

BRIGHT LED ELECTRONICS CORP.

LED DISPLAY SPECIFICATION

●COMMODITY : 1.80"(44.80mm) SINGLE DIGIT LED DISPLAY

●DEVICE NUMBER : BS-CB04RD

VERSION : 1.0 / 2002.01.09

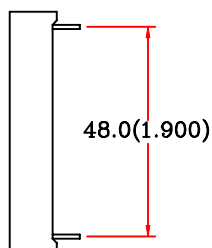
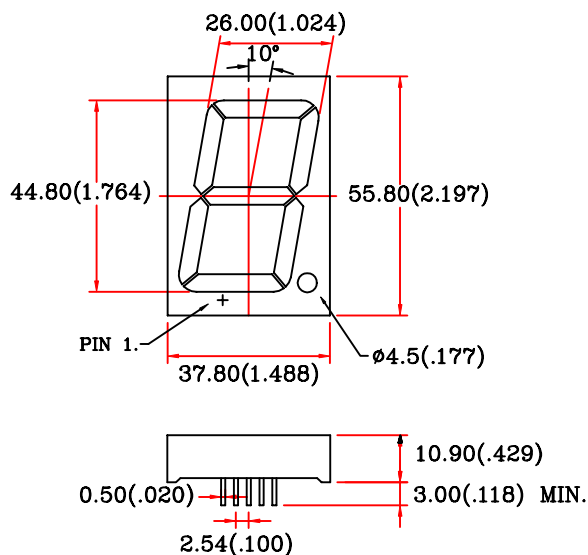
●ELECTRICAL AND OPTICAL CHARACTERISTICS (Ta=25°C)

Chip		Absolute Maximum Rating				Electro-optical Data (At 10mA)			Surface Color	Segment Color
Emitted Color	Peak Wave Length λ P(nm)									
		$\Delta \lambda$ (nm)	Pd (mW)	If (mA)	Peak If(mA)	Vf(V)		Iv Typ. (mcd)		
						Typ.	Max.			
Orange	635	45	240	30	150	6.0	7.5	7.0	Black	White

●ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Reverse Voltage 5V
Reverse Current (-Vr=5V) 50 μ A
Operating Temperature Range -40°C ~ 80°C
Storage Temperature Range -40°C ~ 85°C
Lead Soldering Temperature (1/16" From Body).....260°C For 5 Seconds

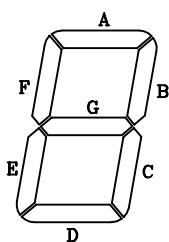
PACKAGE DIMENSIONS:



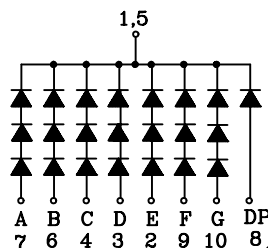
NOTES:

- 1.All dimensions are in millimeters(inches).
- 2.Tolerance is $\pm 0.25\text{mm}(.01")$ unless otherwise specified.
- 3.Specifications are subject to change without notice.

PIN FUNCTIONS:



RELEASED:



ENGINEER:

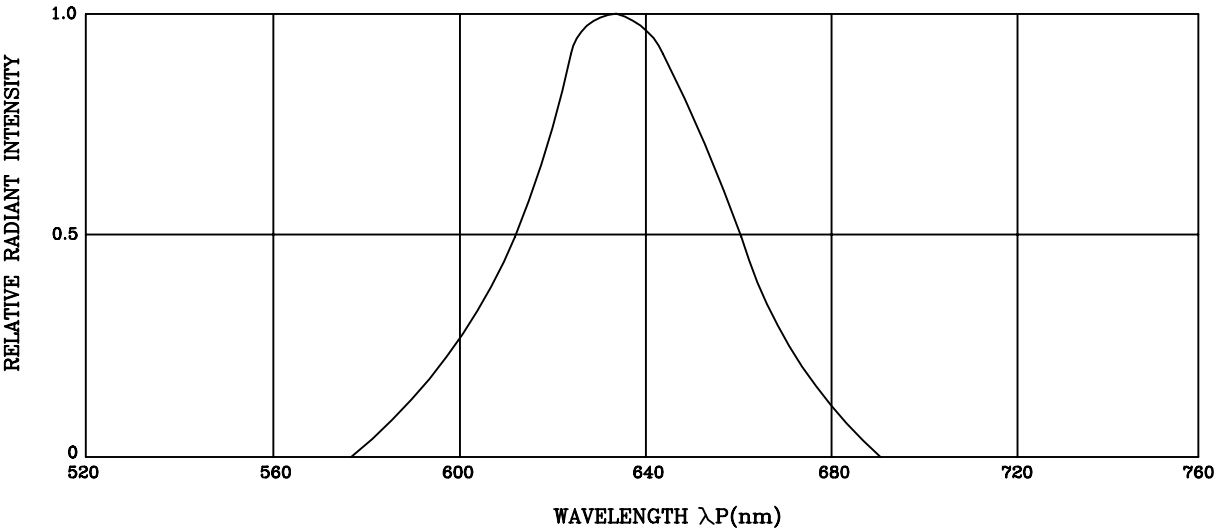


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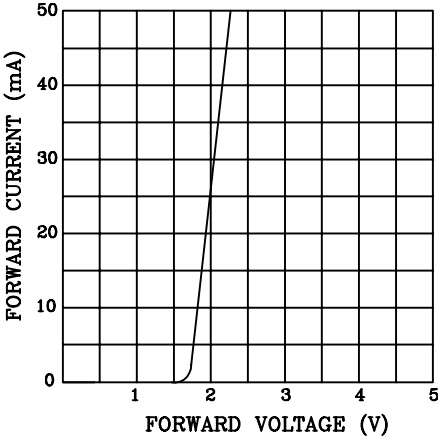
TYPICAL CHARACTERISTICS

DEVICE NUMBER: BS-CB04RD

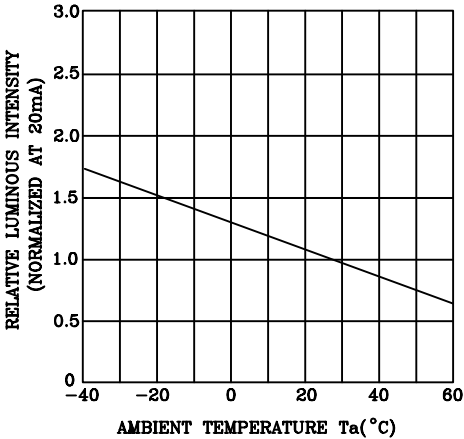
SPECTRAL DISTRIBUTION



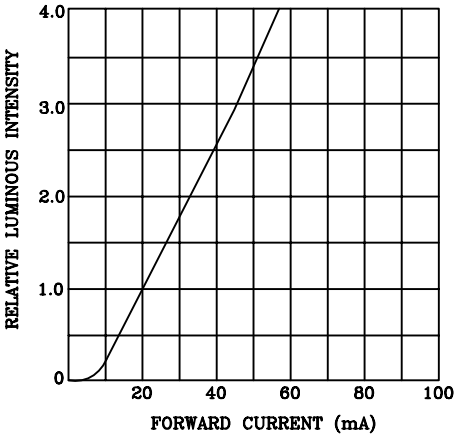
FORWARD CURRENT VS.
FORWARD VOLTAGE



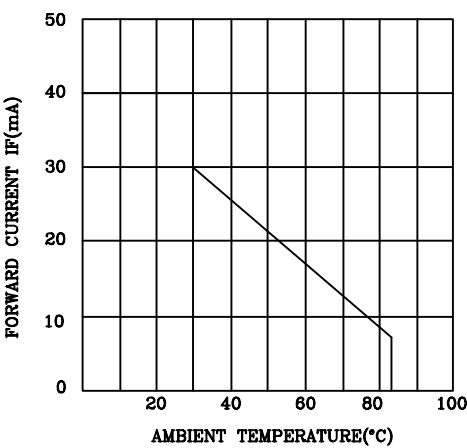
RELATIVE LUMINOUS
INTENSITY VS. AMBIENT
TEMPERATURE



RELATIVE LUMINOUS
INTENSITY VS. FORWARD
CURRENT



FORWARD CURRENT
DERATING CURVE



RELIABILITY TEST

DEVICE NO.: BS-CB04RD

Classification	Test Item	Reference Standard	Test Conditions	Result
Endurance Test	Operation Life	MIL-STD-750:1026 MIL-STD-883:1005 JIS C 7021 :B-1	Connect with a power If=25mA Ta=Under room temperature Test time=1,000hrs(-24hrs,+72hrs)	0/10
	High Temperature High Humidity Storage	MIL-STD-202:103B JIS C 7021 :B-11	Ta=65°C±5°C RH=90%-95% Test time=240hrs±2hrs	0/10
	High Temperature High Humidity Reverse Bias		Ta=65°C±5°C RH=90%-95% Test time=500hrs(-24hrs,+48hrs)	0/10
	High Temperature Storage	MIL-STD-883:1008 JIS C 7021 :B-10	High Ta=85°C±5°C Test time=1,000hrs(-24hrs,+72hrs)	0/10
	Low Temperature Storage	JIS-C-7021 :B-12	Low Ta=-35°C±5°C Test time=1,000hrs(-24hrs,+72hrs)	0/10
Environmental Test	Temperature Cycling	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010 JIS C 7021 :A-4	-35°C ~ 25°C ~ 85°C ~ 25°C 30min 5min 30min 5min Test Time=10cycle	0/10
	Thermal Shock	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1011	85°C±5°C ~ -35°C±5°C 10min 10min Test Time=10cycle	0/10
	Solder Resistance	MIL-STD-202:201A MIL-STD-750:2031 JIS C 7021 :A-1	T.sol=260±5°C Dwell Time=10±1sec.	0/10
	Solderability	MIL-STD-202:208D MIL-STD-750:2026 MIL-STD-883:2003 JIS C 7021 :A-2	T.sol=230±5°C Dwell Time=5±1sec.	0/10

JUDGMENT CRITERIA OF FAILURE FOR THE RELIABILITY

Measuring items	Symbol	Measuring conditions	Judgement criteria for failure
Forward voltage	VF	IF=10mA	Over Ux1.2
Reverse current	IR	VR=5V	Over Ux2
Luminous intensity	IV	IF=10mA	Below Sx0.5

Note: 1.U means the upper limit of specified characteristics. S means initial value.

2.Measurment shall be taken between 2 hours and after the test pieces have been returned to normal ambient conditions after completion of each test.