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LIGHT BAR LED DISPLAY

**LBD711SBK-XX**

**DATA SHEET**

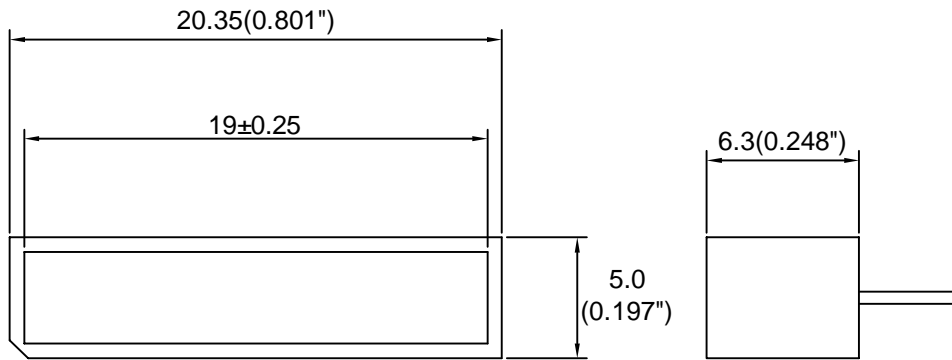
DOC. NO : QW0905-LBD711SBK-XX

REV. : A

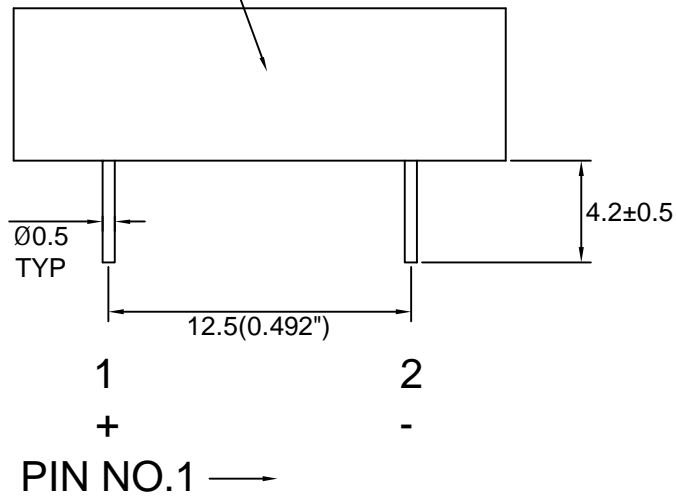
DATE : 18 - Aug. - 2005



### Package Dimensions



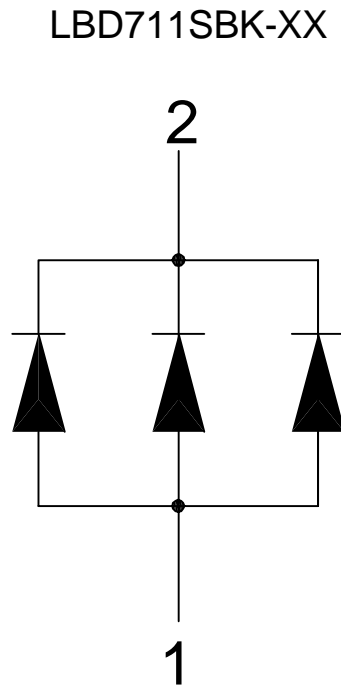
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Note : 1.All dimension are in millimeters and (Inch) tolerance is ±0.25mm unless otherwise noted.  
2.Specifications are subject to change without notice.



### Internal Circuit Diagram



### Electrical Connection

PIN NO.1	LBD711SBK-XX
1	Anode
2	Cathode

**Absolute Maximum Ratings at Ta=25**

Parameter	Symbol	Ratings	UNIT
		SBK	
Forward Current Per Chip	IF	30	mA
Peak Forward Current Per Chip (Duty 1/10,0.1ms Pulse Width)	IFP	100	mA
Power Dissipation Per Chip	PD	120	mW
Reverse Current Per Any Chip	Ir	50	μA
Electrostatic Discharge	ESD	500	V
Operating Temperature	Topr	-25 ~ +85	
Storage Temperature	Tstg	-25 ~ +85	
Solder Temperature 1-16 Inch Below Seating Plane For 3 Seconds At 260			

**Part Selection And Application Information(Ratings at 25 )**

PART NO	CHIP		common cathode or anode	P (nm)	D (nm)	λ (nm)	Electrical				IV-M
	Material	Emitted					Vf(v)		Iv(mcd)		
							Typ.	Max.	Min.	Typ.	
LBD711SBK-XX	InGaN/SiC	Blue	Common Anode	468	470	26	3.5	4.2	10.5	18	2:1

Note : 1.The forward voltage data did not including ±0.1V testing tolerance.  
 2. The luminous intensity data did not including ±15% testing tolerance.

**Test Condition For Each Parameter**

Parameter	Symbol	Unit	Test Condition
Forward Voltage Per Chip	V <sub>f</sub>	volt	I <sub>f</sub> =20mA
Luminous Intensity Per Chip	I <sub>v</sub>	mcd	I <sub>f</sub> =30mA
Peak Wavelength	P	nm	I <sub>f</sub> =20mA
Dominant Wavelength	D	nm	I <sub>f</sub> =20mA
Spectral Line Half-Width		nm	I <sub>f</sub> =20mA
Reverse Current Any Chip	I <sub>r</sub>	μ A	V <sub>r</sub> =5V
Luminous Intensity Matching Ratio	IV-M		



### Typical Electro-Optical Characteristics Curve

SBK CHIP

Fig.1 Forward current vs. Forward Voltage

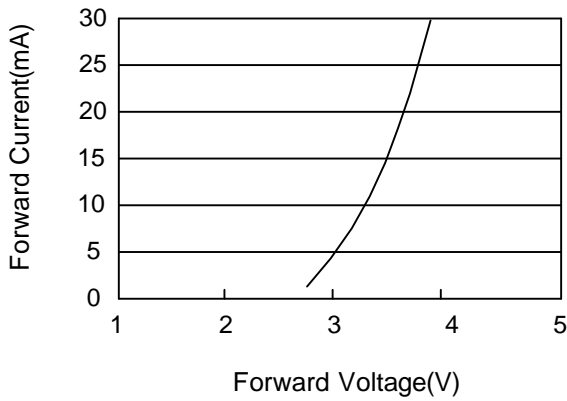


Fig.2 Relative Intensity vs. Forward Current

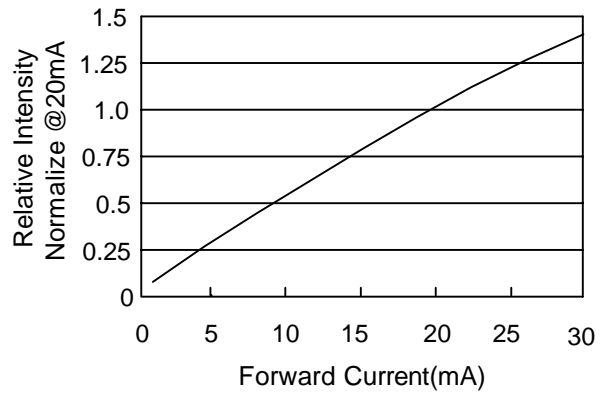


Fig.3 Forward Current vs. Temperature

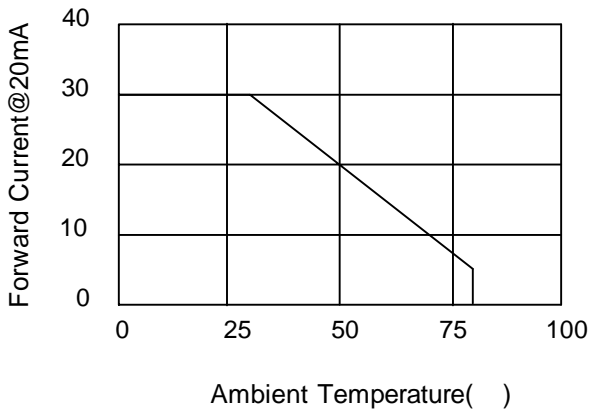
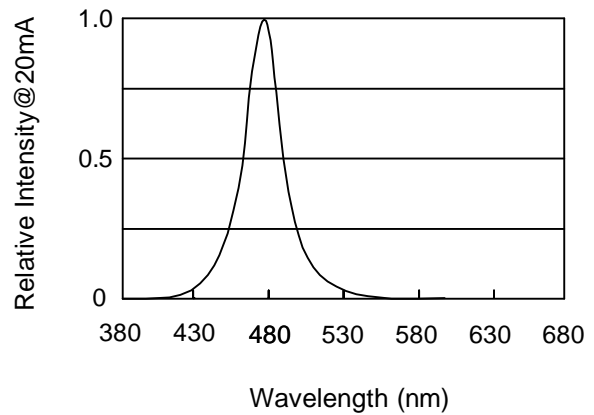


Fig.4 Relative Intensity vs. Wavelength



**Reliability Test:**

Test Item	Test Condition	Description	Reference Standard
Operating Life Test	1.Under Room Temperature 2.If=10mA 3.t=1000 hrs (-24hrs, +72hrs)	This test is conducted for the purpose of determining the resistance of a part in electrical and thermal stressed.	MIL-STD-750: 1026 MIL-STD-883: 1005 JIS C 7021: B-1
High Temperature Storage Test	1.Ta=105 ±5 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of high temperature for hours.	MIL-STD-883:1008 JIS C 7021: B-10
Low Temperature Storage Test	1.Ta=-40 ±5 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of low temperature for hours.	JIS C 7021: B-12
High Temperature High Humidity Test	1.Ta=65 ±5 2.RH=90%~95% 3.t=240hrs ±2hrs	The purpose of this test is the resistance of the device under tropical for hours.	MIL-STD-202:103B JIS C 7021: B-11
Thermal Shock Test	1.Ta=105 ±5 & -40 ±5 (10min) (10min) 2.total 10 cycles	The purpose of this is the resistance of the device to sudden extreme changes in high and low temperature.	MIL-STD-202: 107D MIL-STD-750: 1051 MIL-STD-883: 1011
Solder Resistance Test	1.T.Sol=260 ±5 2.Dwell time= 10 ±1sec.	This test intended to determine the thermal characteristic resistance of the device to sudden exposures at extreme changes in temperature when soldering the lead wire.	MIL-STD-202: 210A MIL-STD-750: 2031 JIS C 7021: A-1
Solderability Test	1.T.Sol=230 ±5 2.Dwell time=5 ±1sec	This test intended to see soldering well performed or not.	MIL-STD-202: 208D MIL-STD-750: 2026 MIL-STD-883: 2003 JIS C 7021: A-2