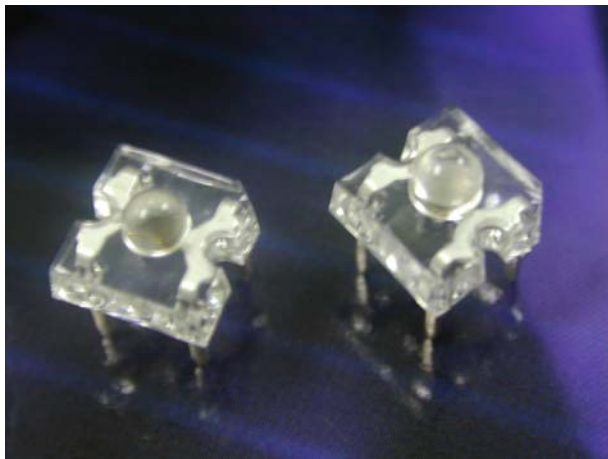


PRELIMINARY SPEC

Part Number: WP7677C2RWC/Z



Features:

- *HIGH LUMINANCE OUTPUT.
- *DESIGN FOR HIGH CURRENT OPERATION.
- *UNIFORM COLOR.
- *LOW POWER CONSUMPTION.
- *LOW THERMAL RESISTANCE.
- *LOW PROFILE.
- *PACKAGED IN TUBES FOR USE WITH AUTOMATIC INSERTION EQUIPMENT.
- * MOISTURE SENSITIVITY LEVEL : LEVEL 1.
- * ELECTROSTATIC DISCHARGE THRESHOLD (HBM):1000V.
- * TYP. COLOR TEMPERATURE:6500K.
- * COLOR COORDINATES:X=0.33,Y=0.34 ACC. TO CIE1931(WHITE).
- * OPTICAL EFFICIENCY:54.7 lm/W(TYP.)
- *COLOR REPRODUCTION INDEX:80.
- * RoHS COMPLIANT.

Technical Data



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Description

Static electricity and surge damage the LEDS. It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

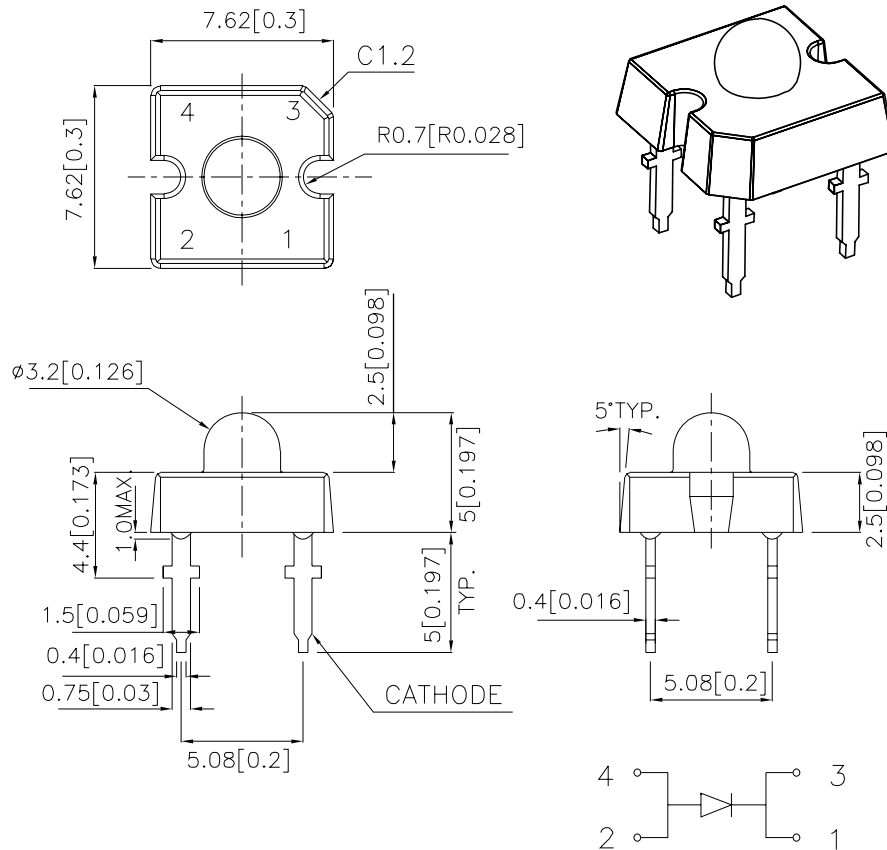
Benefits:

- *OUTSTANDING MATERIAL EFFICIENCY.
- *ELECTRICITY SAVINGS.
- *MAINTENANCE SAVINGS.
- *RELIABLE AND RUGGED.

Typical Applications:

- *AUTOMOTIVE EXTERIOR LIGHTING.
- *ELECTRONIC SIGNS AND SIGNALS.
- *FURNITURE LIGHTING
- *OUTDOOR DISPLAYS
- *OPTICAL INDICATORS
- *SIGNAL AND SYMBOL LUMINAIRE
- *MARKER LIGHTS (E.G. STEPS, EXIT WAYS, ETC.)
- *LIGHTING FOR SPECIAL EFFECTS (E.G. STARRY SKY)
- *SUBSTITUTE FOR MINIATURE FLASHLIGHT

Outline Drawings



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25(0.01")$ unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change without notice.

Selection Guide

Part No.	Dice	Lens Type	luminous Intensity ^{Note2} Iv(mcd) @ 30mA		Φ_V (mlm) ^{Note3} @ 30mA	Viewing Angle ^{Note1}
			Min.	Typ.	Typ.	2 θ 1/2
WP7677C2RWC/Z	WHITE (InGaN)	WATER CLEAR	5700	11000	5500	30°

Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	Value	Unit
Power dissipation	Pt	117	mW
Reverse Voltage	VR	5	V
Junction temperature	TJ	110	°C
Operating Temperature	Top	-40 To +85	°C
Storage Temperature	Tstg	-55 To +85	°C
DC Forward Current	IF	30	mA
Peak Forward Current ^{Note4}	IFM	100	mA
Thermal resistance ^{Note5} Junction/ambient Junction/solder point	Rth JA Rth JS	200 130	°C/W °C/W

Notes:

1. θ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
- 2.Luminous intensity is measured by a current pulse of 10ms at a tolerance of $\pm 15\%$.
- 3.The typical data of Luminous Flux can only reflect statistical figures, actual parameters of individual product could differ from the typical data.
For the purpose of product enhancement, the typical data is subject to change without prior notice.
- 4.1/10 Duty Cycle, 0.1ms Pulse Width.
- 5.Rth(J-A) Results from mounting on PC board FR4 (pad size $\geq 16 \text{ mm}^2$ per pad),

Electrical / Optical Characteristics at TA=25°C

Parameter	Symbol	Value	Unit
Chromaticity coordinate x acc.to CIE1931 IF=30mA [Typ.]	X ^{Note1}	0.33	-
Chromaticity coordinate y acc.to CIE1931 IF=30mA [Typ.]	Y ^{Note1}	0.34	-
Forward Voltage IF=30mA [Min.]	VF ^{Note2}	2.7	V
Forward Voltage IF=30mA [Typ.]		3.35	
Forward Voltage IF=30mA [Max.]		3.9	
Reverse Current (VR=5V) [Typ.]	IR	0.01	μA
Reverse Current (VR=5V) [Max.]		10	
Temperature coefficient of x IF=30mA, $-10^\circ\text{C} \leq T \leq 100^\circ\text{C}$ [Typ.]	TCx	-0.1	$10^{-3}/^\circ\text{C}$
Temperature coefficient of y IF=30mA, $-10^\circ\text{C} \leq T \leq 100^\circ\text{C}$ [Typ.]	TCy	-0.2	$10^{-3}/^\circ\text{C}$
Temperature coefficient of VF IF=30mA, $-10^\circ\text{C} \leq T \leq 100^\circ\text{C}$ [Typ.]	TCv	-3.0	mV/°C

Notes:

- 1.Chromaticity coordinates are measured by a current pulse of 20ms with a tolerance of ± 0.01 in X and Y color coordinates.
- 2.Forward voltage is measured with a current pulse of 10ms at a tolerance of $\pm 0.1\text{V}$.

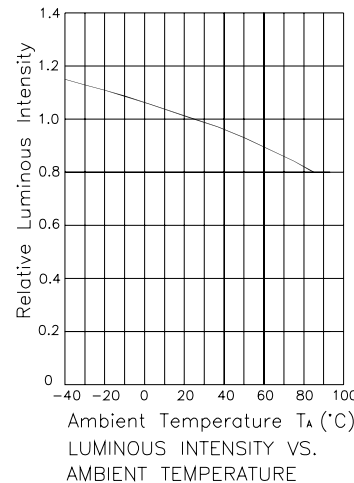
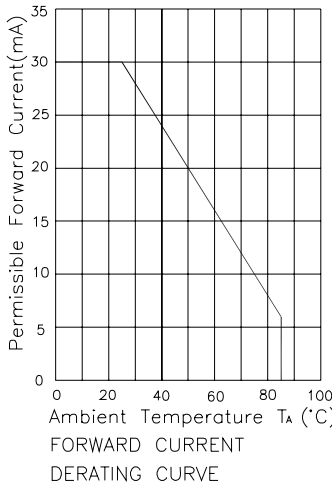
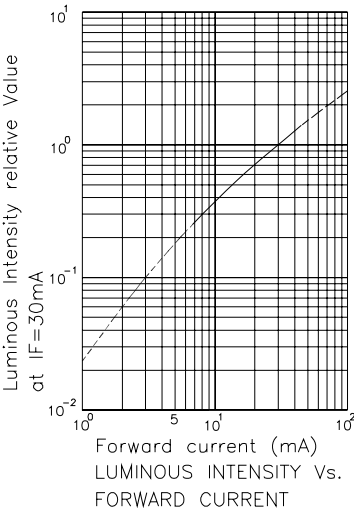
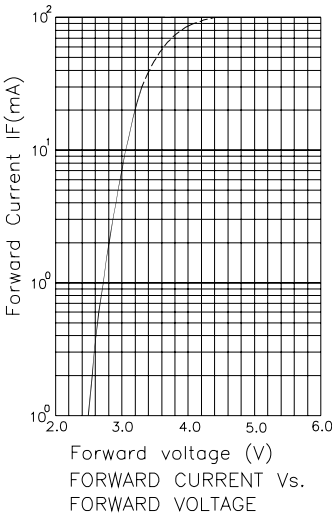
Brightness codes

luminous Intensity ^{Note1} Iv(mcd) @ 30mA			$\Phi_v(\text{mIm})$ ^{Note2} @ 30 mA
Code.	Min.	Max.	Typ.
ZE	5700	7500	3100
ZF	6700	8500	3600
ZG	7500	10000	4100
ZH	8000	12000	4900
ZM	10000	16000	6200
ZN	12000	20000	7500
ZP	16000	24000	9600
ZQ	20000	32000	12200

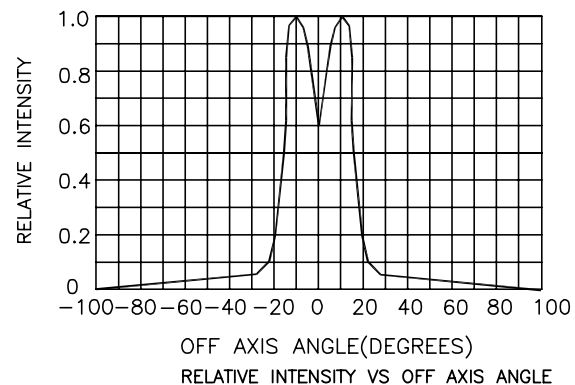
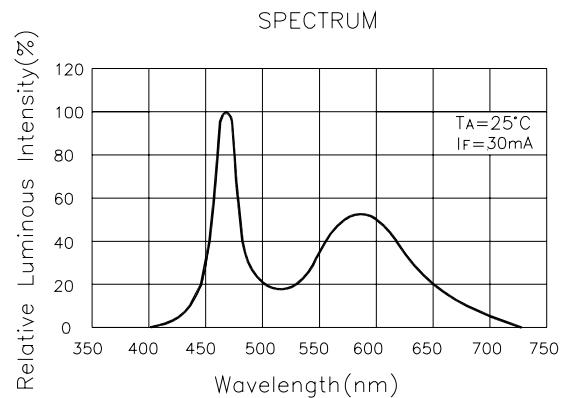
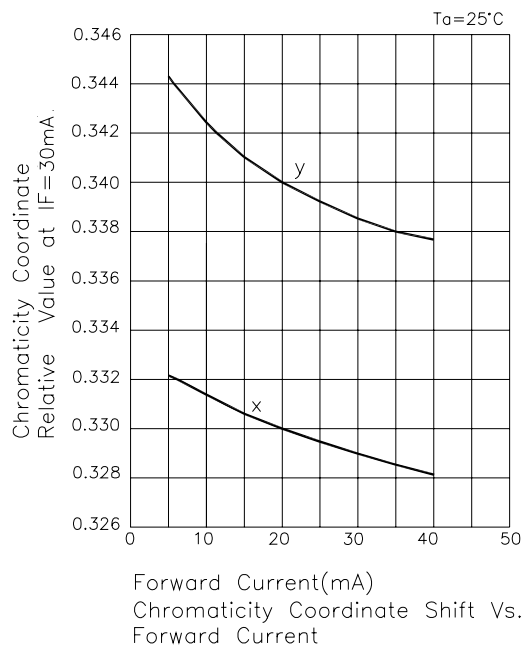
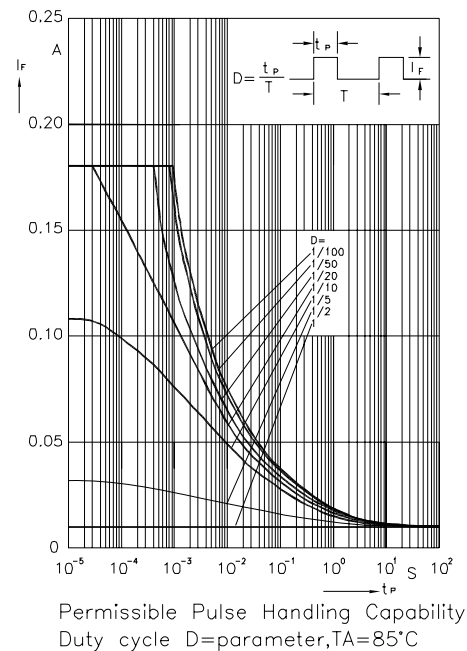
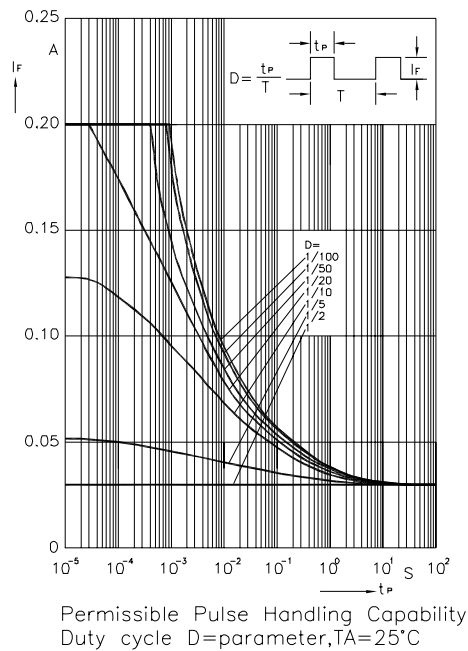
Notes:
1.Luminous intensity is measured by a current pulse of 10ms at a tolerance of $\pm 15\%$.
2.The typical data of Luminous Flux can only reflect statistical figures, actual parameters of individual product could differ from the typical data. For the purpose of product enhancement, the typical data is subject to change without prior notice.

White

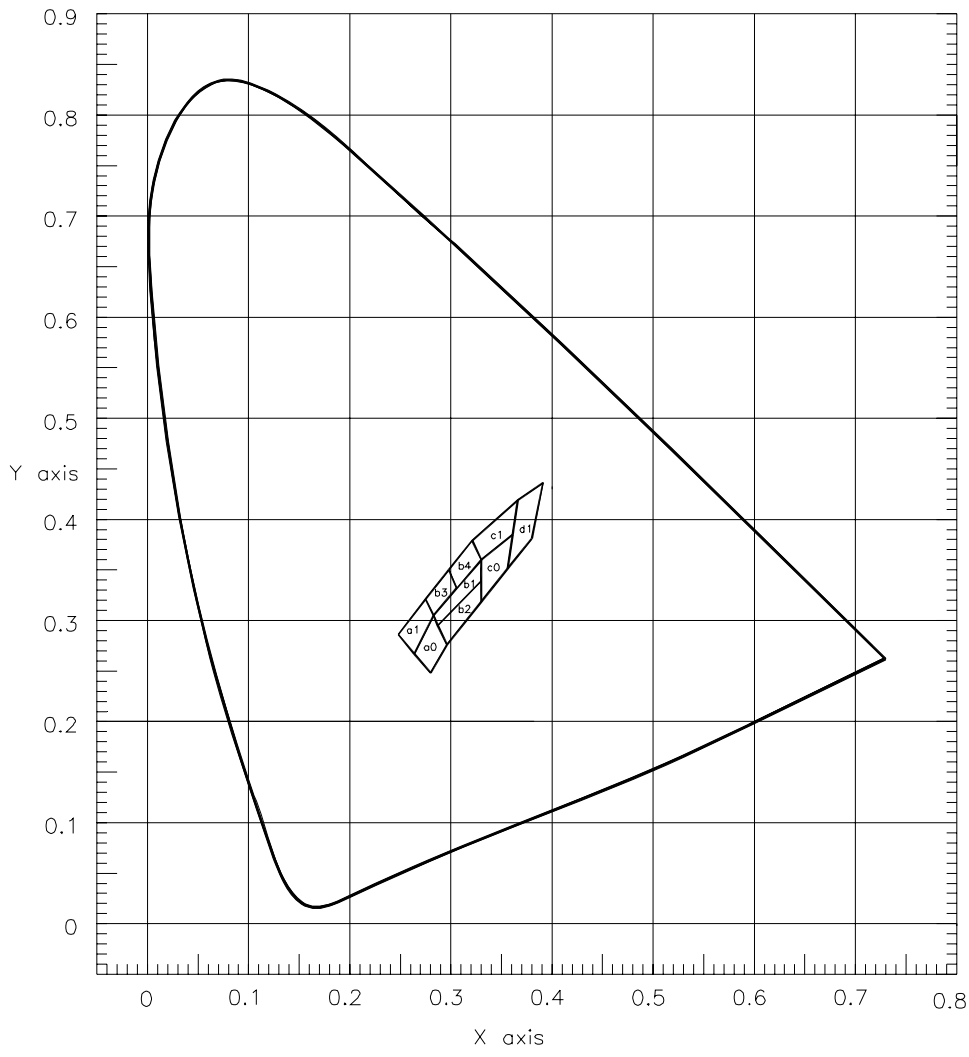
WP7677C2RWC/Z



Figures



WP7677C2RWC/Z



a1				
X	0.248	0.275	0.283	0.264
Y	0.286	0.321	0.305	0.267

b1				
X	0.283	0.330	0.330	0.287
Y	0.305	0.360	0.339	0.295

c1				
X	0.321	0.366	0.361	0.330
Y	0.379	0.419	0.385	0.360

a0				
X	0.264	0.283	0.296	0.280
Y	0.267	0.305	0.276	0.248

b2				
X	0.287	0.330	0.330	0.296
Y	0.295	0.339	0.318	0.276

c0				
X	0.330	0.361	0.356	0.330
Y	0.360	0.385	0.351	0.318

b3				
X	0.275	0.298	0.306	0.283
Y	0.321	0.350	0.332	0.305

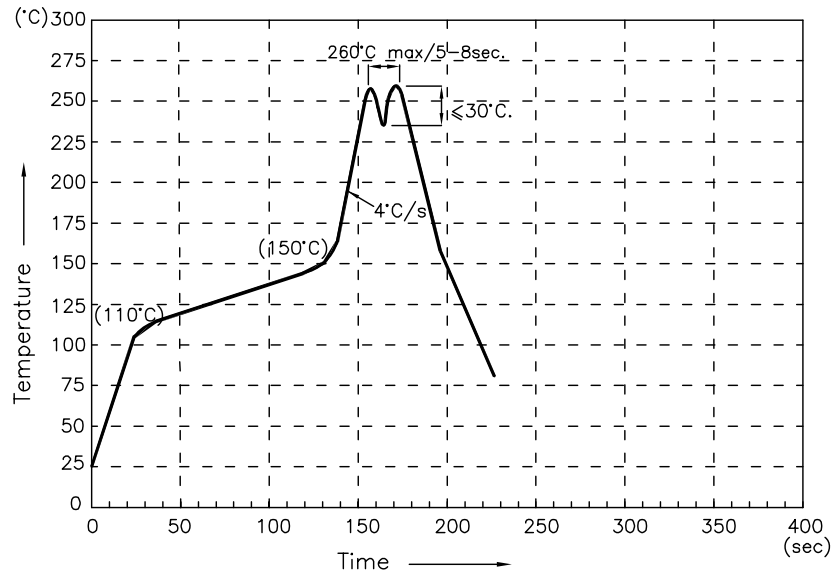
b4				
X	0.298	0.321	0.330	0.306
Y	0.350	0.379	0.360	0.332

d1				
X	0.366	0.391	0.380	0.356
Y	0.419	0.436	0.381	0.351

Ta=25°, IF=20mA Measurement Uncertainty of the Color Coordinates: +/-0.01

WP7677C2RWC/Z

Wave Soldering Profile For Lead-free Through-hole LED.

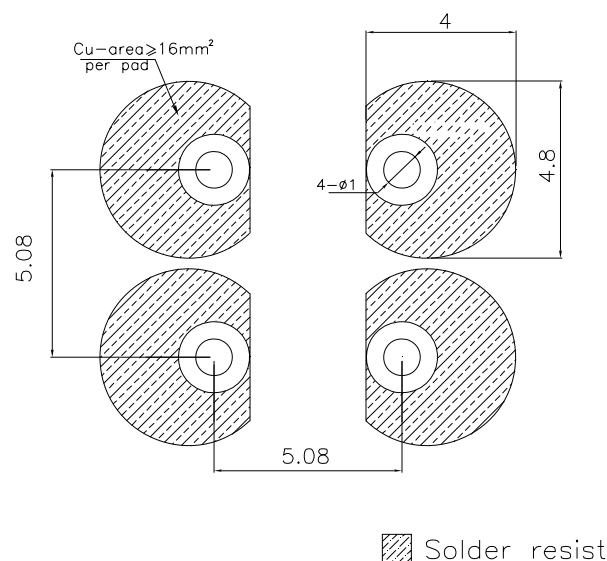


NOTES:

- 1.Recommend the wave temperature 245°C~260°C.The maximum soldering temperature should be less than 260°C.
- 2.Do not apply stress on epoxy resins when temperature is over 85 degree°C.
- 3.The soldering profile apply to the lead free soldering (Sn/Cu/Ag alloy).
- 4.No more than once.

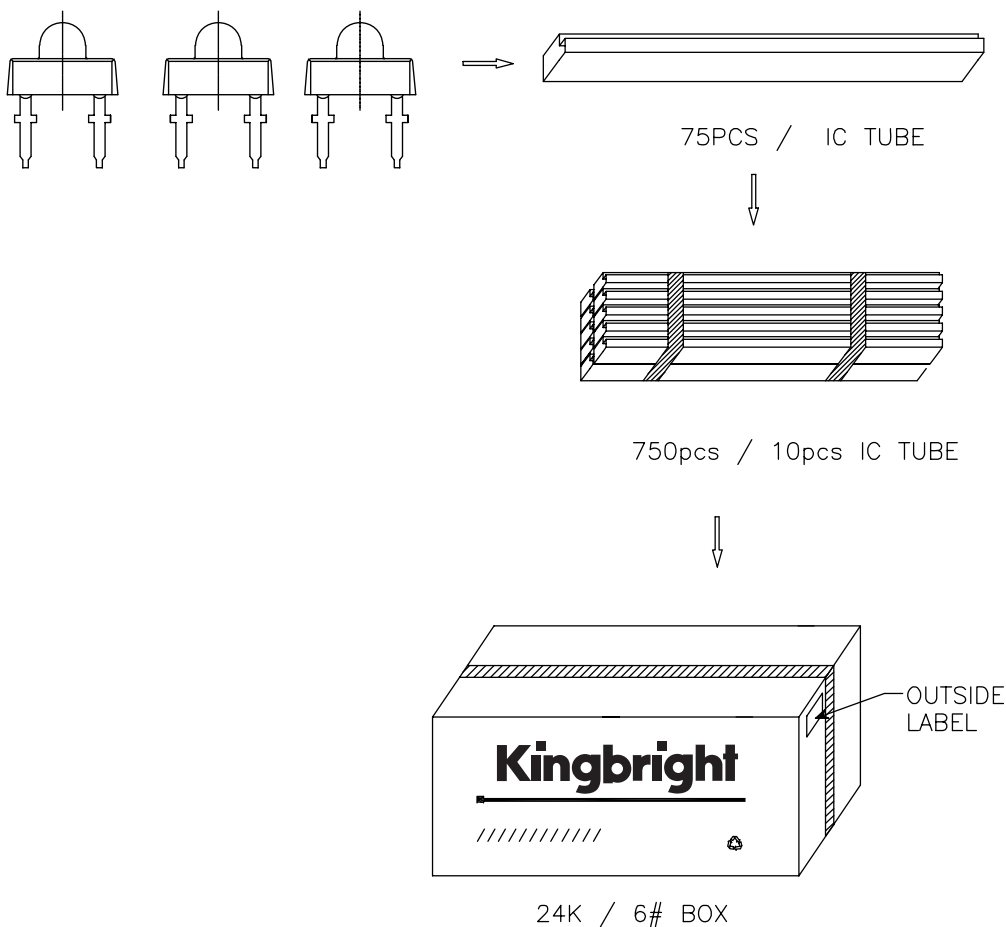
Recommended Soldering Pattern (Units : mm; Tolerance: ±0.1)

Pad design for improved heat dissipation



PACKING & LABEL SPECIFICATIONS

WP7677C2RWC/Z



Kingbright	
Q.C.	
TYPE NO : WP7677C2xxx	
QUANTITY : 750 pcs	
S/N : XX	CODE: XXX
LOT NO : 	
MADE IN CHINA	
RoHS Compliant	

QC
XX XX. XXXX
PASSED

Date

Mouser Electronics

Authorized Distributor

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