



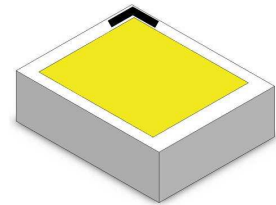
PT20W03 V0 Flash LED Product Specification

Approval Sheet

PT20W03 V0 Flash LED
 Product Specification

RoHS

Product	2016 Flash LED
Model Name	PT20W03 V0
Issue Date	2014/10/15



Feature

- ✓ White SMD LED (L x W x H) of 2.07 x 1.67 x 0.7 mm
- ✓ Qualified according to JEDEC moisture sensitivity Level 3
- ✓ Environmental friendly ; RoHS compliance
- ✓ CIE 1931 ; CTR = 5700 K
- ✓ Multi layer ceramic-metal package Tech.
- ✓ No UV

Applications

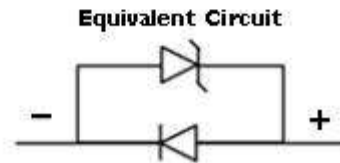
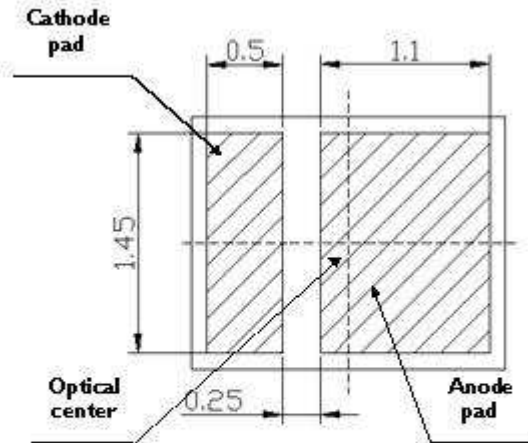
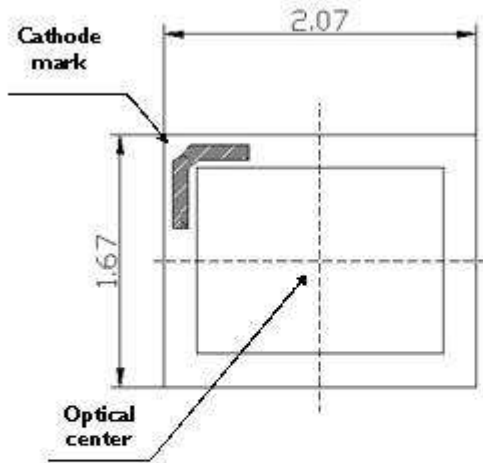
- ✓ Camera Flash light
- ✓ Torch light

MAKER			CUSTOMER			
Prepared	Checked	Approved				

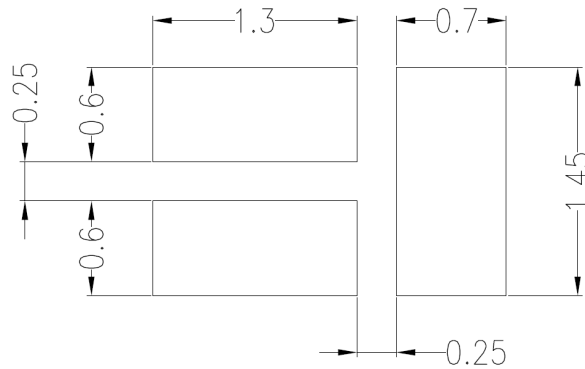
Outline Dimension

PT20W03 V0 Flash LED
Product Specification

Unit : mm
Tolerance : $\pm 0.1\text{mm}$



Recommend Soldering Pad Layout



Performance

PT20W03 V0 Flash LED
 Product Specification

■ Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage ⁽¹⁾	V _F	I _F = 150 mA	2.7	-	3.6	V
		I _F = 250 mA	2.85	-	3.75	
Luminous Flux ⁽²⁾	Φ _v	I _F = 150 mA	33	-	60	lm
		I _F = 250 mA	51	-	95	
Color Temperature	CCT	I _F = 150 mA	-	5700	-	K
View Angle	θ		-	130	-	deg
Thermal Resistance ⁽³⁾	R _{th}		-	14	-	°C/W

Note:

- (1) The Forward Voltage tolerance is ±0.1V.
- (2) The luminous flux tolerance is ±10%.
- (3) Thermal resistance is calculated from junction to solder.
- (4) Electric and optical data is tested at 50 ms pulse condition.
- (5) The color coordinates measurement tolerance is ±0.01.

■ Absolute Maximum Ratings

Parameter	Symbol	value	Unit
DC Forward Current ⁽¹⁾	I _F	150	mA
Pulse Forward Current ⁽²⁾ (50ms:ON , 950ms:OFF)	I _{FP}	500	mA
Power Dissipation (Pulse Mode) ⁽²⁾	P _d	1.7	W
Electrostatic Discharge(HBM)	ESD	8000	V
Storage Temperature	T _{stg}	-40 ~ 100	°C
Operating Temperature	T _{opr}	-40 ~ 85	°C
Junction Temperature	T _J	125	°C
Soldering Temperature		260 (5 sec)	°C

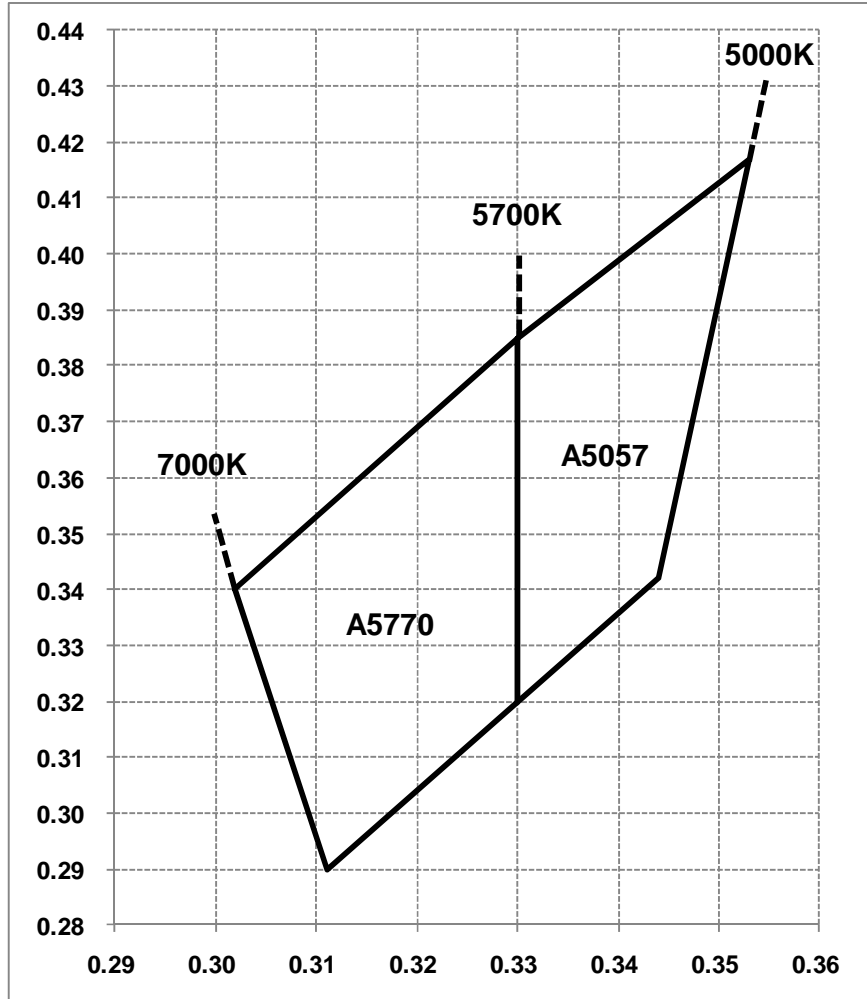
Note:

- (1) Proper current rating must be observed to maintain junction temperature below maximum at all time
- (2) I_{FP} shall be applied under conditions as max duration time 50ms and 1/10 duty cycle.

Binning

PT20W03 V0 Flash LED
 Product Specification

■ Chromaticity Coordinates



■ Color Rank (Ta=25°C)

CCT	CIE Rank	CIE X	CIE Y
5000K~5700K	A5057	0.3300	0.3850
		0.3530	0.4170
		0.3440	0.3420
		0.3300	0.3200
5700K~7000K	A5770	0.3020	0.3400
		0.3300	0.3850
		0.3300	0.3200
		0.3110	0.2900

- Correlated color Temperature is derived from the CIE 1931 Chromaticity diagram
- Color bins are tested at $I_F = 150\text{mA}$ and 50ms pulse operation condition.

■ **Forward Voltage Rank (Ta=25°C)**

V _F Rank	I _F = 150 mA		I _F = 250 mA		Unit
	Min.	Max.	Min.	Max.	
G	2.7	3.0	2.85	3.15	V
H	3.0	3.3	3.15	3.45	
J	3.3	3.6	3.45	3.75	

■ **Luminous Flux Rank (Ta=25°C)**

Luminous Flux Rank	I _F = 150 mA		I _F = 250 mA		Unit
	Min.	Max.	Min.	Max.	
4	33	39	51	60	lm
5	39	45	60	69	
6	45	52	69	80	
7	52	60	69	95	

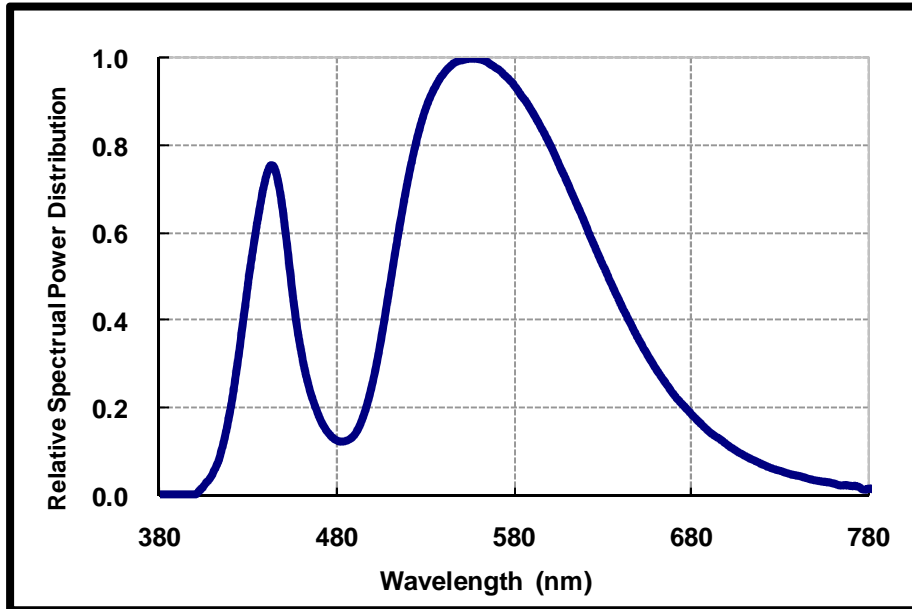
■ **Bin code definition (for example)**

V _F Rank	Luminous Flux Rank	CIE Rank
H	3	A5057

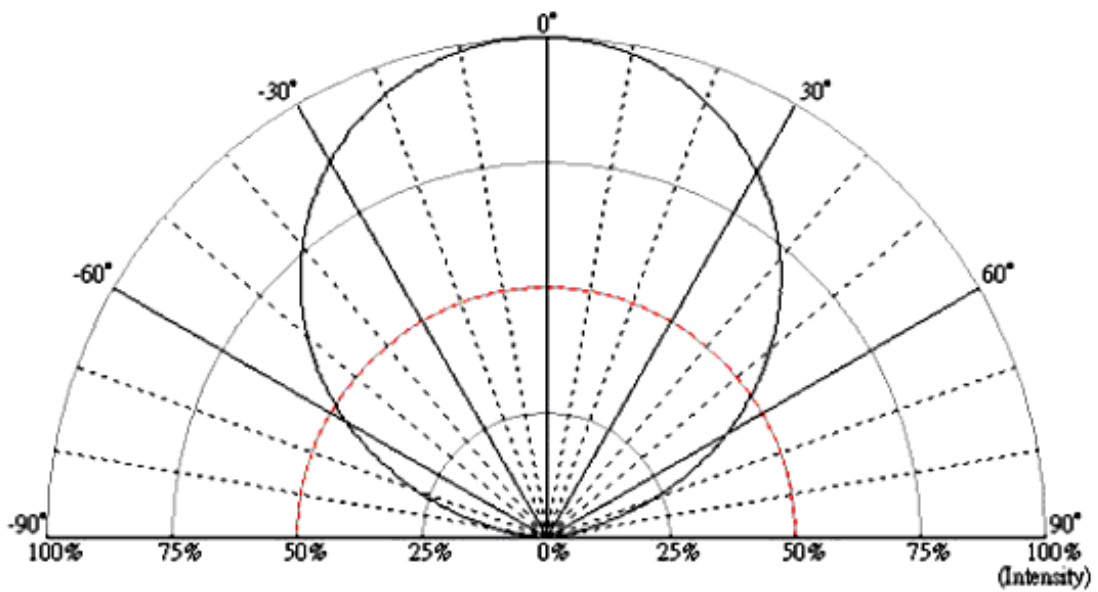
Characteristics

PT20W03 V0 Flash LED
Product Specification

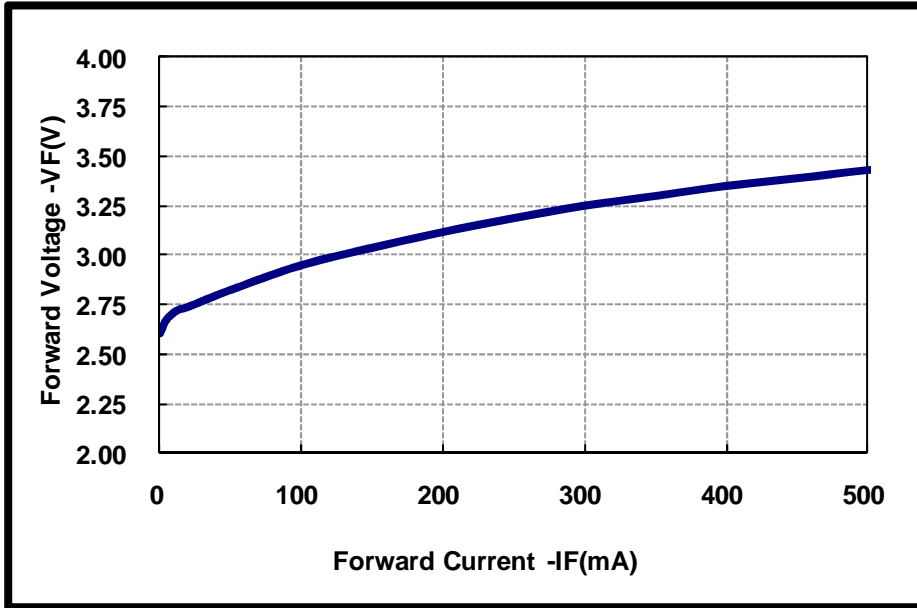
Spectrum (Ta=25°C)



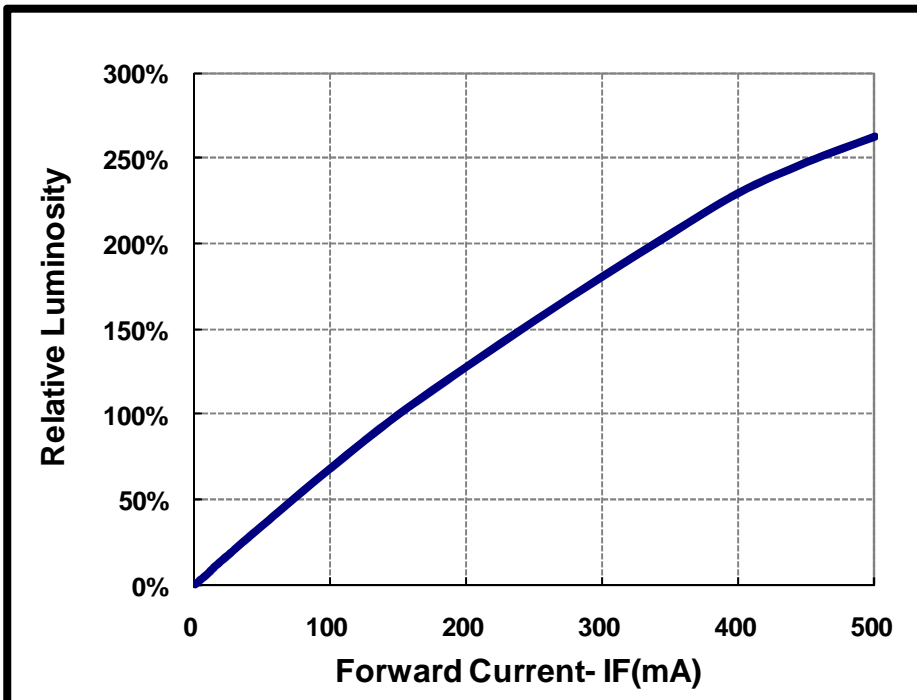
Radiation Pattern



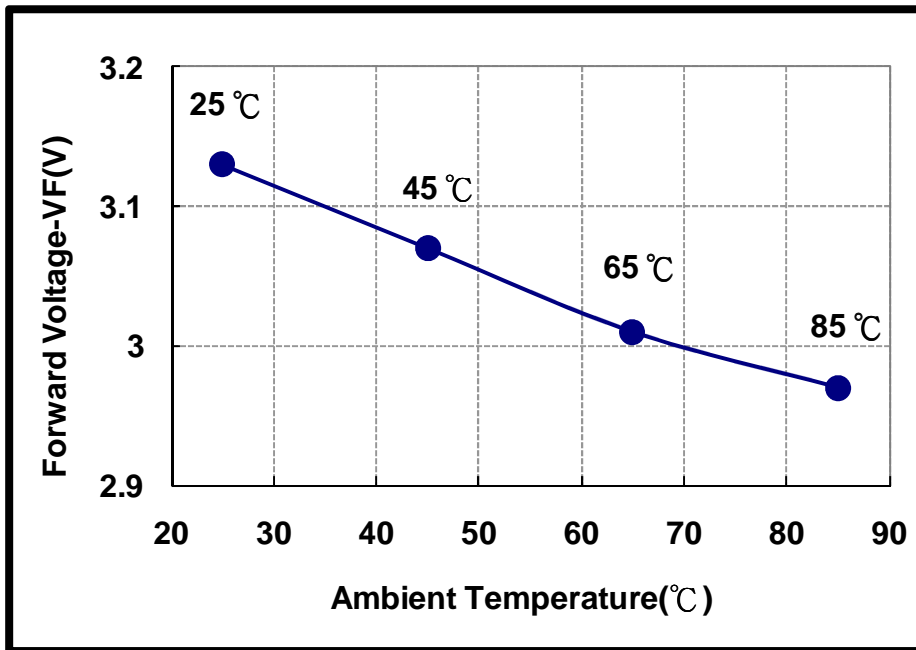
■ **Forward Voltage vs. Forward Current (Ta=25°C)**



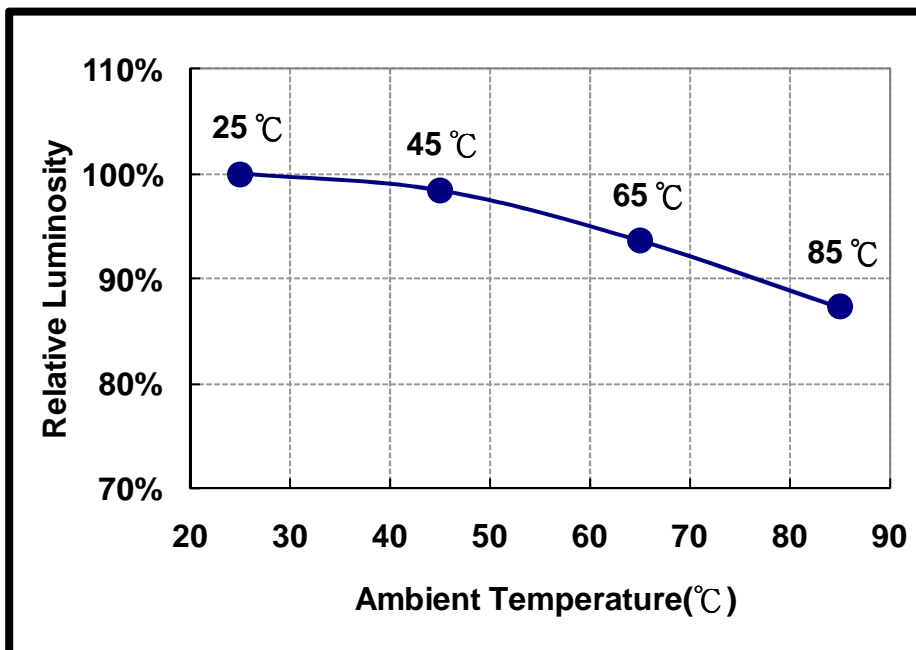
■ **Forward Current vs. Relative Luminosity (Ta=25°C)**



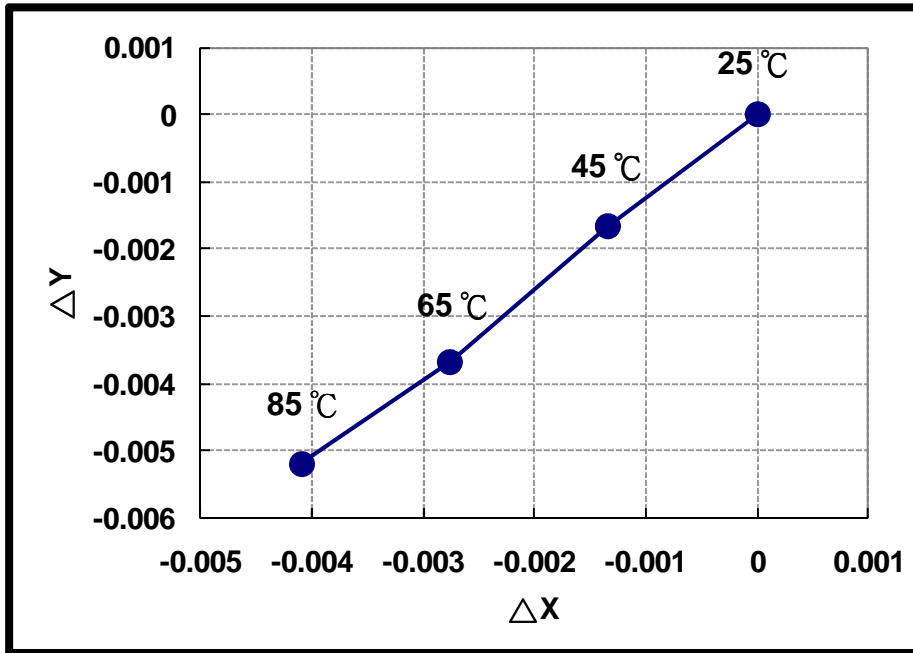
■ **Forward Voltage vs. Ambient Temperature**



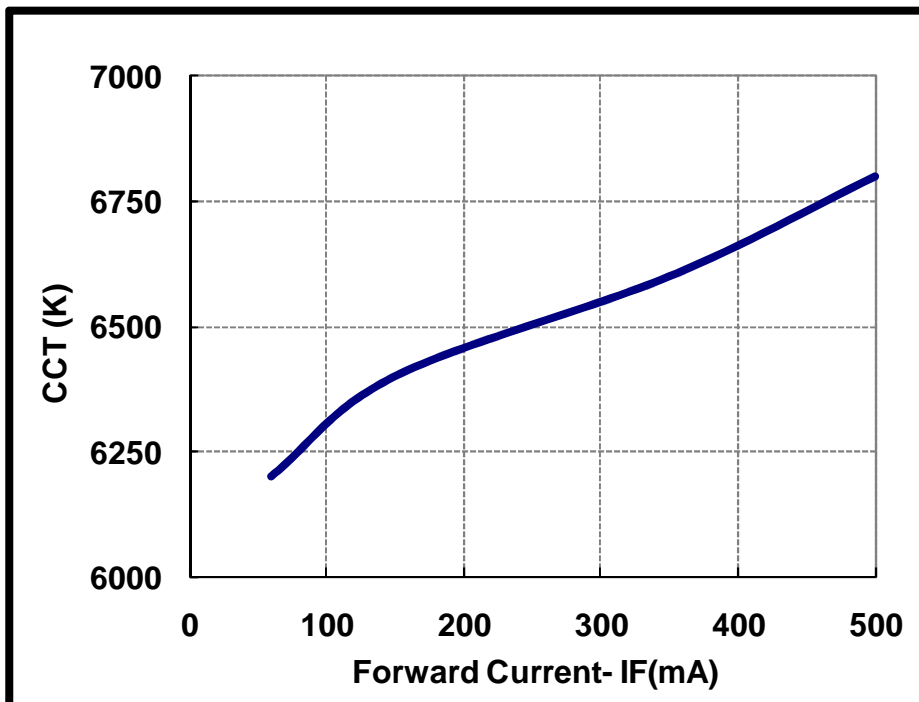
■ **Relative Luminosity vs. Ambient Temperature**



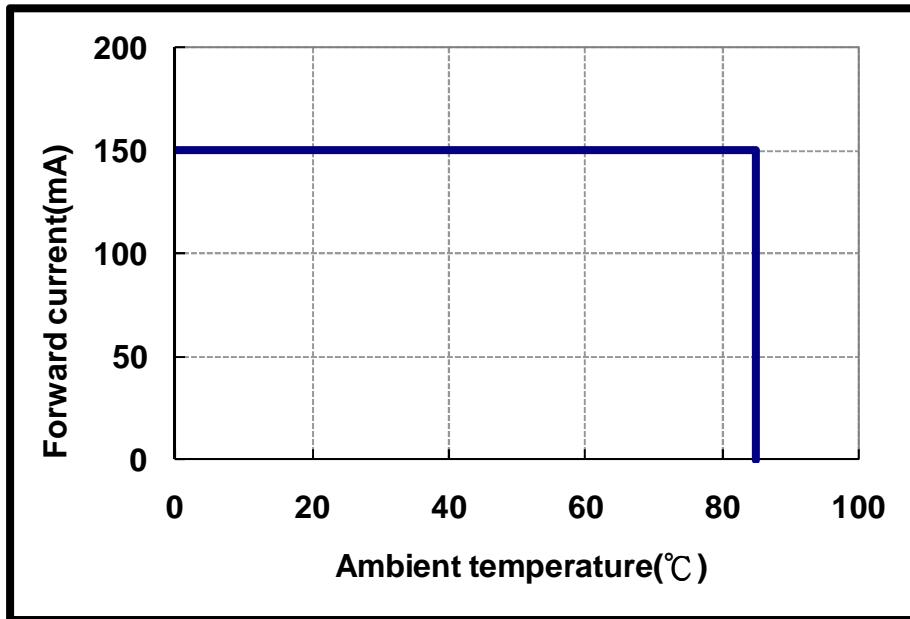
■ Chromaticity vs. Ambient Temperature



■ Forward Current vs. CCT ($T_a=25^\circ\text{C}$)



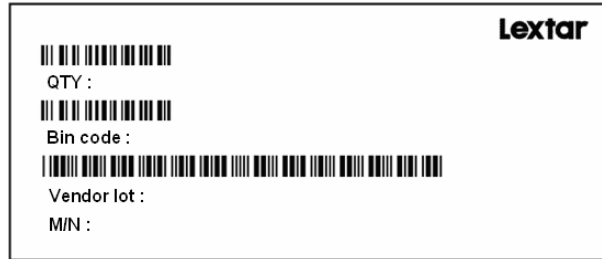
■ Allowable Forward Current vs. Ambient Temperature



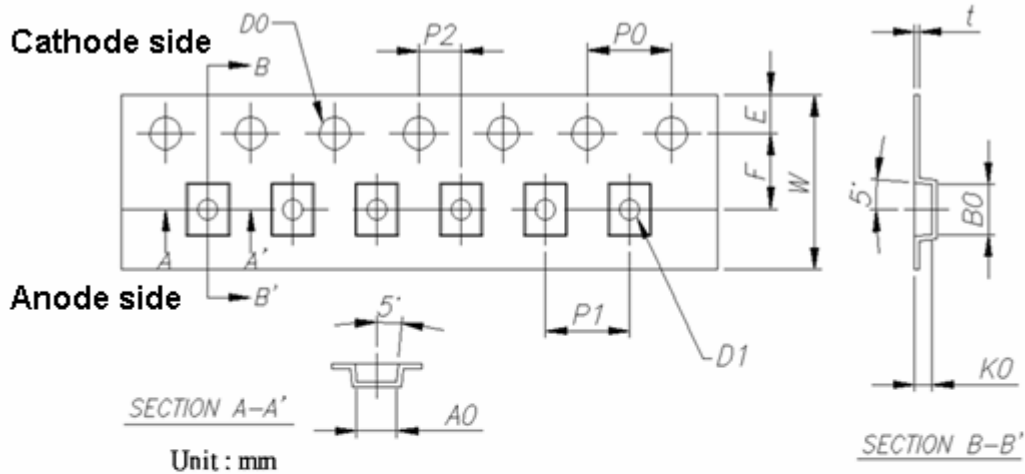
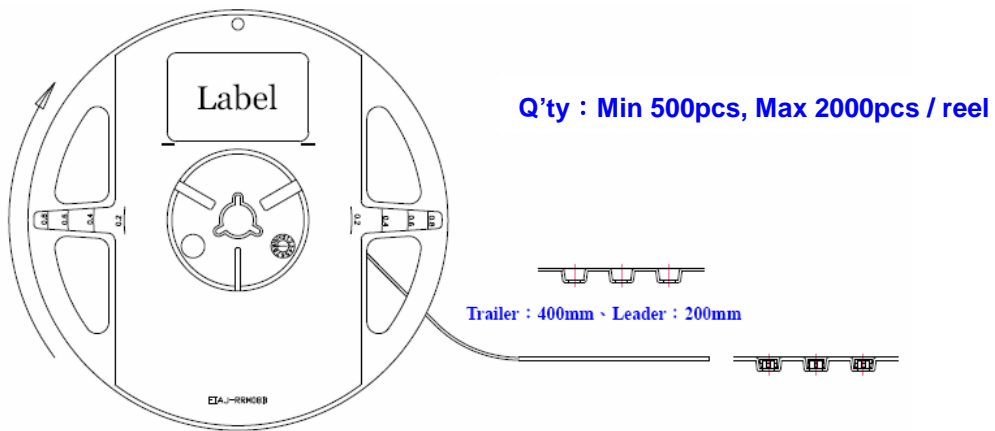
Packing

PT20W03 V0 Flash LED
 Product Specification

Label

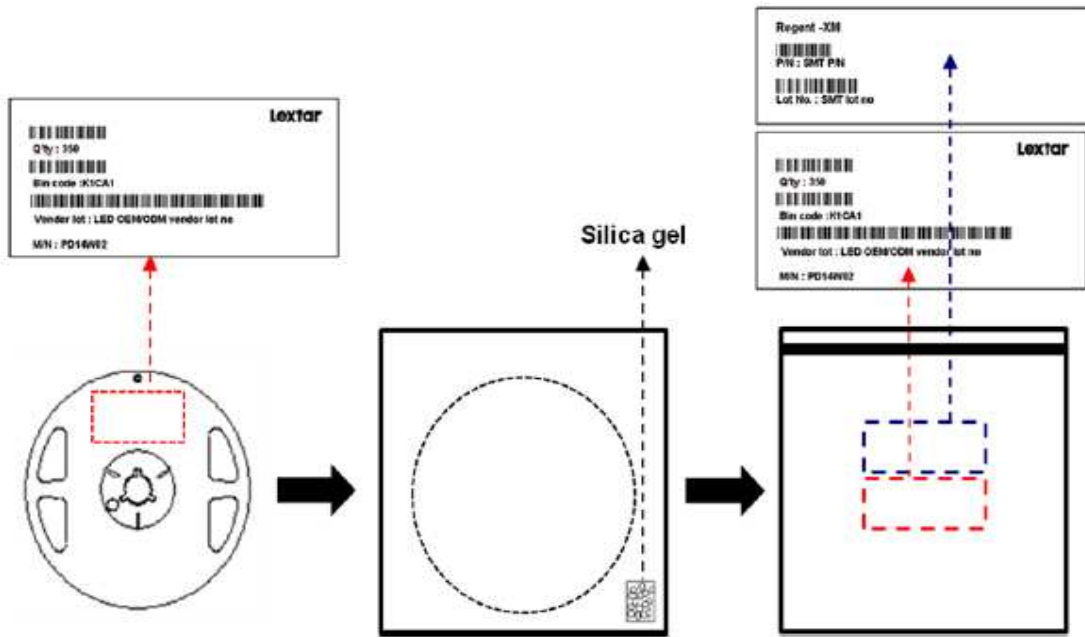


Carrier Taping



Item	Spec	Tol. (+/-)	Item	Spec	Tol. (+/-)
W	8.00	±0.20	P2	2.00	±0.05
E	1.75	±0.10	P0 × 10	40.00	±0.10
F	3.50	±0.05	t	0.23	±0.05
D0	1.50	±0.10	A0	1.90	±0.10
D1	1.50	±0.25	B0	2.30	±0.10
P0 · P1	4.00	±0.10	K0	0.85	±0.10

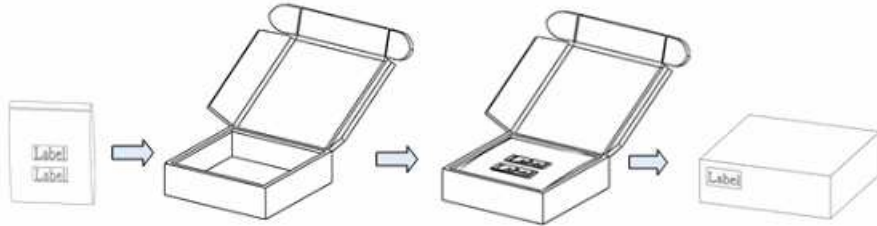
■ Shield Bag Taping



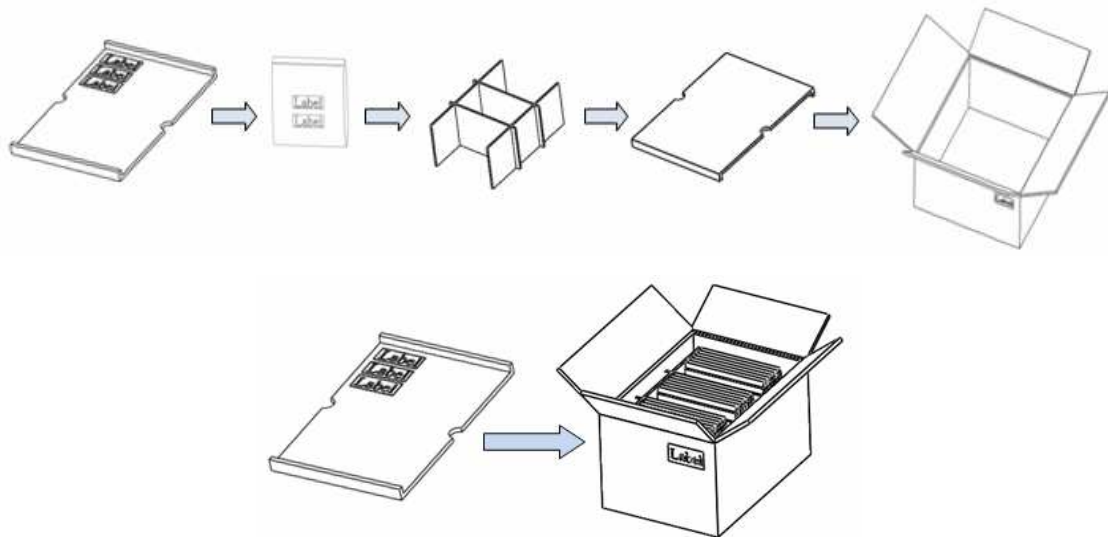
■ **Packing Box**

Type	Large Box		Medium Box		Small Box	
Dimension	541X511X276mm		385X303X260mm		283X235x70mm	
Maximum Reels	7"X12mm Reel	64/R	7"X12mm Reel	21/R	7"X12mm Reel	4/R
Minimum Reels	7"X12mm Reel	32/R	7"X12mm Reel	9/R	7"X12mm Reel	1/R

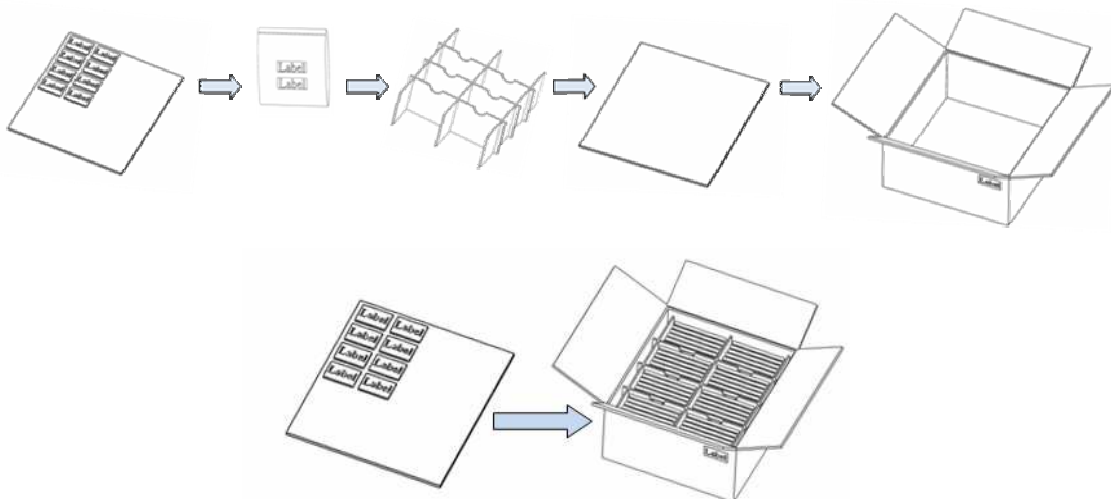
■ **Small Box**



■ **Large Box**



■ **Large Box**



Precautions

PT20W03 V0 Flash LED
Product Specification

■ Safety Precautions

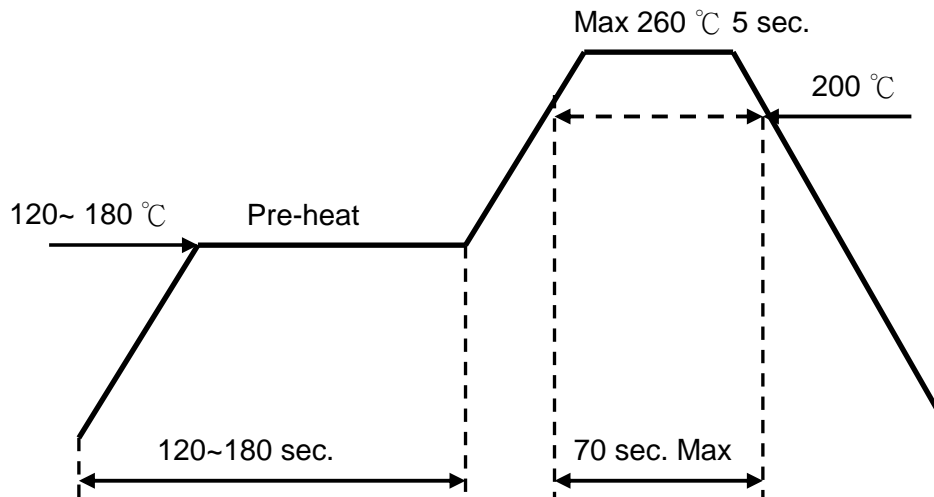
- The LED light output is too strong for human eyes without shield. Prevent eye contact directly more than seconds.
- Ensure operating under maximum rating.

■ Storage

- Before opening the package, the LEDs should storage under 30°C, 70% RH. Recommend to use within one year.
- After opening the package bag, the LEDs should be keep under 30°C, 60% RH. Recommend to use within 7days. If unused LEDs remain, suggest to store into moisture proof bag or original package bag with moisture absorbent material such as silica gel. Reseal well is necessary.
- If the product exceeded the storage period or the moisture absorbent material faded away, baking treatment should be done by following conditions.
Bake condition: 60°C, 12hours (One time only).

■ Soldering Notice and Conditions

- When soldering LEDs,
- Do not solder/reflow the same LED over two times.
- Recommend soldering conditions:
Hand soldering: 350 °C max , 3 sec. max.
Reflow soldering: Pre-heat 180 °C max , 180 sec. max.
Peak 260 °C max , 5 sec. max.
- Reflow temperature profile as below: (lead-free solder)



- When soldering, don't put stress on the LEDs
- After LEDs have been soldered, strongly recommend not to repair to keep the LEDs performance.

■ Static Electricity

- LED package is extremely sensitive to static electricity. It's recommended that anti-electrostatic glove and wrist band is necessary when handling the LEDs. All devices are also be grounded properly as well.
- Protection devices design should be considered in the LED driving circuit.

■ Cleaning

- If washing is required, recommend to use alcohol as a solvent.
- Recommend to avoid cleaning the LEDs by ultrasonic. If necessary, pre-test the LED is necessary to confirm whether any damage occur after the process.

Smart Lighting Amazing Life

Lextar Electronics Corp. is the leading LED (Light Emitting Diode) maker integrating upper stream epitaxial, middle stream chip, and downstream package, SMT and LED lighting applications. Founded in May, 2008, Lextar is a subsidiary of AU Optronics, the leading TFT-LCD and solar PV manufacturer. Lextar's product applications include lighting and LCD backlight. Lextar's manufacturing sites include Hsinchu and Chunan in Taiwan, and Suzhou in China. The company turnover in 2010 is 266 million USD.

单击下面可查看定价，库存，交付和生命周期等信息

[>>Lextar\(隆达\)](#)