEDs to have 1 year floor life in condition $\leq 30\text{C}$ / 85% relative humidity (RH). Moisture testing included a 168-hr soak at $85\text{C}/60\%$ RH followed by 3 times reflow cycles, with visual and electrical inspections at each stage.

YesLED recommends keeping 5050 LEDs in their sealed moisture-barrier packaging until immediately prior to use. YesLED also recommends returning any unusual LEDs to the re-sealable moisture-barrier bag and closing the bag immediately after use.

2. Handling Precautions

Do not handle LEDs with bare hands, it may contaminate the LED surface and affect optical characteristics. In the worst case, catastrophic failure from excess pressure through wire-bond breaks and package damage may result.

Do not stack assembled PCBs together. Failure to comply can cause the resin portion of the product to be cut, chipped, delaminated and/or deformed. It may cause wire to break, leading to catastrophic failures.

3. Eye safety

Warning: do not look at exposed lamp in operation. Eye injury can result.

4. Static Electricity

Wristbands and anti-electrostatic gloves are strongly recommended and all devices, equipment and machinery must be properly grounded when handling the LEDs, which are sensitive against static electricity and surge.

Precautions are to be taken against surge voltage to the equipment that mounts the LEDs. Unusual characteristics such as significant increase of current leakage, decrease of turn-on voltage or non-operation at a low current can occur when the LED is damaged.