

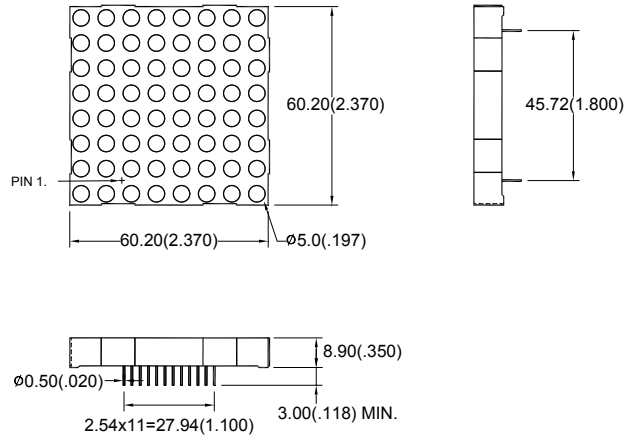
### ● Features :

1. 2.30 inch (60.20mm) matrix height.
2. Dot size 5.00mm.
3. Low power requirement.
4. Excellent characters appearance.
5. Solid state reliability.
6. Multiplex drive , column anode com. and row cathode com.
7. Multi color available.
8. Categorized for luminous intensity.
9. Stackable vertically and horizontally.

### ● Description :

1. The BM-20EG88MD is a 60.2mm (2.30") matrix height 8×8 dot matrix display.
2. This product use hi-eff red chips and green chips, the hi-eff red chips are made from GaAsP on GaP substrate, the green chips are made from GaP on GaP substrate.
3. This product have a black face and white dots.
4. This product doesn't contain restriction substance, comply ROHS standard.

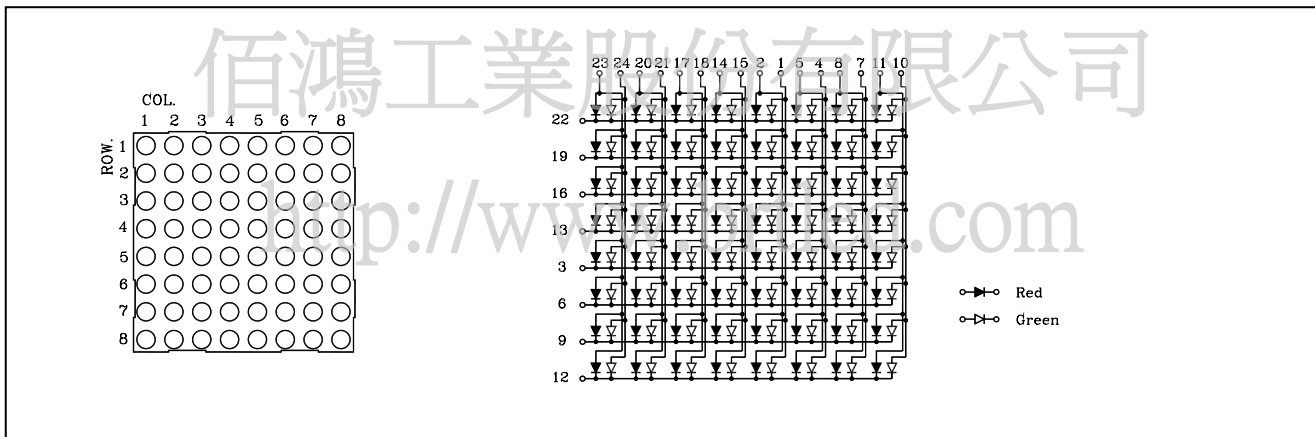
### ● Package Dimensions :



#### Notes:

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

### ● Internal Circuit Diagram :



● **Absolute Maximum Ratings(Ta=25°C)**

Parameter	Symbol	Hi-Eff Red	Green	Unit
Power Dissipation Per Dot	Pd	80	80	mW
Forward Current Per Dot	I <sub>F</sub>	30	30	mA
Peak Forward Current Per Dot	I <sub>FP</sub> (Duty 1/10, 1KHZ)	150	150	mA
Reverse Voltage Per Dot	V <sub>R</sub>	5		V
Operating Temperature	Topr	-40°C~80°C		-
Storage Temperature	Tstg	-40°C~85°C		-
Soldering Temperature (1/16" From Body)	Tsol	260°C For 5 Seconds		-

● **Electrical And Optical Characteristics(Ta=25°C)**

Hi-Eff Red

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage Per Dot	V <sub>F</sub>	I <sub>F</sub> =10mA	-	2.0	2.5	V
Luminous Intensity Per Dot	I <sub>v</sub>	I <sub>F</sub> =10mA	-	15.0	-	mcd
Reverse Current Per Dot	I <sub>R</sub>	V <sub>R</sub> =5V	-	-	100	μA
Peak Wave Length	λ <sub>p</sub>	I <sub>F</sub> =10mA	-	640	-	nm
Dominant Wave Length	λ <sub>d</sub>	I <sub>F</sub> =10mA	626	-	636	nm
Spectral Line Half-width	Δλ	I <sub>F</sub> =10mA	-	40	-	nm

Green

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage Per Dot	V <sub>F</sub>	I <sub>F</sub> =10mA	-	2.1	2.5	V
Luminous Intensity Per Dot	I <sub>v</sub>	I <sub>F</sub> =10mA	-	15.0	-	mcd
Reverse Current Per Dot	I <sub>R</sub>	V <sub>R</sub> =5V	-	-	100	μA
Peak Wave Length	λ <sub>p</sub>	I <sub>F</sub> =10mA	-	568	-	nm
Dominant Wave Length	λ <sub>d</sub>	I <sub>F</sub> =10mA	569	-	574	nm
Spectral Line Half-width	Δλ	I <sub>F</sub> =10mA	-	30	-	nm

## ● Typical Electro-Optical Characteristics Curves

(25°C Ambient Temperature Unless Otherwise Noted)

Fig.1 Relative Radiant Intensity VS. Wavelength

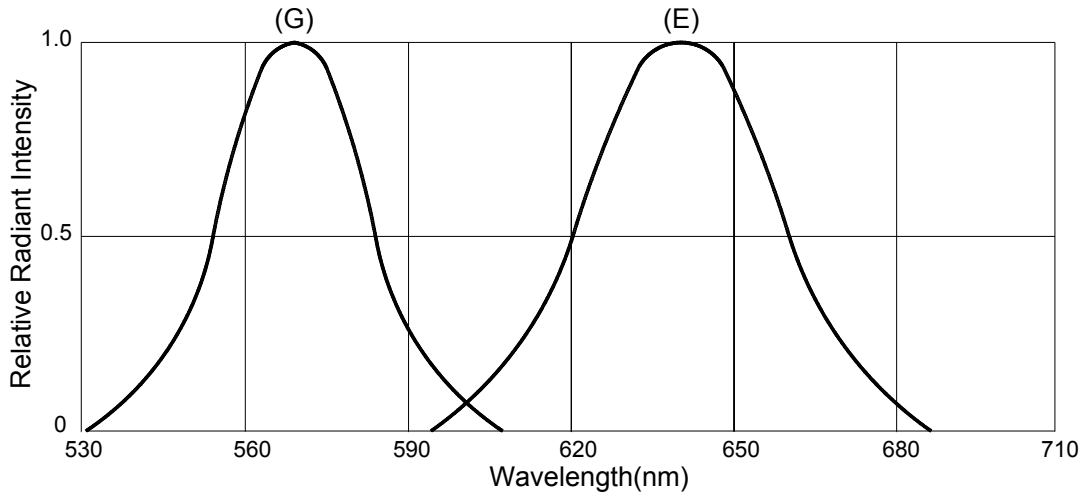


Fig.2 Forward Current VS. Forward Voltage

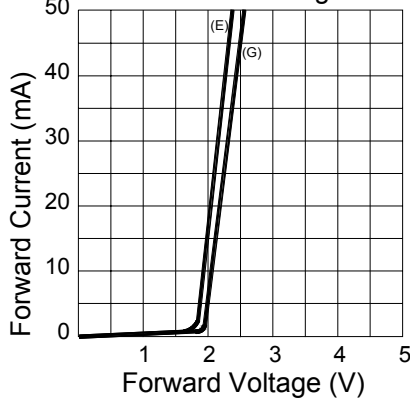


Fig.3 Relative Luminous Intensity VS. Ambient Temperature

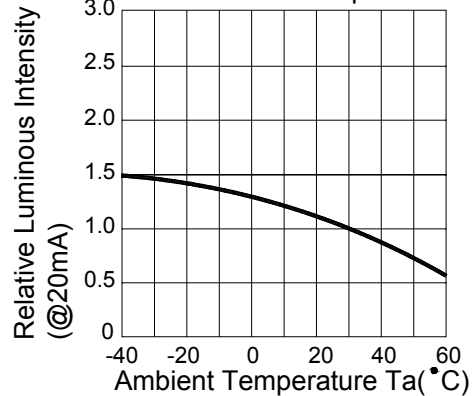


Fig.4 Relative Luminous Intensity VS. Forward Current

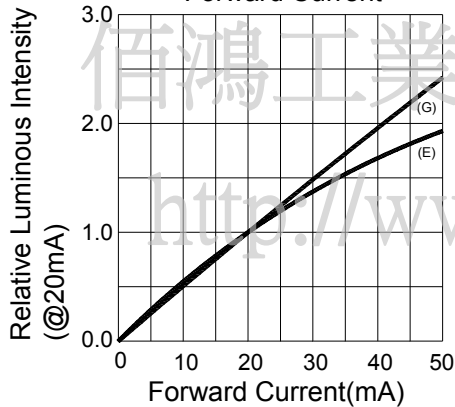


Fig.5 Forward Current Derating Curve VS. Ambient Temperature

