

1-Watt SMD 6 mm (120° Viewing Angle)

OVSPxBCR4 Series



Features:

- Robust energy-efficient design with long operating life
- Low thermal resistance
- High luminous intensity
- Optional optics to suit application



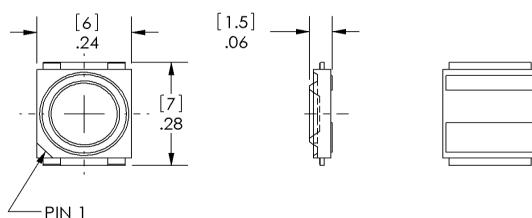
Description:

The OVSPxBCR4 Series is an energy-efficient packaged LED source that offers high luminance, and a long operating lifespan. These devices offer a 120° viewing angle and an ultra-low profile (1.5mm) making them highly suitable for conventional lighting and specialized applications. Optional optics are offered to suit application. Please contact OPTEK for more information.

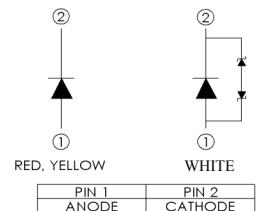
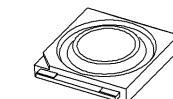
Applications:

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

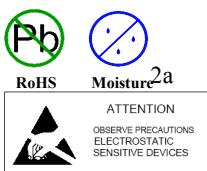
Part Number	Viewing Angle	Material	Emitted Color	Typical Luminous Flux (lm)	Lens Color
OVSPRBCR4	120°	AllnGaP	Red	42	Water Clear
OVSPYBCR4		AllnGaP	Yellow	34	Water Clear
OVSPW1BCR4		InGaN	White	90	Water Clear



DIMENSIONS ARE IN INCHES [MM]
GENERAL TOLERANCES ±.004 [0.10]



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



General Note
TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

© TT electronics plc

TT Electronics | Optek Technology, Inc.
1645 Wallace Drive, Ste. 130, Carrollton, TX USA 75006 | Ph: +1 972 323 2200
www.ttelelectronics.com | sensors@ttelelectronics.com

Issue E 08/2017 Page 1

1-Watt SMD 6 mm (120° Viewing Angle)



OVSPxBCR4 Series

Electrical Specifications

Absolute Maximum Ratings ($T_A = 25^\circ C$ unless otherwise noted)		
	Red, Yellow	White
DC Forward Current	400mA	350mA
Peak Pulsed Forward Current ¹	500mA	1000mA
Reverse Voltage	12V	Not designed for reverse bias
Junction Temperature ²	125°C	150°C
Power Dissipation	1200mW	1200mW
Storage and Operating Temperature	-40° ~ +100 ° C	-40° ~ +100 ° C
MSL Level (IPC/JEDEC J-STD-020C)	2a / 672 Hrs	2a / 672 Hrs
ESD Threshold (HBM)	Class 2	Class 2

Optical and Electrical Characteristics—Red, Yellow ($I_F = 400$ mA, $T_A = 25^\circ C$)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS
V_F	Forward Voltage	2.2	2.5	2.8	V
Φ	Luminous Flux	Red	33	42	lm
		Yellow	27	34	lm
λ_D	Dominant Wavelength	Red	620	625	nm
		Yellow	585	591	nm
I_R	Reverse Current	----	100	----	μA
$2\Theta_{1/2}$	50% Power Angle	----	120	----	deg

Optical and Electrical Characteristics—White ($I_F = 350$ mA, $T_A = 25^\circ C$)

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

General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

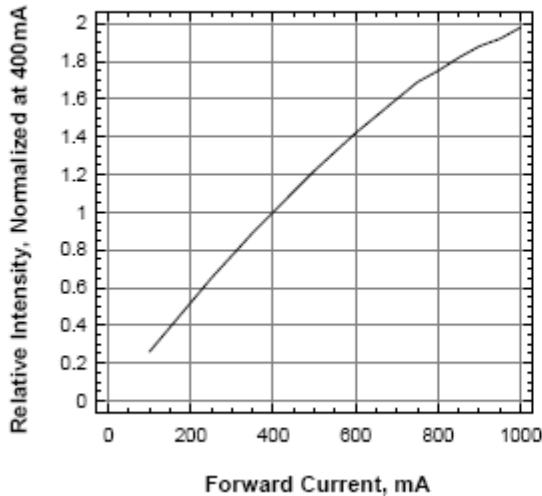
1-Watt SMD 6 mm (120° Viewing Angle)

OVSPxBCR4 Series

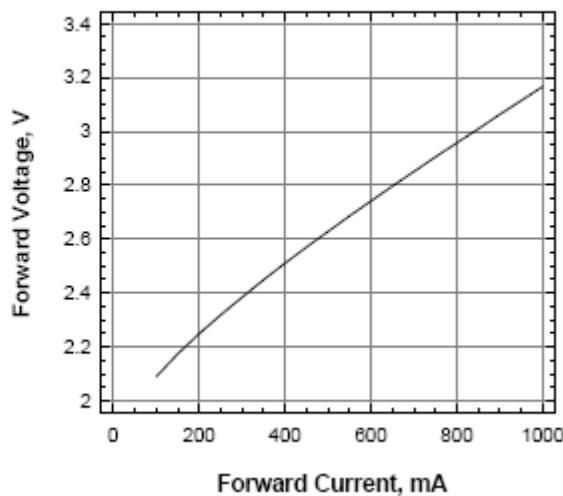


Typical Electro-Optical Characteristics Curves—Red, Yellow

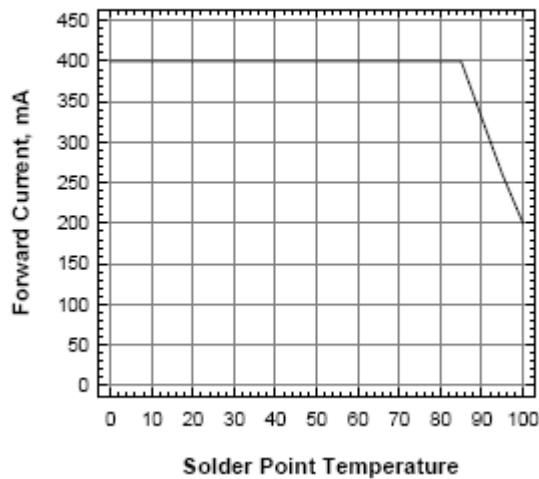
Relative Intensity Vs Forward Current



Forward Voltage Vs Forward Current



Maximum Current Vs Solder Point Temperature



General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

© TT electronics plc

TT Electronics | Optek Technology, Inc.
1645 Wallace Drive, Ste. 130, Carrollton, TX USA 75006 | Ph: +1 972 323 2200
www.ttelelectronics.com | sensors@ttelelectronics.com

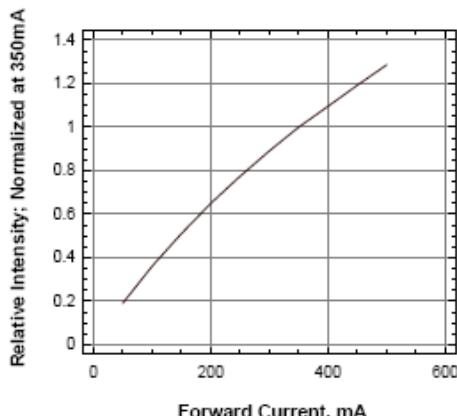
1-Watt SMD 6 mm (120° Viewing Angle)

OVSPxBCR4 Series

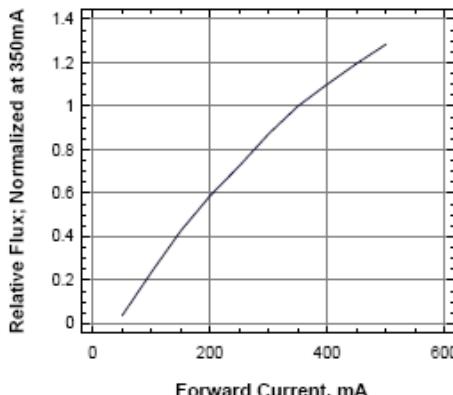


Typical Electro-Optical Characteristics Curves—White

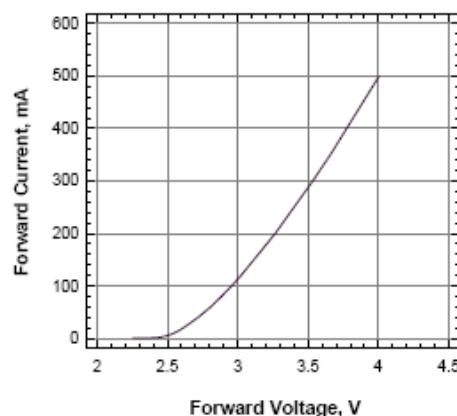
Relative Intensity Vs Forward Current



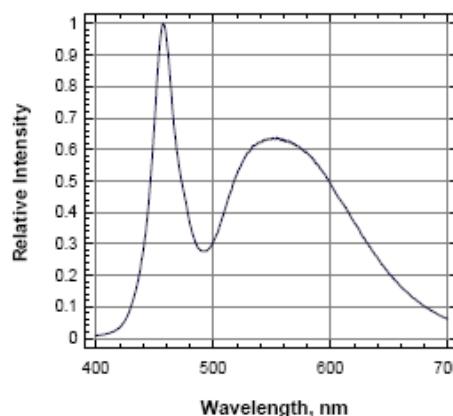
Relative Flux Vs Forward Current



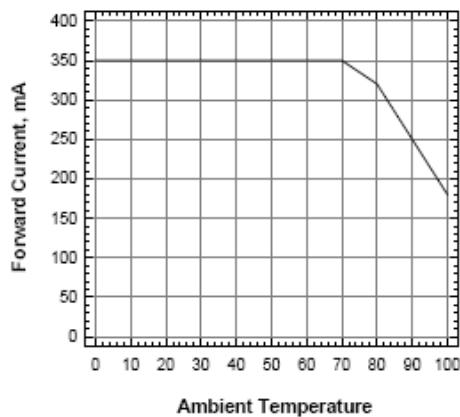
Forward Current Vs Forward Voltage



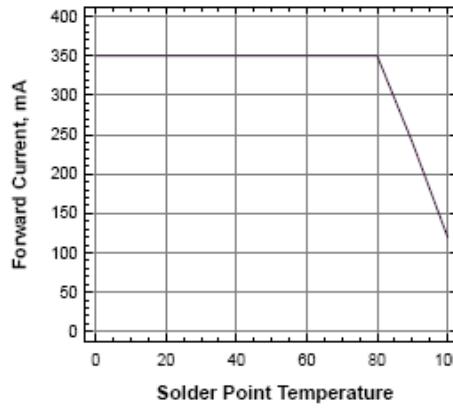
Relative Spectral Emission



Forward Current Vs Ambient Temperature ($R_{JA}=40\text{K/W}$)



Forward Current Vs Solder Point Temperature



General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

© TT electronics plc

TT Electronics | Optek Technology, Inc.
1645 Wallace Drive, Ste. 130, Carrollton, TX USA 75006 | Ph: +1 972 323 2200
www.ttelectronics.com | sensors@ttelectronics.com

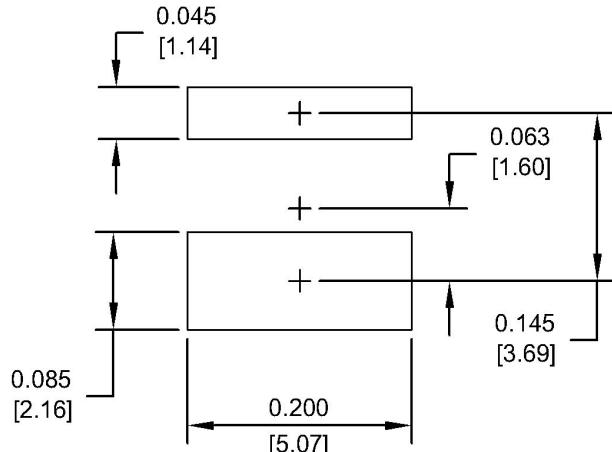
1-Watt SMD 6 mm (120° Viewing Angle)



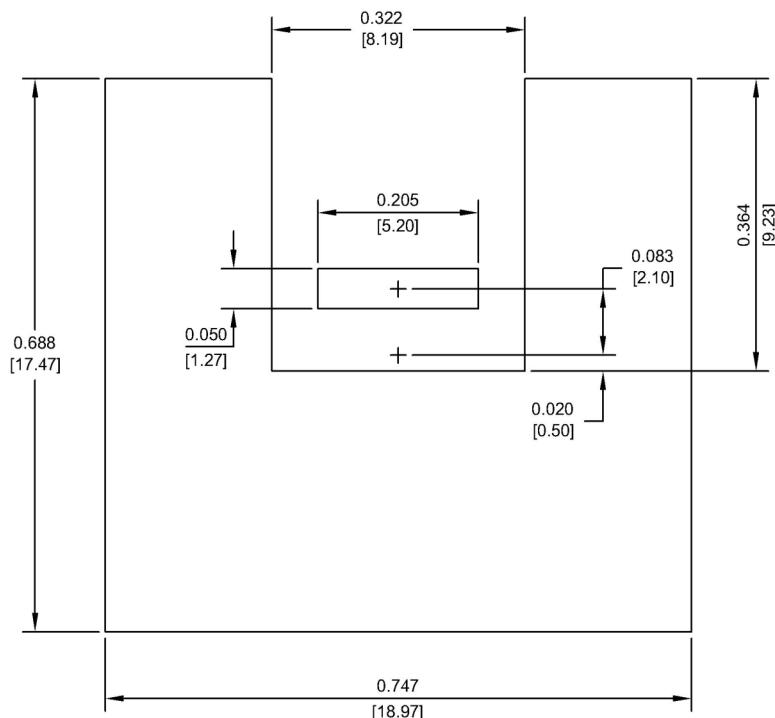
OVSPxBCR4 Series

Solder Pad Design

Metal core circuit board (MCPBC) is highly recommended for high density applications.



Solder Paste Pattern



Copper Pattern

General Note

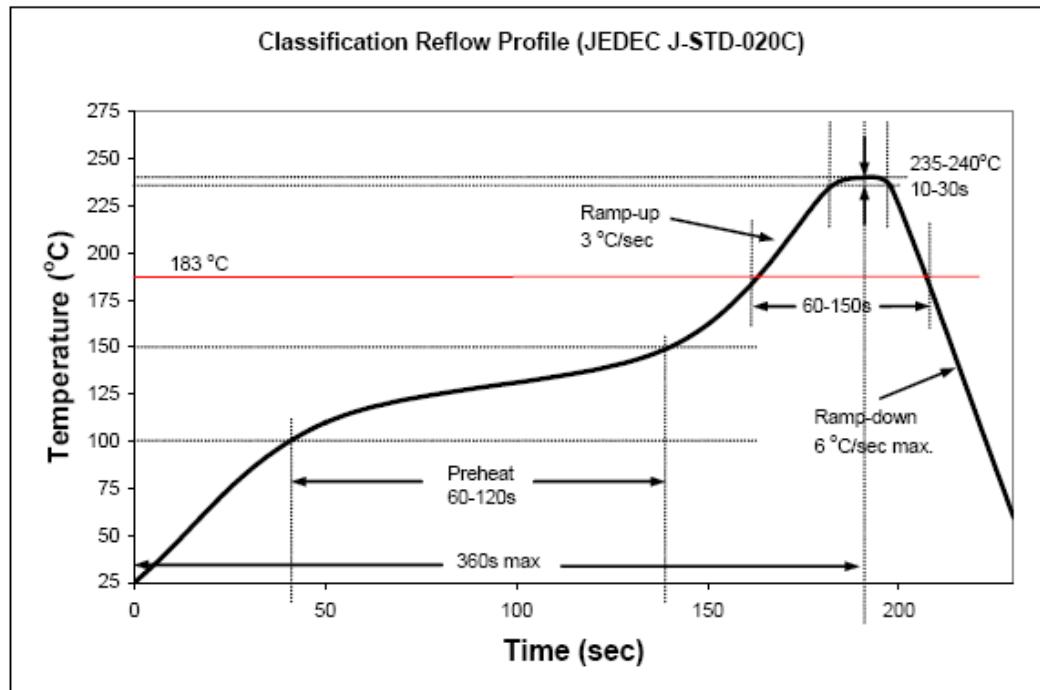
TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

1-Watt SMD 6 mm (120° Viewing Angle)

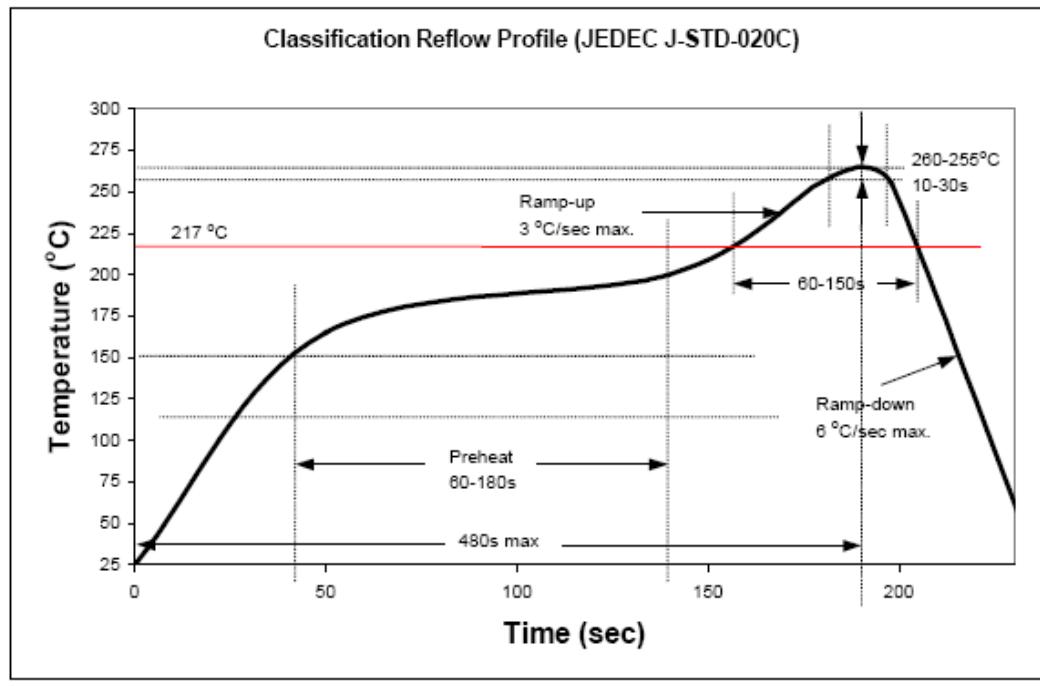


OVSPxBCR4 Series

Recommended Sn-Pb IR-Reflow Soldering Profile.



Recommended Pb Free IR-Reflow Soldering Profile.



General Note

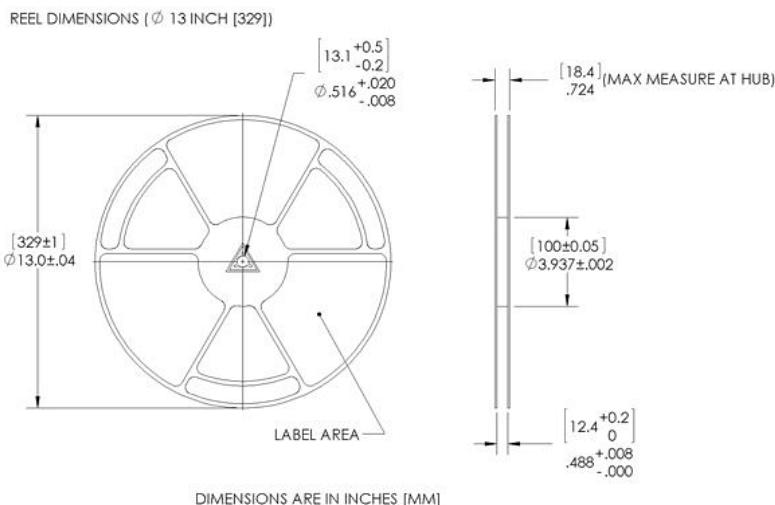
TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

1-Watt SMD 6 mm (120° Viewing Angle)

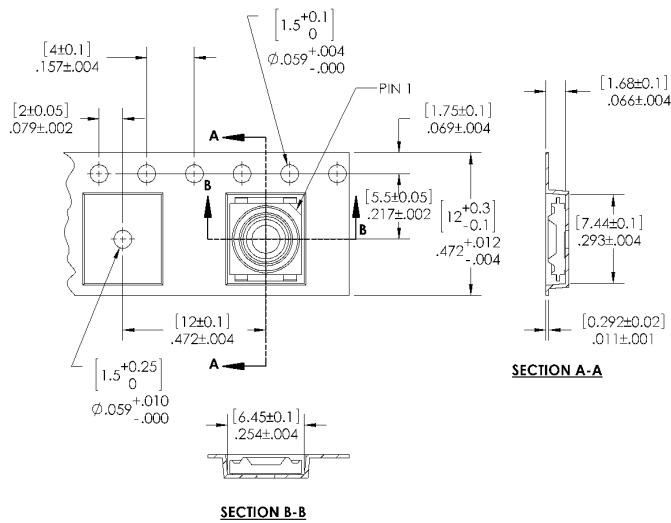
OVSPxBCR4 Series



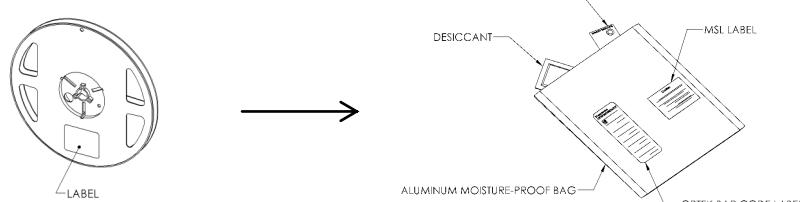
Reel Dimensions: 13 - inch reel



Carrier Tape Dimensions: Loaded quantity 2000 pieces per reel



Moisture Resistant Packaging



General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.