SINCE 1981

BRIGHT LED ELECTRONICS CORP.

LED DOT MATRIX DISPLAY SPECIFICATION

TOTAL PAGE: 4
PAGE: 1
VERISION: 1.0

- COMMODITY：4.00" HIGH 12.0*12.0mm
- DEVICE NUMBER：BM-41657MD

SHEET / DATE	1	2	3	4							CONTENTS
2000.07.13	-	1.0	1.0	1.0							Original Release
2003.08.26	1.0	1.1	-	-							Modify Pin

TOTAL PAGE	4																

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APPROVED	DRAWER
鄧 2003.08.26 榮光	蔣 2003.08.26 余前

BRIGHT LED ELECTRONICS CORP.

LED DOT-MATRIX DISPLAY SPECIFICATION

●COMMODITY：4.00" High 12.0*12.0mm　　PAEG： 2

●DEVICE NUMBER：BM-41657MD　　VERSION： 1.1

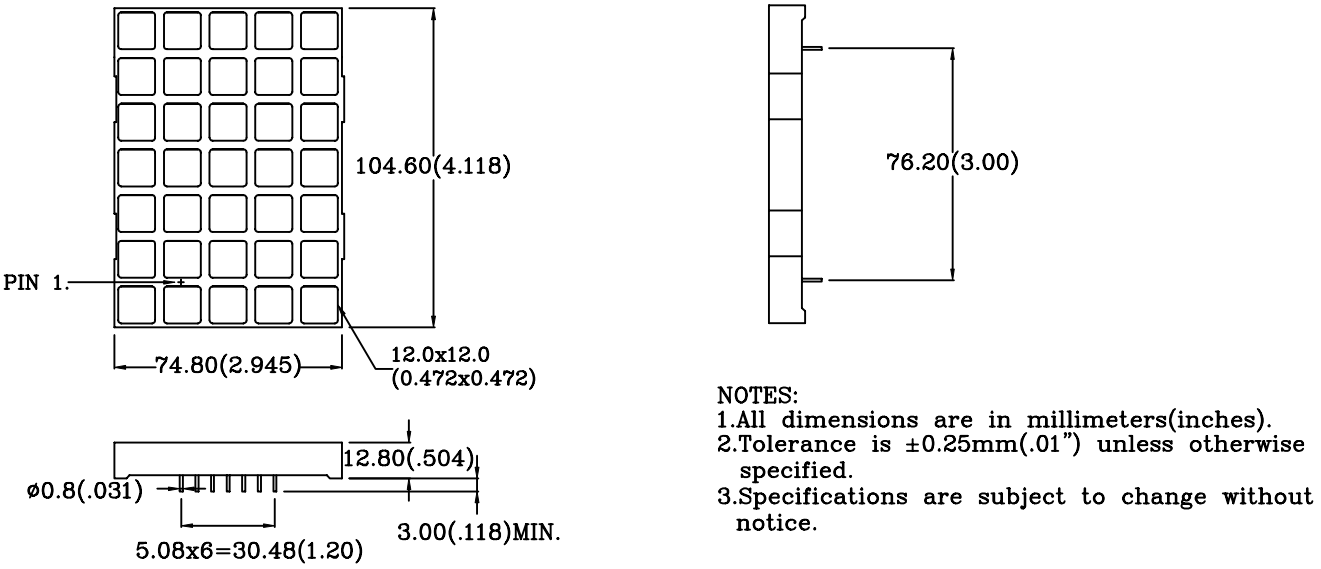
●ELECTRICAL AND OPTICAL CHARACTERISTICS (Ta=25℃)

Chip		Absolute Maximum Rating				Electro-optical Data (At 10mA)			Surface Color	Segment Color
Emitted Color	Peak Wave Length λ_P(nm)	Δ λ (nm)	Pd (mW)	If (mA)	Peak If(mA)	Vf(V) Typ.	Vf(V) Max.	Iv Typ. (mcd)		
Super Red	660	20	160	30	150	3.4	5.0	20.0	Black	White

●ABSOLUTE MAXIMUM RATINGS (Ta=25℃)

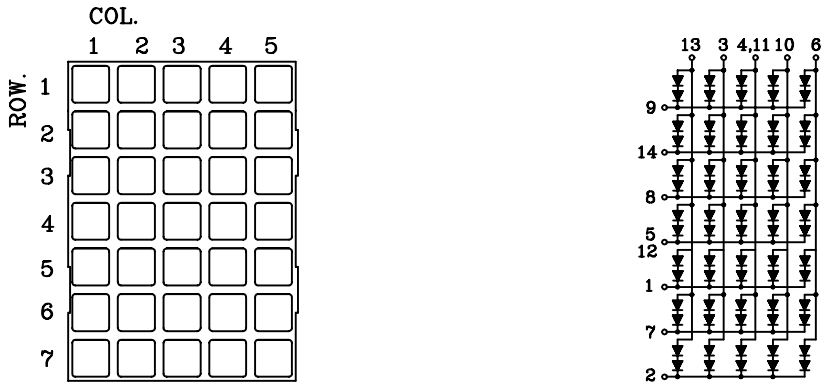
Reverse Voltage …… 5V
Reverse Current (V_R=5V) …… 100μA
Operating Temperature Range …… -40℃ ～ 80℃
Storage Temperature Range …… -40℃ ～ 85℃
Lead Soldering Temperature (1/16" From Body)……260℃ For 5 Seconds

PACKAGE DIMENSIONS:



NOTES:
1.All dimensions are in millimeters(inches).
2.Tolerance is ±0.25mm(.01") unless otherwise specified.
3.Specifications are subject to change without notice.

PIN FUNCTIONS:



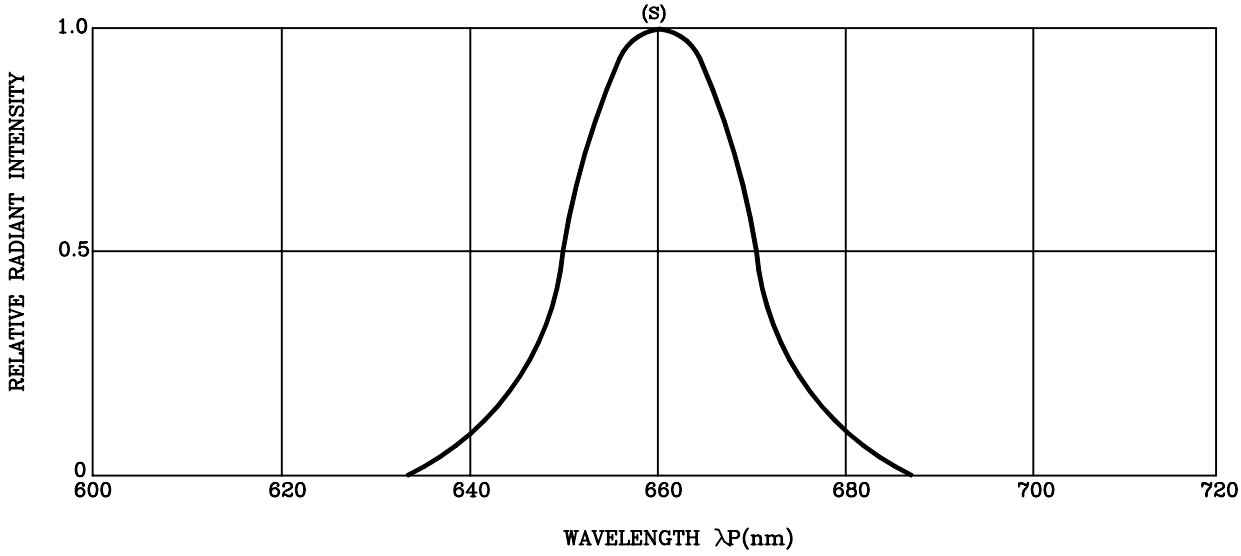
BRIGHT LED ELECTRONICS CORP.

TYPICAL CHARACTERISTICS

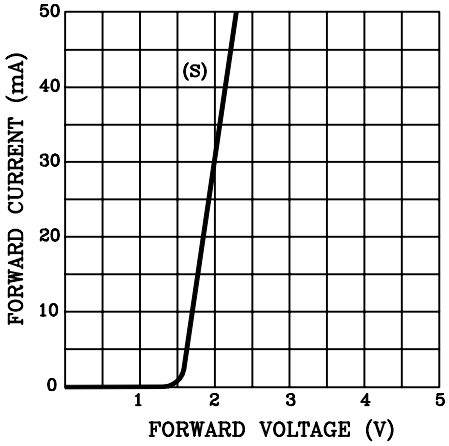
DEVICE NUMBER:BM-41657MD

VERSION:1.0

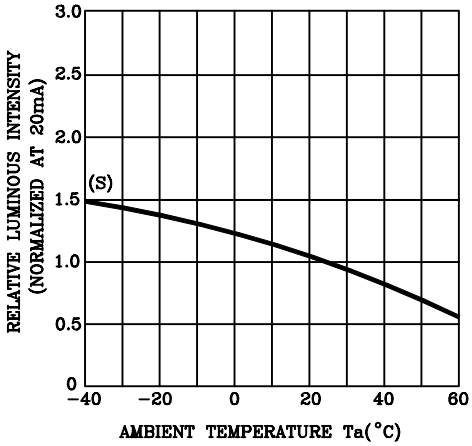
SPECTRAL DISTRIBUTION



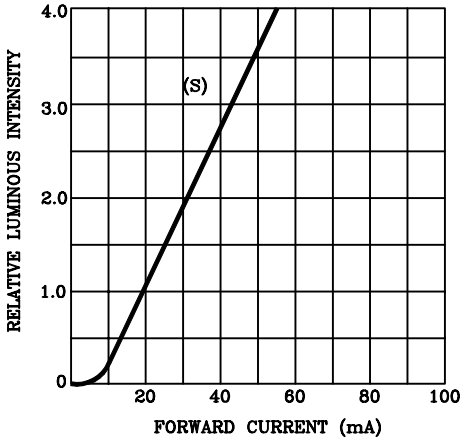
FORWARD CURRENT VS. FORWARD VOLTAGE



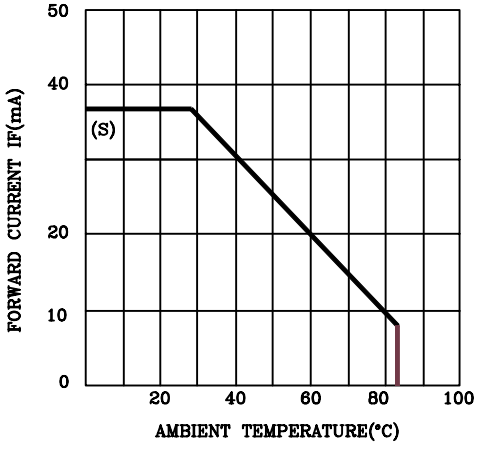
RELATIVE LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE



RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



FORWARD CURRENT DERATING CURVE



RELIABILITY TEST

DEVICE NUMBER: BM-41657MD

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=30mA 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℃ ±5℃ RH=90%-95% Test time=240hrs±2hrs	0/10
	High Temperature Storage	MIL-STD-883:1008 JIS C 7021 :B-10	High Ta=85℃ ±5℃ Test time=1,000hrs(-24hrs,+72hrs)	0/10
	Low Temperature Storage	JIS-C-7021 :B-12	Low Ta= -35℃ ±5℃ 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℃ ~25℃ ~85℃ ~25℃ 30min 5min 30min 5min Test Time=10cycle	0/10
	Thermal Shock	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1011	85℃ ±5℃ ~-35℃ ±5℃ 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℃ 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℃ 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.