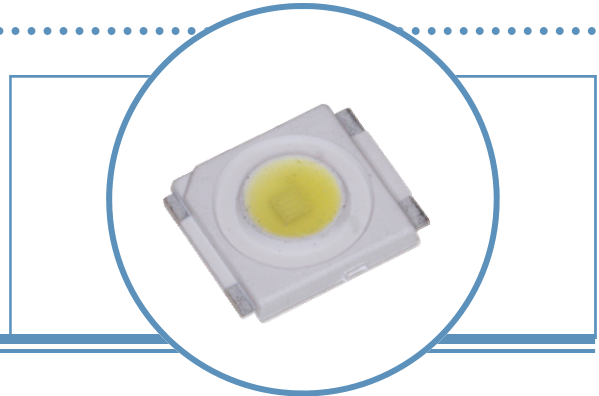


1-Watt SMD 6mm (120° Viewing Angle)

OVSPW1BCR4

- Robust energy-efficient design with long operating life
- Low thermal resistance—10 C/W
- Exceptional spatial uniformity
- Optional optics to suit application
- High Lumens output

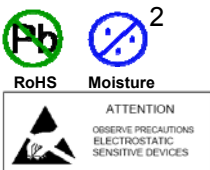
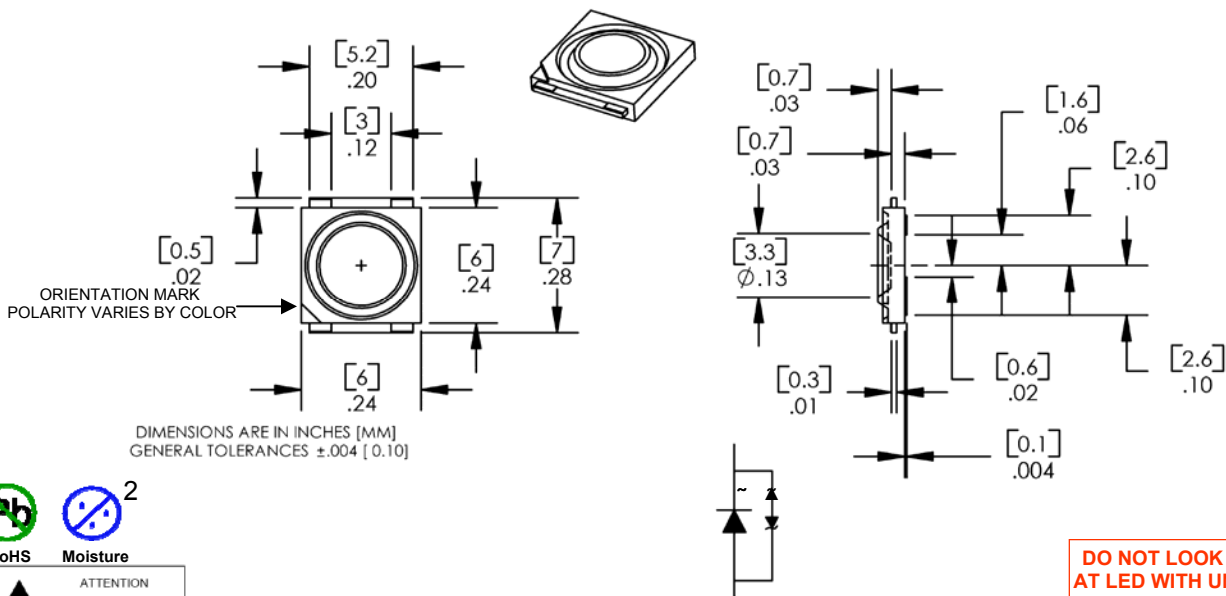


The **OVSPW1BCR4** is an energy-efficient packaged LED source that offers high luminance, and a long operating lifespan. This device offers a 120° viewing angle and an ultra-low profile (1.5mm) making it highly suitable for conventional lighting and specialized applications. Optional optics are offered to suit application. Please contact OPTEK for more information.

Applications

- Automotive exterior and interior lighting
- Architectural indoor and outdoor lighting
- General lighting
- Electronic signs and signals

Part Number	Viewing Angle	Emitted Color	Typical Luminous Flux (lm)	Typical On-Axis Intensity (cd)	Lens Color
OVSPW1BCR4	120 °	White	90	na	Water Clear



DO NOT LOOK DIRECTLY AT LED WITH UNSHIELDED EYES OR DAMAGE TO RETINA MAY OCCUR.

1-Watt SMD 6mm OVSPW1BCR4



Absolute Maximum Ratings $T_A = 25^\circ\text{C}$

DC Forward Current	350mA
Peak Pulsed Forward Current ¹	1000mA
Reverse Voltage	Not designed for reverse bias
Junction Temperature ²	125°C
Power Dissipation	1200mW
Storage and Operating Temperature	-40° ~ +100 ° C
ESD Threshold (HBM)	2000V

Notes:

1. Pulse width $t_p \leq 10\mu\text{s}$, Duty cycle = 0.1
2. Thermal conductivity = 10 C/W

Optical and Electrical Characteristics

($I_F = 350\text{ mA}$, $T_A = 25^\circ\text{C}$)

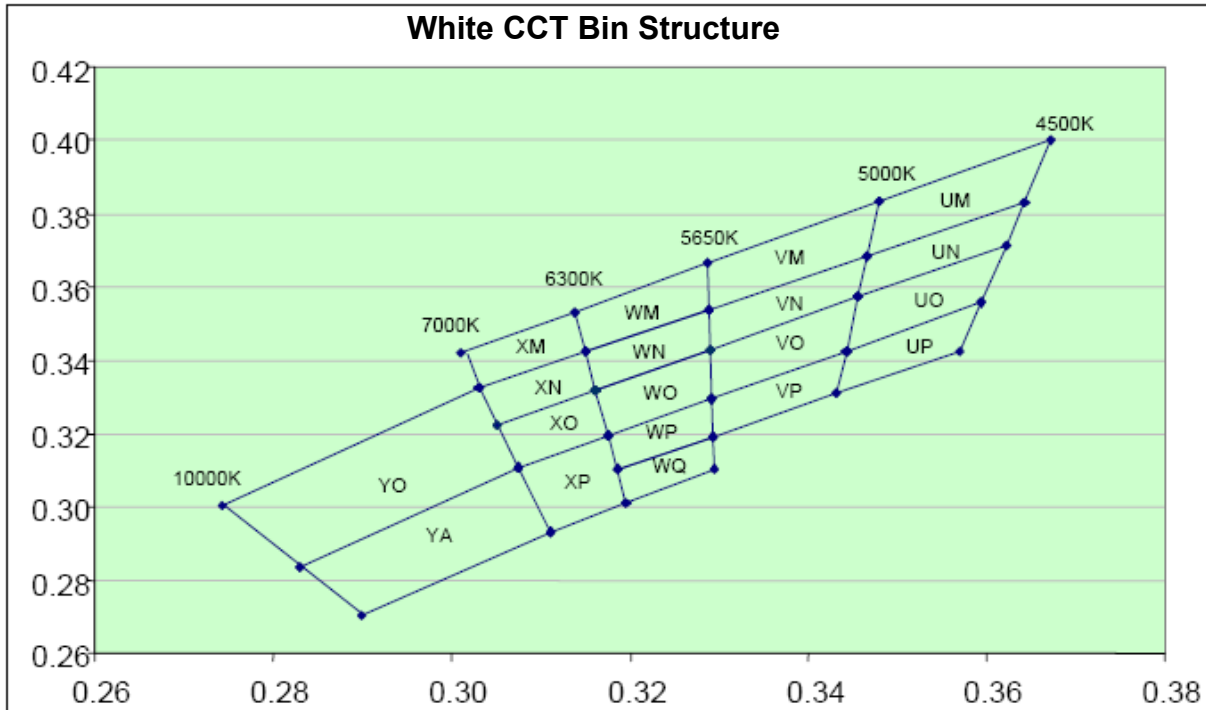
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS
V_F	Forward Voltage	3.0	3.5	4.0	V
Φ	Luminous Flux	67	90	113	lm
I_R	Reverse Current	----	10	----	μA
$2\theta_{1/2}$	50% Power Angle	----	120	----	deg

1-Watt SMD 6mm OVSPW1BCR4



Standard Bins ($I_F = 350 \text{ mA}$) **OVSPW1BCR4 (White)**

LEDs are sorted to luminous flux (Φ), chromaticity coordinates, and correlated color temperature (CCT) bins shown. Orders may be filled with any or all bins contained as below.



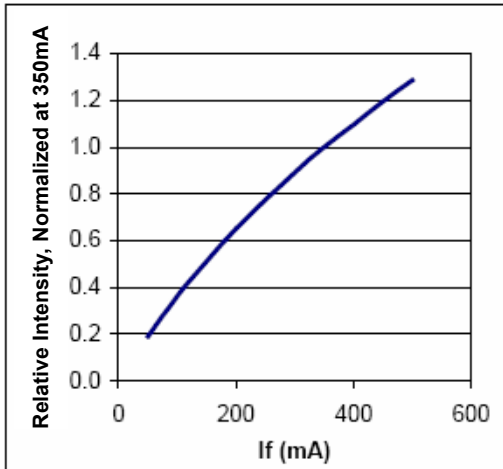
Color Bin	Minimum CCT (K)	Maximum CCT (K)
U	4500	5000
V	5000	5650
W	5650	6300
X	6300	7000
Y	7000	10000

Φ	Luminous Flux (lm)	
Bin	Min	Max
T2	67.2	76.5
T3	76.5	87.4
U2	87.4	99.4
U3	99.4	113.6

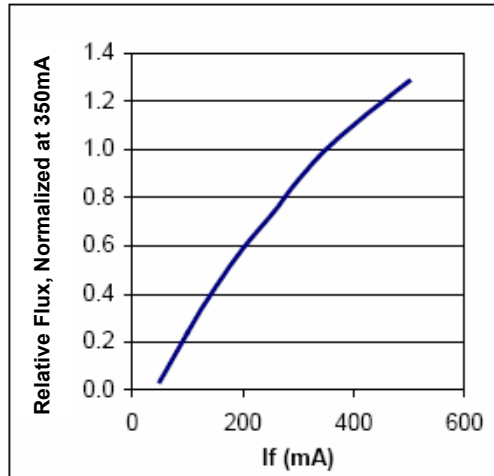
Bin		1	2	3	4
YO	Cx	0.274	0.303	0.308	0.283
	Cy	0.301	0.333	0.311	0.284
YA	Cx	0.283	0.308	0.311	0.290
	Cy	0.284	0.311	0.293	0.270
XM	Cx	0.301	0.314	0.315	0.303
	Cy	0.342	0.353	0.343	0.333
XN	Cx	0.303	0.315	0.316	0.305
	Cy	0.333	0.343	0.332	0.322
XO	Cx	0.305	0.316	0.318	0.308
	Cy	0.322	0.332	0.319	0.311
XP	Cx	0.308	0.318	0.320	0.311
	Cy	0.311	0.319	0.301	0.293
WM	Cx	0.314	0.329	0.329	0.315
	Cy	0.353	0.366	0.354	0.343
WN	Cx	0.315	0.329	0.329	0.316
	Cy	0.343	0.354	0.343	0.332
WO	Cx	0.316	0.329	0.329	0.318
	Cy	0.332	0.343	0.330	0.319
WP	Cx	0.318	0.329	0.329	0.319
	Cy	0.319	0.330	0.319	0.310
WQ	Cx	0.319	0.329	0.330	0.320
	Cy	0.310	0.319	0.311	0.301
VM	Cx	0.329	0.348	0.347	0.329
	Cy	0.366	0.383	0.368	0.354
VN	Cx	0.329	0.347	0.346	0.329
	Cy	0.354	0.368	0.357	0.343
VO	Cx	0.329	0.346	0.344	0.329
	Cy	0.343	0.357	0.343	0.330
VP	Cx	0.329	0.344	0.343	0.329
	Cy	0.330	0.343	0.331	0.319
UM	Cx	0.348	0.367	0.364	0.347
	Cy	0.383	0.400	0.383	0.368
UN	Cx	0.347	0.364	0.362	0.346
	Cy	0.368	0.383	0.372	0.357
UO	Cx	0.346	0.362	0.359	0.344
	Cy	0.357	0.372	0.356	0.343
UP	Cx	0.344	0.359	0.357	0.343
	Cy	0.343	0.356	0.343	0.331

Typical Electro-Optical Characteristics Curves

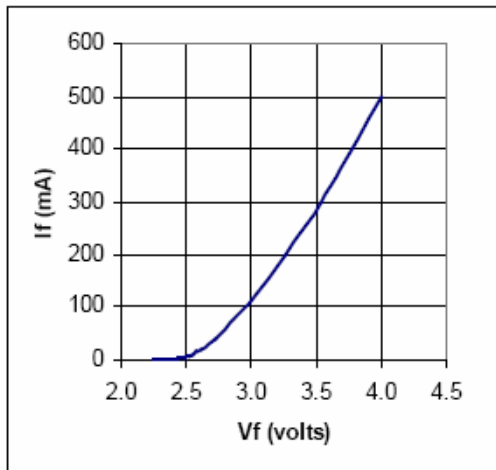
Relative luminous intensity vs. forward current.



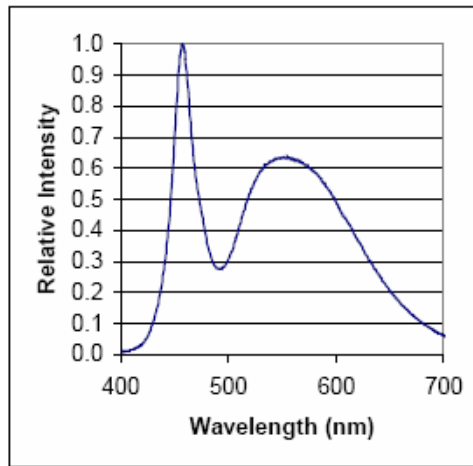
Flux vs. forward current.



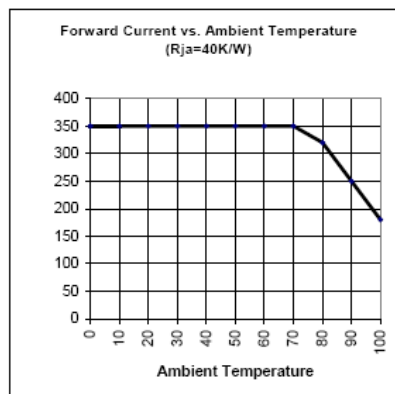
Forward current vs. forward voltage.



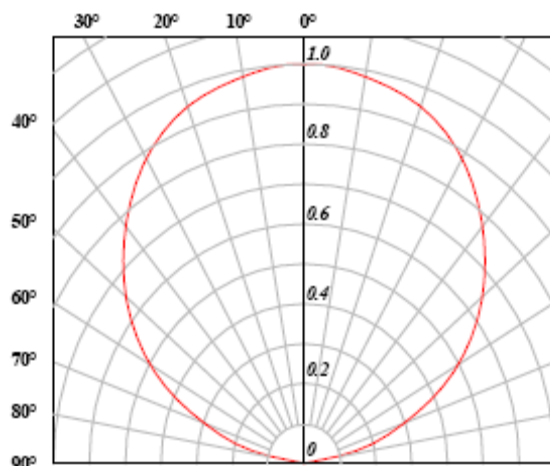
Relative Spectra Emission



Maximum Permissible Current

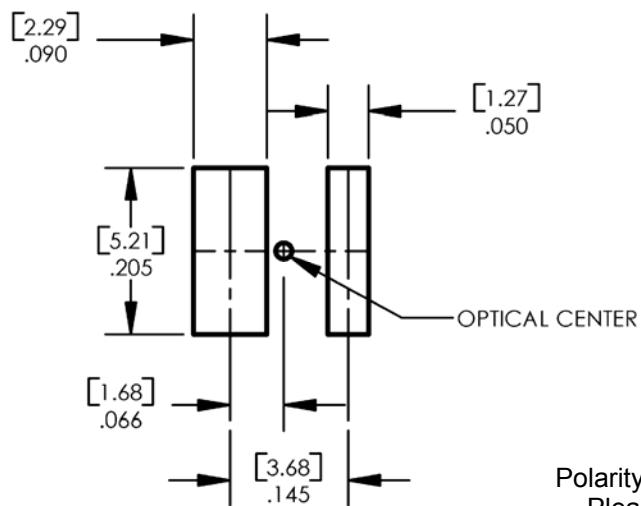


Radiation Pattern



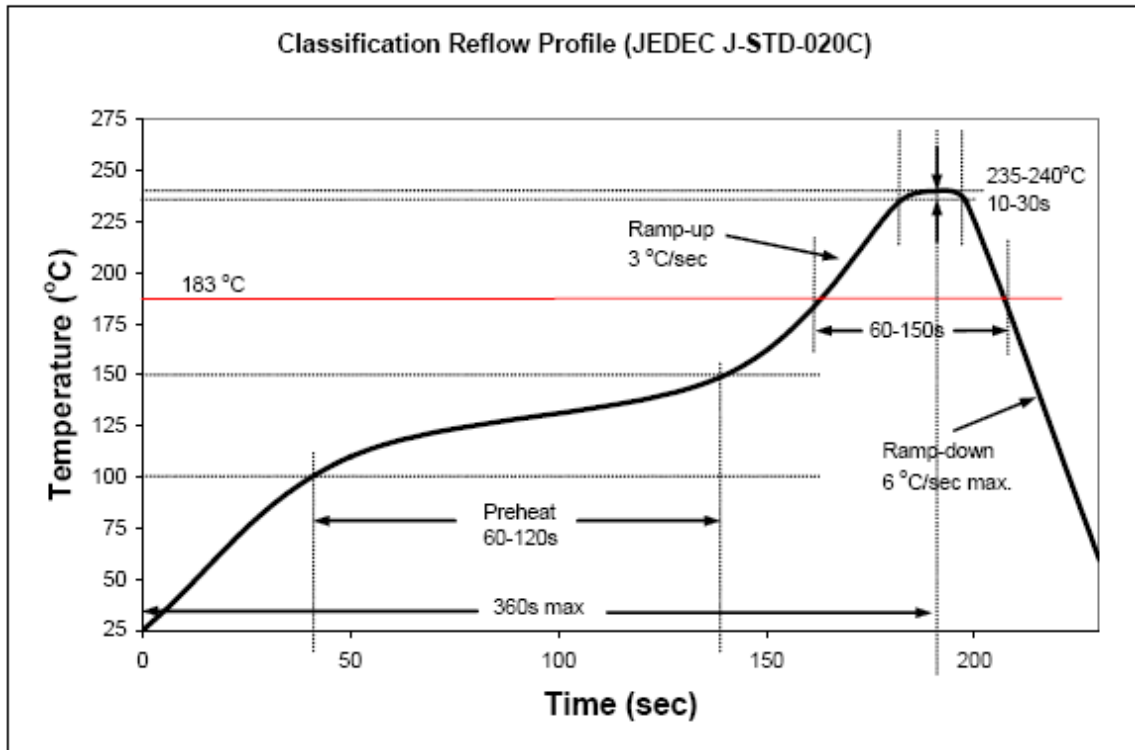
Solder Pad Design

Note: Metal core circuit board (MCPCB) is highly recommended for high density applications. Please consult sales and marketing for additional information.

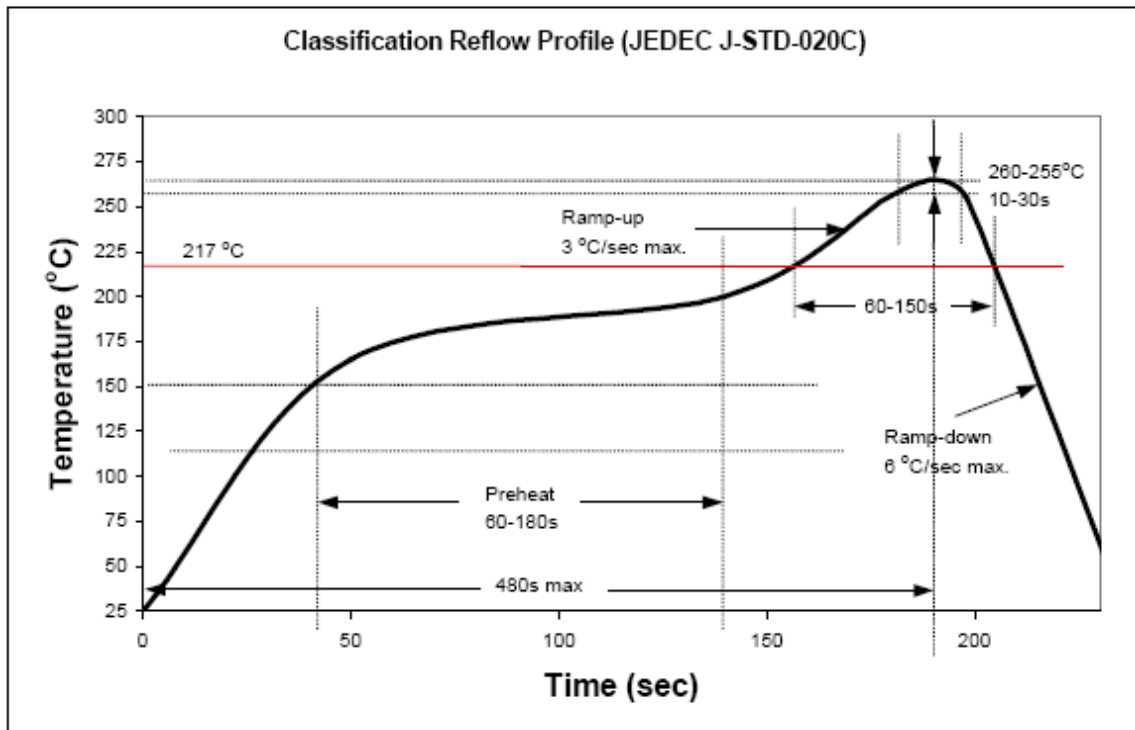


Polarity varies with color.
Please see Page 1.

Recommended Sn-Pb IR-Reflow Soldering Profile.



Recommended Pb Free IR-Reflow Soldering Profile.



1-Watt SMD 6mm OVSPW1BCR4

Moisture Resistant Packaging

