Kingbright

101.6mm (4.0 INCH) 5x7 DOT MATRIX DISPLAY

Part Number: TBC40-12EGWA

High Efficiency Red
Green

Features

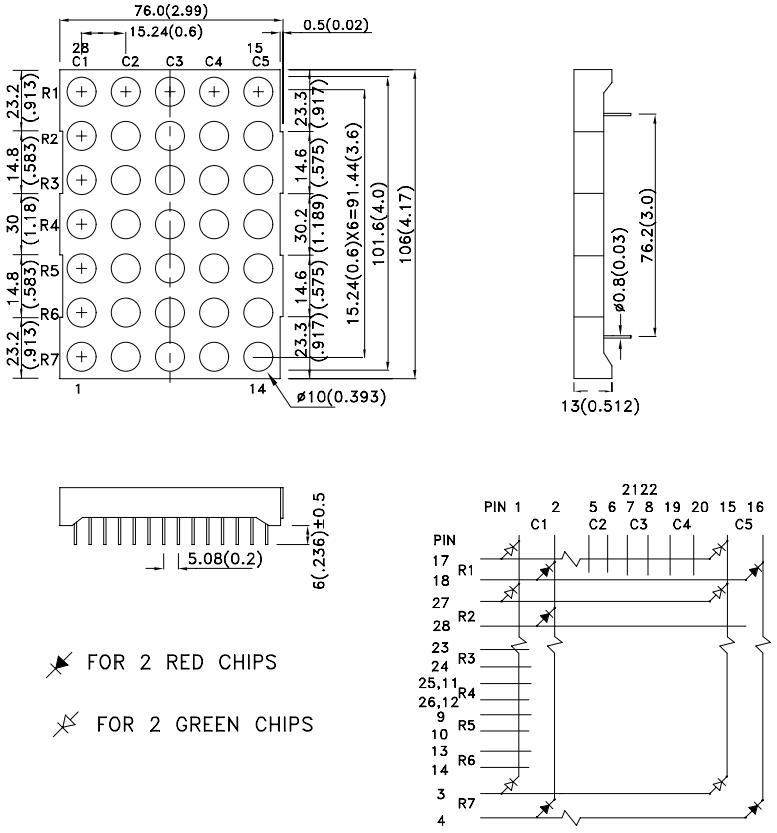
- 4.0 INCH MATRIX HEIGHT.
- DOT SIZE 10mm.
- LOW CURRENT OPERATION.
- HIGH CONTRAST AND LIGHT OUTPUT.
- COMPATIBLE WITH ASCII AND EBCDIC CODES.
- STACKABLE HORIZONTALLY.
- EASY MOUNTING ON P.C. BOARDS OR SOCKETS.
- MULTICOLOR AVAILABLE.
- MECHANICALLY RUGGED.
- STANDARD : GRAY FACE, WHITE DOT.
- RoHS COMPLIANT.

Description

The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

Package Dimensions & Internal Circuit Diagram



Notes:
1. All dimensions are in millimeters (inches), Tolerance is ±0.25(0.01")unless otherwise noted.
2. Specifications are subject to change without notice.

Selection Guide

Part No.	Dice	Lens Type	Iv (ucd) [1] @ 10mA		Description
			Min.	Typ.	
TBC40-12EGWA	High Efficiency Red (GaAsP/GaP)	WHITE DIFFUSED	8000	33000	Column Cathode
	Green (GaP)		12000	42000	

Note:
1. Luminous intensity/ luminous Flux: +/-15%.

Electrical / Optical Characteristics at TA=25°C

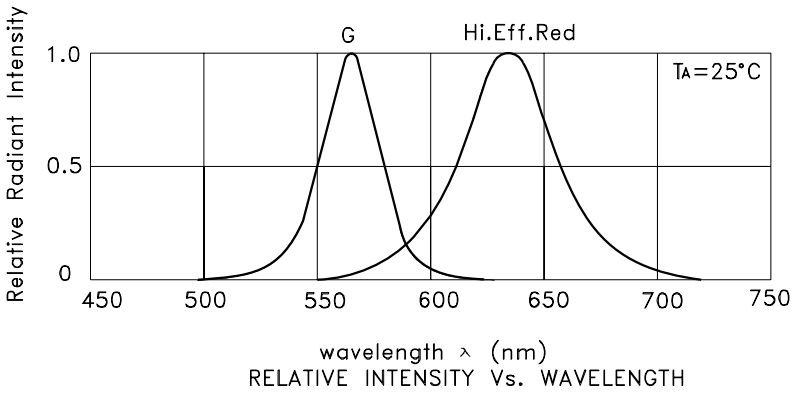
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	High Efficiency Red Green	627 565		nm	I_F=20mA
λD [1]	Dominant Wavelength	High Efficiency Red Green	625 568		nm	I_F=20mA
Δλ1/2	Spectral Line Half-width	High Efficiency Red Green	45 30		nm	I_F=20mA
C	Capacitance	High Efficiency Red Green	15 15		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage (Per Dot)	High Efficiency Red Green	4.0 4.4	5.0 5.0	V	I_F=20mA
I_R	Reverse Current (Per Dot)	High Efficiency Red Green		10 10	uA	V_R=10V

Notes:
1.Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

Absolute Maximum Ratings at TA=25°C

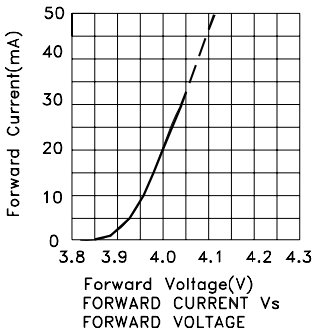
Parameter	High Efficiency Red	Green	Units
Power dissipation (Per Dot)	150	125	mW
DC Forward Current (Per Dot)	30	25	mA
Peak Forward Current [1] (Per Dot)	160	140	mA
Reverse Voltage (Per Dot)	10		V
Operating/Storage Temperature	-40°C To +85°C		
Lead Solder Temperature [2]	260°C For 3-5 Seconds		

Notes:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 2mm below package base.

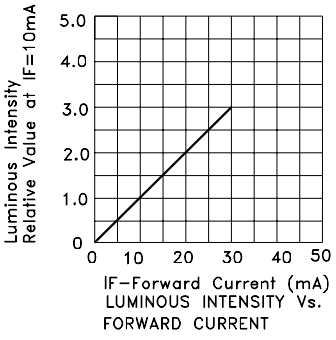


RELATIVE INTENSITY Vs. WAVELENGTH

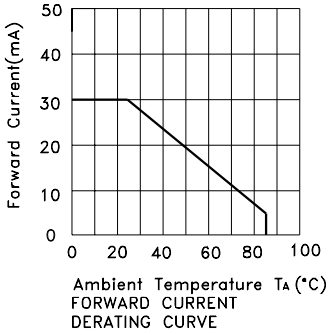
TBC40-12EGWA
High Efficiency Red



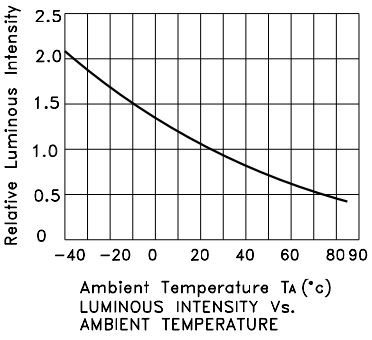
FORWARD CURRENT Vs
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT

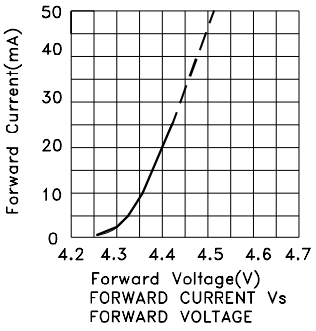


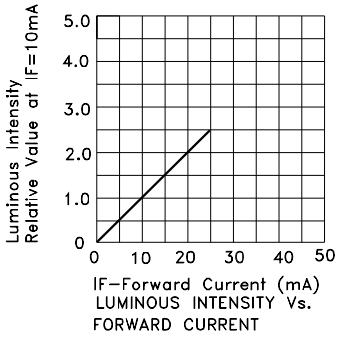
FORWARD CURRENT
DERATING CURVE

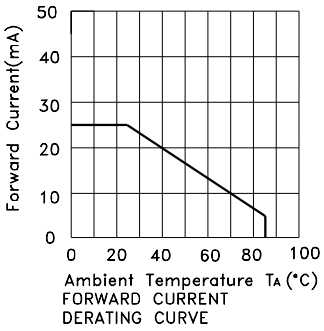


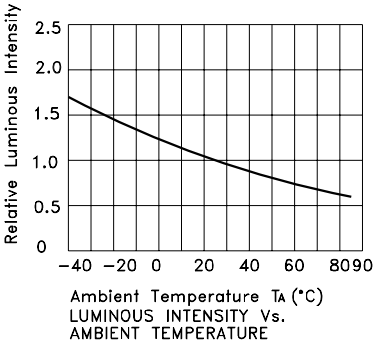
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

Green

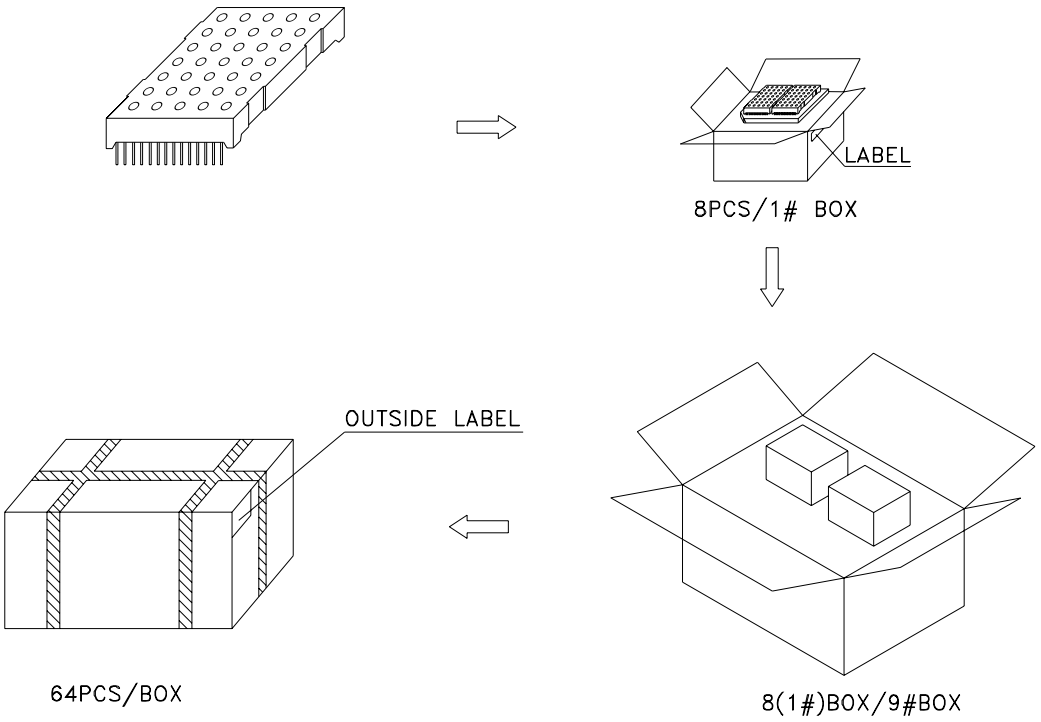

Forward Current(mA)
50
40
30
20
10
0
4.2 4.3 4.4 4.5 4.6 4.7
Forward Voltage(V)
FORWARD CURRENT Vs
FORWARD VOLTAGE


Luminous Intensity
Relative Value at IF=10mA
5.0
4.0
3.0
2.0
1.0
0
0 10 20 30 40 50
IF-Forward Current (mA)
LUMINOUS INTENSITY Vs.
FORWARD CURRENT

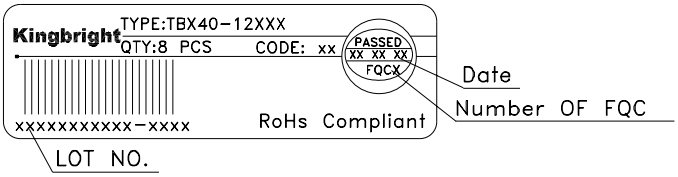

Forward Current(mA)
50
40
30
20
10
0
0 20 40 60 80 100
Ambient Temperature TA (°C)
FORWARD CURRENT
DERATING CURVE


Relative Luminous Intensity
2.5
2.0
1.5
1.0
0.5
0
-40 -20 0 20 40 60 80 90
Ambient Temperature TA (°C)
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

PACKING & LABEL SPECIFICATIONS **TBC40-12EGWA**



Inside LABEL Paste On The 1#BOX



Outside LABEL Paste On The Box