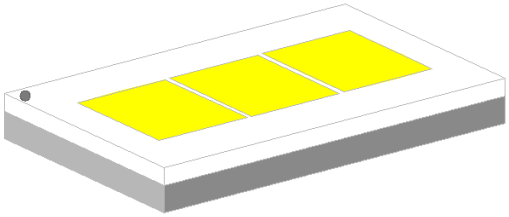

CA7T-9W

Product Code: KVXP-3570xxH

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Doc. ID: PKG-DS-065 Rev. D
Date: April 11, 2019

REVISION HISTORY

Rev.	Date	Charged	Approved	Revision Summary
A	2017/12/08	Frank	Bruce	***First issue***
B	2018/01/25	Frank	Bruce	***Revised:*** ***1. Photo*** ***2. Product Code*** ***3. ABSOLUTE MAXIMUM RATING (Tj= 85 °C)*** ***4. PRODUCT CHARACTERISTICS*** ***5. FLUX CHARACTERISTICS (Tj = 85 °C)*** ***6. RELATIVE SPECTRAL POWER DISTRIBUTION*** ***7. ELECTRICAL CHARACTERISTIC (Tj = 85 °C)*** ***8. RELATIVE LUMINOUS FLUX VS. CURRENT (Tj= 85 °C)*** ***9. PERFORMANCE GROUPS – BRIGHTNESS (Tj = 85 °C)*** ***10. PERFORMANCE GROUPS – CHROMATICITY*** ***11. GPI's STANDARD WHITE CHROMATICITY REGINS PLOTTED ON THE 1931 CIE CURVE*** ***12. RELIABILITY*** ***13. MECHANICAL DIMENSIONS*** ***14. TAPE AND REEL*** ***15. PACKING***
C	2018/05/10	Frank	Bruce	**Revised:** **1. Product Code** **2. ABSOLUTE MAXIMUM RATING** **3. PRODUCT CHARACTERISTICS** **4. FLUX CHARACTERISTICS** **5. ELECTRICAL CHARACTERISTIC** **6. RELATIVE LUMINOUS FLUX VS. CURRENT** **7. PERFORMANCE GROUPS – BRIGHTNESS** **8. PERFORMANCE GROUPS – FORWARD VOLTAGE** **9. RELIABILITY**
D	2019/04/11	Frank	Bruce	***Revised:*** ***1. Photo*** ***2. Product Code*** ***3. ABSOLUTE MAXIMUM RATING (Tj= 85 °C)*** ***4. PRODUCT CHARACTERISTICS*** ***5. FLUX CHARACTERISTICS*** ***6. RELATIVE SPECTRAL POWER DISTRIBUTION*** ***7. ELECTRICAL CHARACTERISTIC*** ***8. RELATIVE LUMINOUS FLUX VS. CURRENT*** ***9. PERFORMANCE GROUPS – BRIGHTNESS*** ***10. MECHANICAL DIMENSIONS*** ***11. PERFORMANCE GROUPS – CHROMATICITY*** ***12. GPI's STANDARD WHITE CHROMATICITY REGINS PLOTTED ON THE 1931 CIE CURVE***

ABSOLUTE MAXIMUM RATING

Characteristics	Value	Unit
DC Forward Current	1800	mA
DC Reverse Voltage	12	V
Storage Temperature	-40 ~ 125	℃
Operating Temperature	-40 ~ 125	℃
LED Junction Temperature	150	℃

PRODUCT CHARACTERISTICS

Characteristics	Unit	minimum	Typ.	Maximum
Thermal resistance, junction to solder point	℃/W		2.5	
Viewing Angle (FWHM)	degrees		115	
Temperature coefficient of voltage	mV/℃		-2.5	
DC Forward Current	mA		1600	1800
Reverse Voltage	V			12
Forward Voltage	V		9.6	10.2
LED junction temperature	℃			150

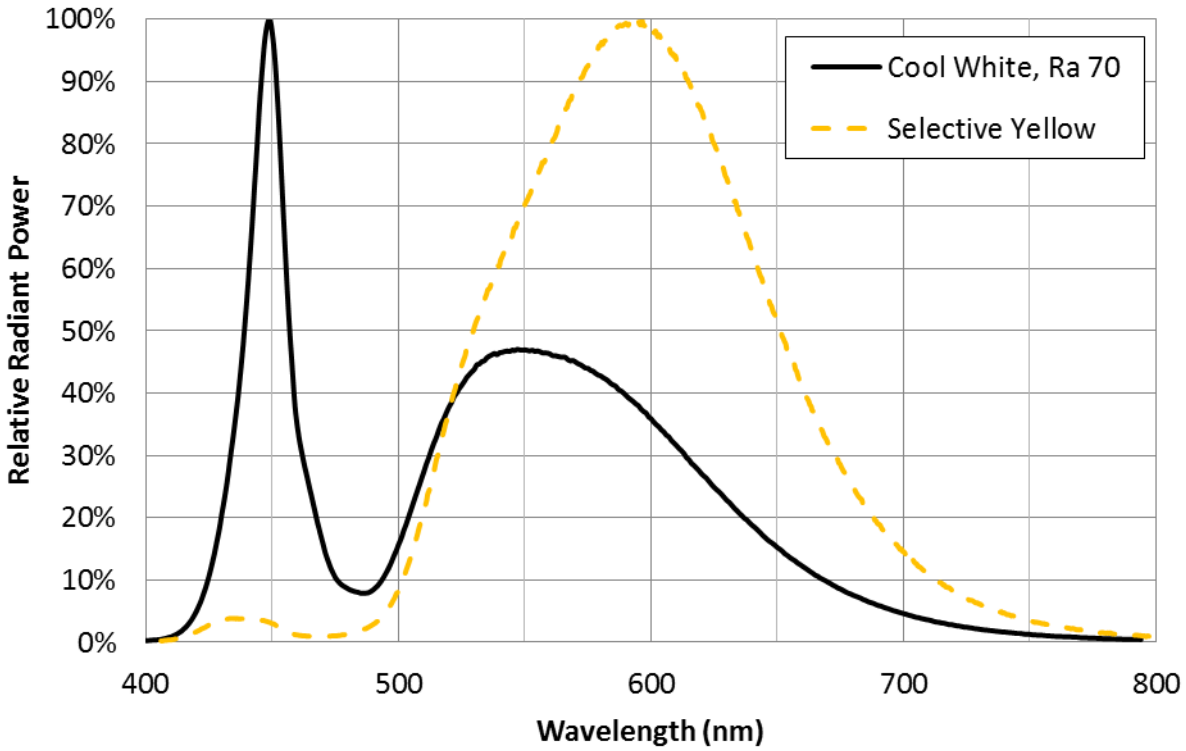
FLUX CHARACTERISTICS

Color	CCT		Base Order codes Minimum Luminous Flux (lm)		Calculated Minimum Luminous Flux (lm)*	Order Code
	Min	Max	Group	1600mA	1800mA	
Ra 70, Cool White	5400	7000	H15	1500	1650	KVXP-3570C7H
			H16	1600	1760	
			H17	1700	1870	

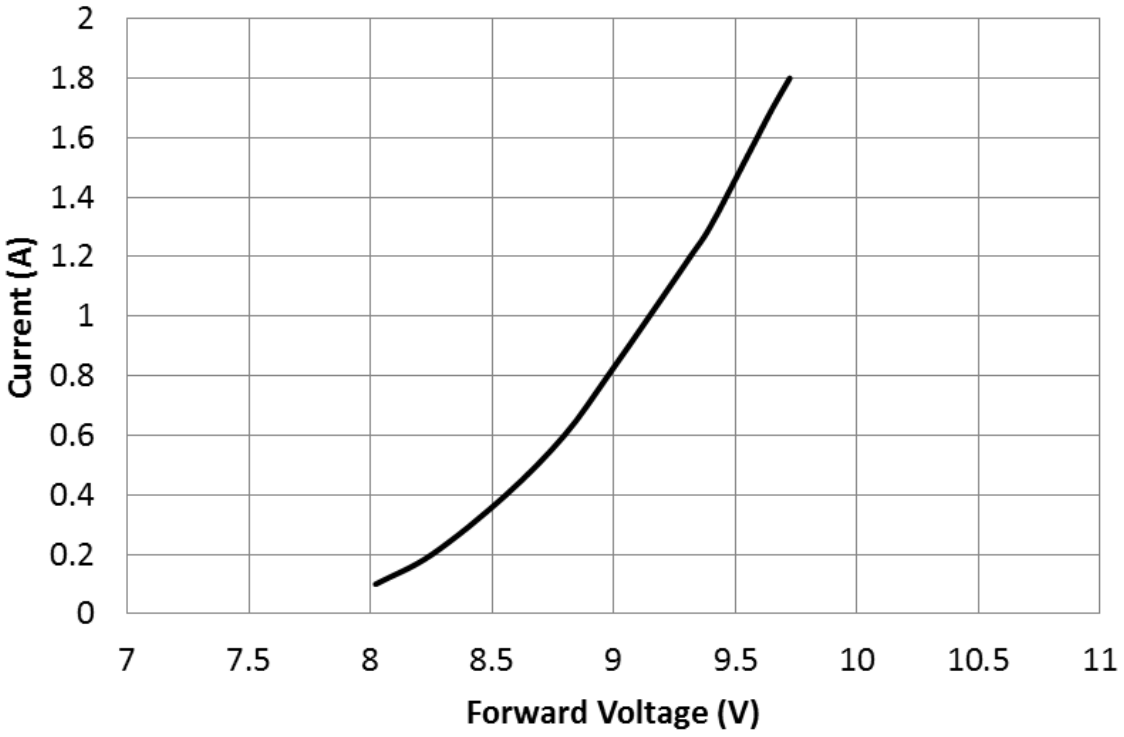
Color	Wd		Base Order codes Minimum Luminous Flux (lm)		Calculated Minimum Luminous Flux (lm)*	Order Code
	Min	Max	Group	1600mA	1800mA	
Selective Yellow	575	585	H14	1400	1540	KVXP-3570SYH
			H15	1500	1650	

Notes:
• GPI maintains a tolerance of ±5% on flux and power measurements, ±0.005 on chromaticity (CCx, CCy) measurements and ±2 on Ra measurements.
• Calculated flux values are for reference only.

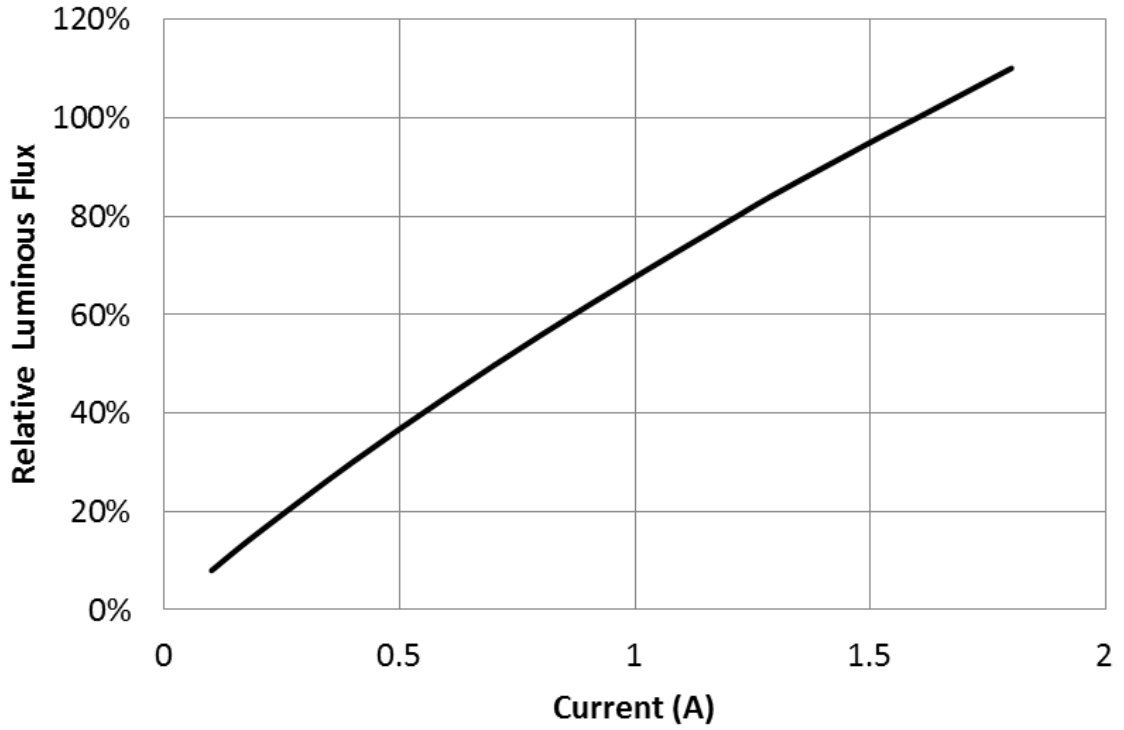
RELATIVE SPECTRAL POWER DISTRIBUTION



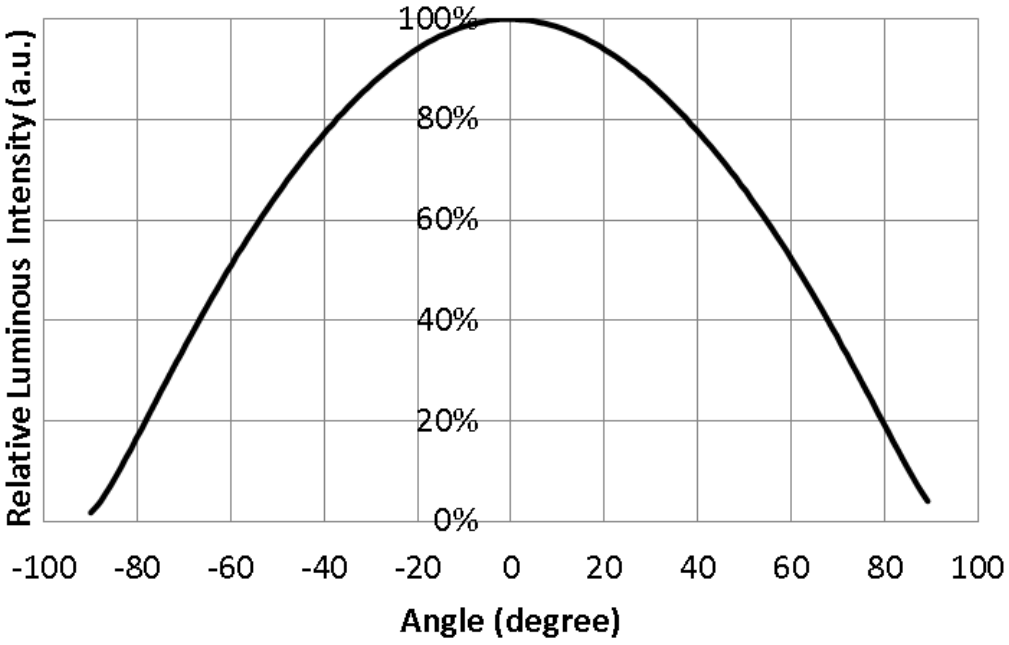
ELECTRICAL CHARACTERISTIC



RELATIVE LUMINOUS FLUX VS. CURRENT



TYPICAL SPATIAL DISTRIBUTION



PERFORMANCE GROUPS – BRIGHTNESS

Group code	Min. Luminous Flux (lm)	Max. Luminous Flux (lm)
H14	1400	1500
H15	1500	1600
H16	1600	1700
H17	1700	1800

PERFORMANCE GROUPS – FORWARD VOLTAGE

Group code	Minimum Forward Voltage (V)	Maximum Forward Voltage (V)
KE	8.4	9.0
KF	9.0	9.6
KG	9.6	10.2

PERFORMANCE GROUPS – CHROMATICITY

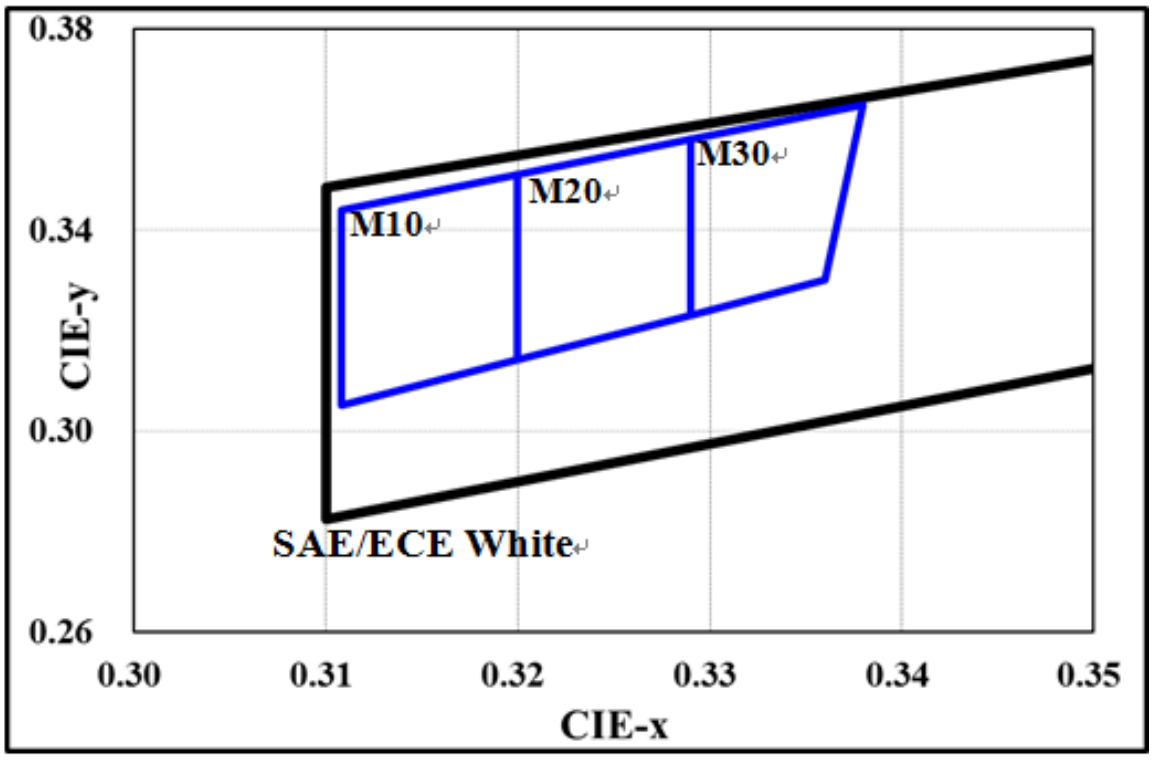
Bin Code	x	y
M10	0.32	0.3511
	0.3108	0.344
	0.3108	0.305
	0.32	0.3141

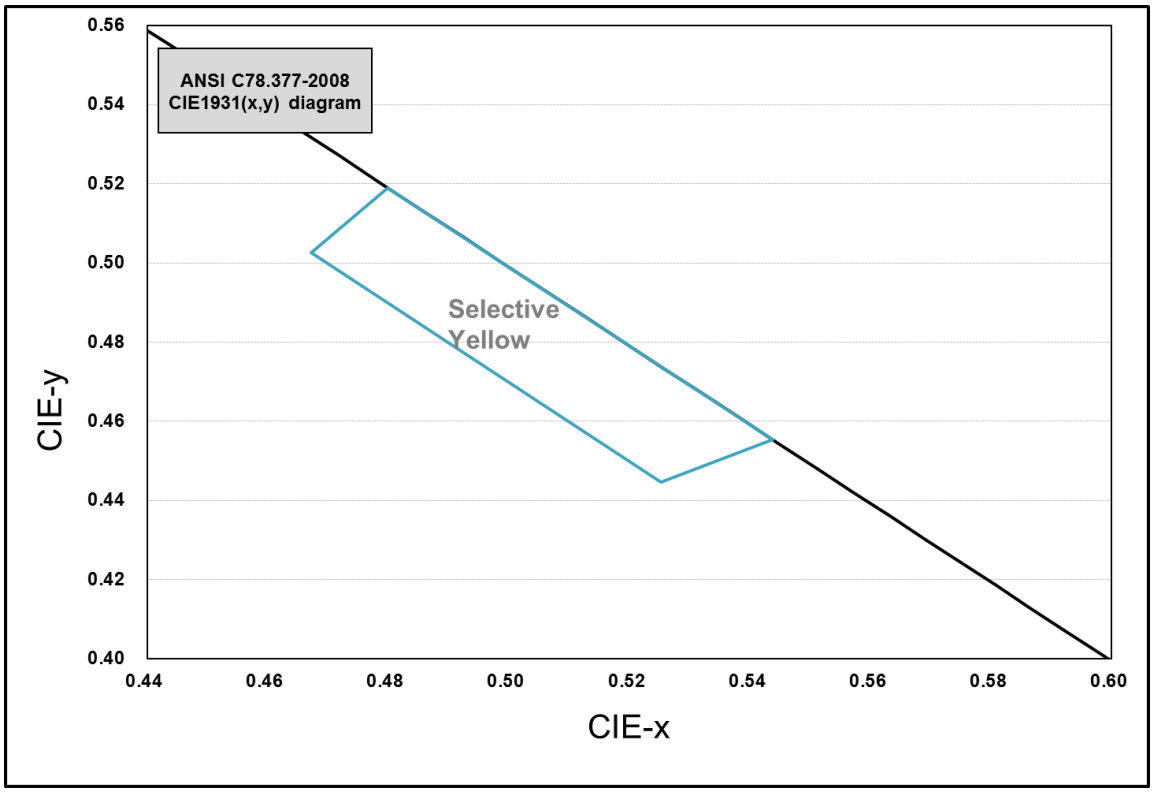
Bin Code	x	y
M20	0.32	0.3511
	0.329	0.3581
	0.329	0.3231
	0.32	0.3141

Bin Code	x	y
M30	0.329	0.3581
	0.338	0.365
	0.336	0.33
	0.329	0.3231

Bin Code	x	y
Selective Yellow	0.5438	0.4554
	0.5253	0.4447
	0.4673	0.5028
	0.4799	0.5190

GPI's STANDARD WHITE CHROMATICITY REGINS PLOTTED ON THE 1931 CIE CURVE



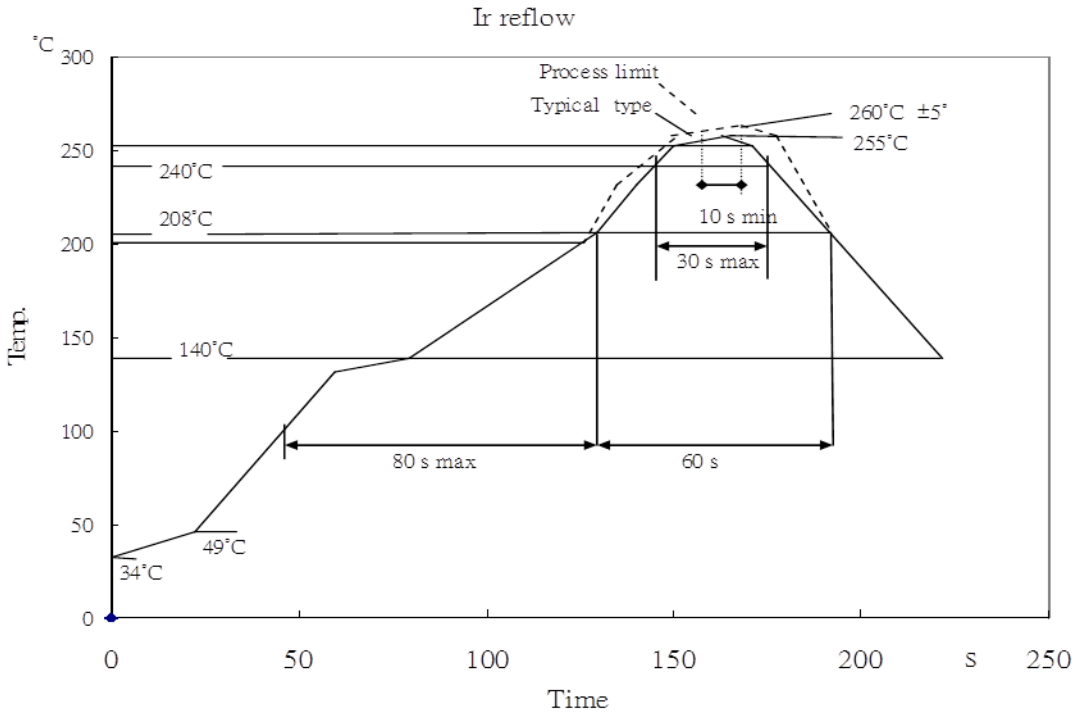


RELIABILITY

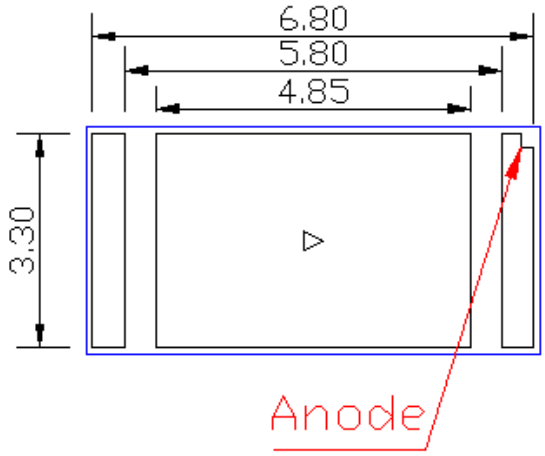
Test Item	Test Conditions		Test Period	Ac/Re
Room Temperature Operating Life（RTOL）	IF=1800mA DC		1000hrs	0/1
Wet High Temperature Operating Life（WHTOL）	TA=85°C；85% humidity IF=1800mA DC		1000hrs	0/1
High Temperature Operating Life（HTOL）	TA=85°C；IF=1800mA DC		1000hrs	0/1
Thermal Cycle	-40℃	125℃	1000 cycle	0/1
	30min	30 min		
Reflow Soldering	Tmax.=260℃		3 times	0/1

Notes:
- No catastrophic (LED Fail)
- Lumen maintenance > 90%
- Change in Vf < 10%
- Change in white color point ∆x ∆y ± 0.01
- No corrosion
- Moisture Sensitivity Level 2 (IPC/JEDEC J-STD-020)

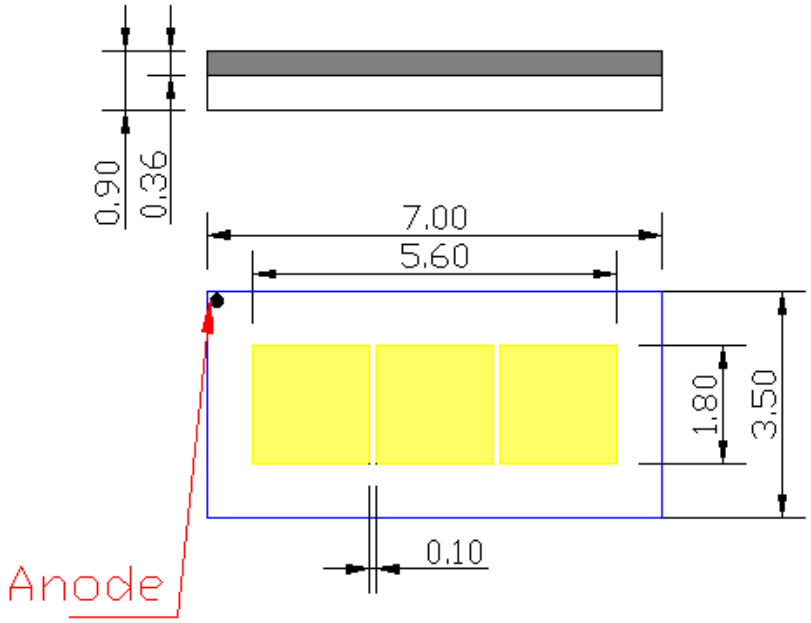
Reflow Soldering Characteristics



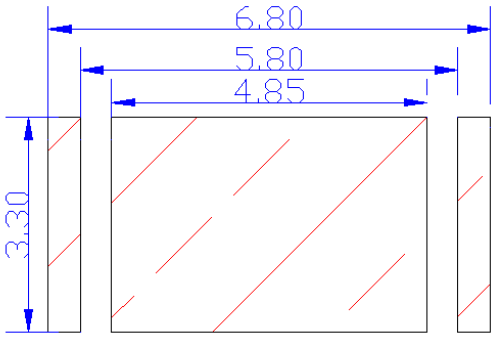
MECHANICAL DIMENSIONS



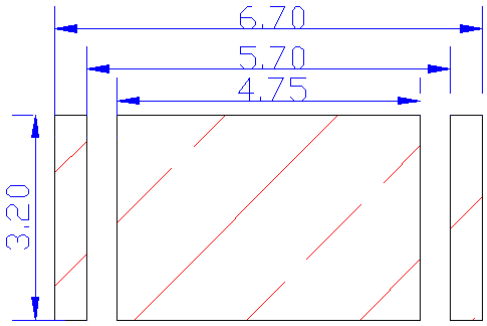
Bottom Layout



Dimension



Recommended Solder



Recommended Stencil Pattern

(Hatched Area is open)

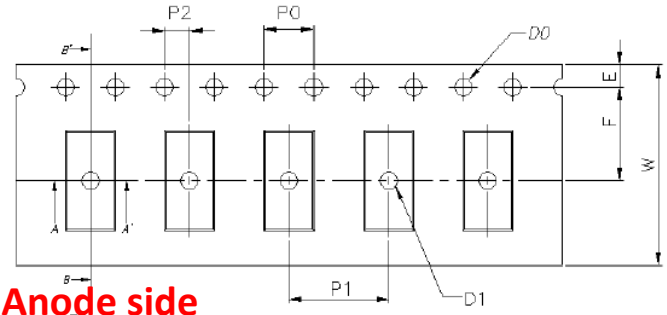
Note:

1. Dimensions are in millimeters. ± 0.13
2. Measurement tolerances：

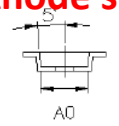
±0.1

TAPE AND REEL

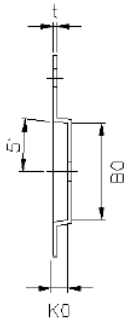
Cathode side



Anode side

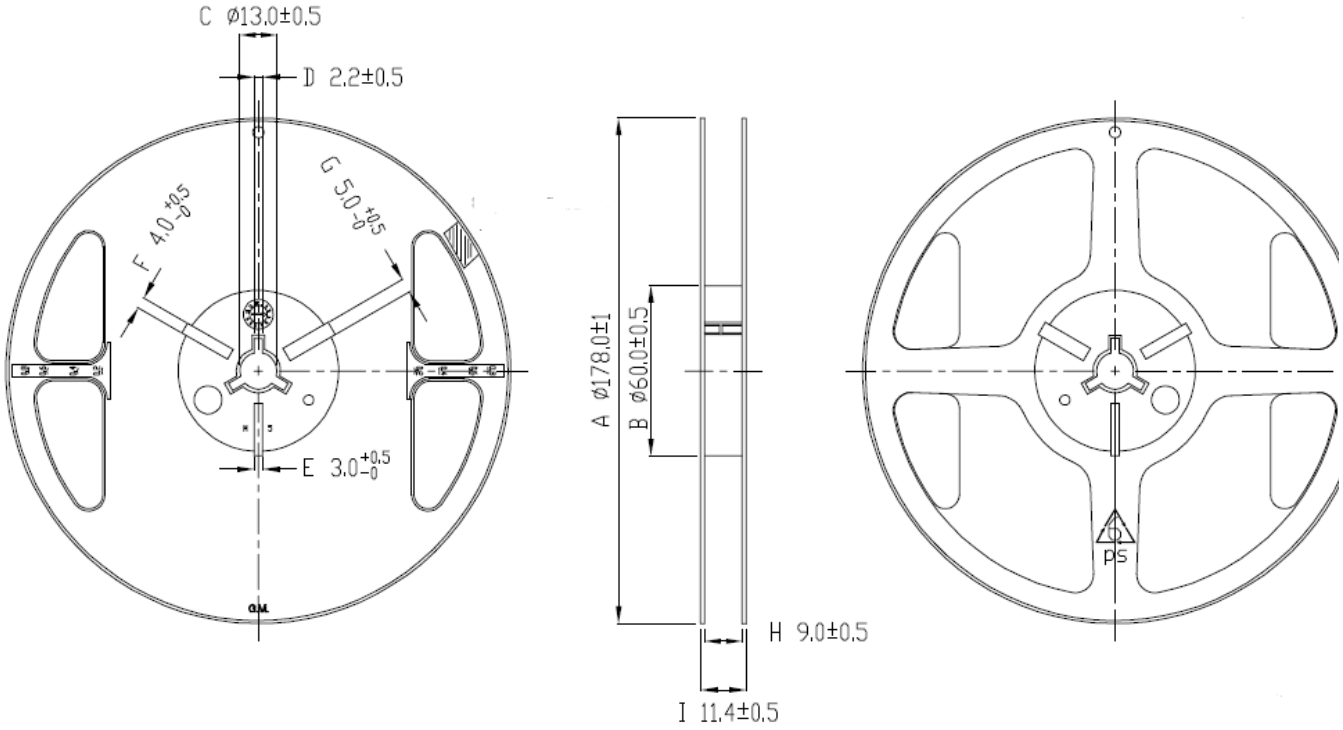


SECTION A–A'



SECTION B–B'

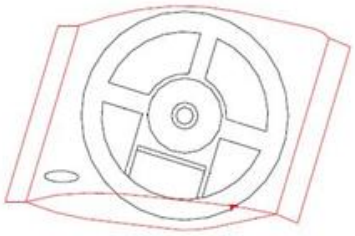
Item	Specification	Tol. (+/-)
W	**16.00**	± 0.30
E	**1.75**	± 0.10
F	**7.50**	± 0.10
D0	**1.50**	+0.10,-0
D1	**1.50**	± 0.10
P0	**4.00**	± 0.10
P1	**8.00**	± 0.10
P2	**2.00**	± 0.10
P0 x 10	**40.00**	± 0.20
t	**0.30**	± 0.05
A0	**3.80**	± 0.10
B0	**7.80**	± 0.10
K0	**1.20**	± 0.10



Note:

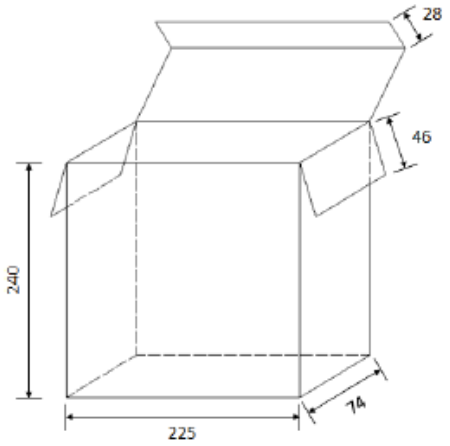
- Dimension unit: millimeter.

PACKING

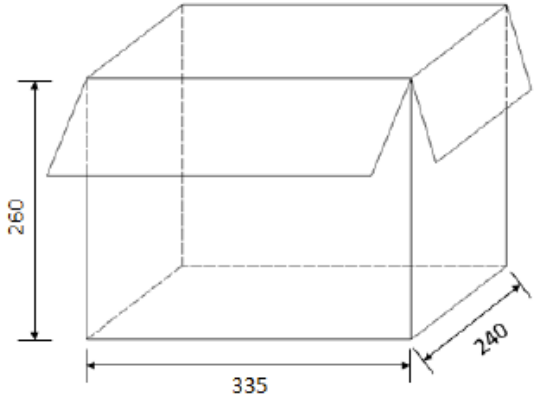


1 Anti-Static Reel in 1 Moistureproof Foil Bag.

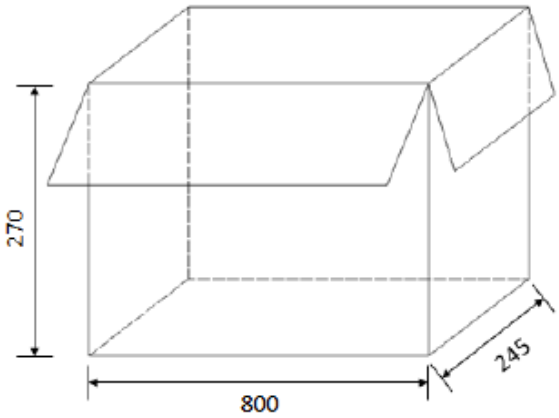
(Within Moisture Absorbent Material)



5 Moistureproof Foil Bags in Box.



28 Moistureproof Foil Bags in Box.



68 Moistureproof Foil Bags in Box.

CAUTIONS

1. Moisture Sensitivity

In testing, GPI has found CA7T-9W LEDs to have 1 year floor life in condition <=30C/ 60% relative humidity (RH). Moisture testing included a 168-hr soak at 85C/60% RH followed by 3 times reflow cycles, with visual and electrical inspections at each stage.

GPI recommends keeping CA7T-9W LEDs in their sealed moisture-barrier packaging until immediately prior to use. GPI 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.

5. Thermal Constraints

The temperature of the package surface is strongly recommended below 150℃ in operation.