Kingbright®

60mm (2.3 INCH) 8x8 DOT MATRIX DISPLAYS

TA23-11	TC23-11
TBA23-11	TBC23-11
TBA23-12	TBC23-12

Features

- ●2.3 INCH MATRIX HEIGHT.
- ●DOT SIZE 5mm.
- ●LOW CURRENT OPERATION.
- ●HIGH CONTRAST AND LIGHT OUTPUT.
- ●COMPATIBLE WITH USACII AND EBCDIC CODES.
- ●STACKABLE HORIZONTALLY.
- ●COLUMN CATHODE AND COLUMN ANODE AVAILABLE.
- ●EASY MOUNTING ON P.C. BOARDS OR SOCKETS.
- ●MULTICOLOR AVAILABLE.
- ●CATEGORIZED FOR LUMINOUS INTENSITY, YELLOW AND GREEN CATEGORIZED FOR COLOR.
- ●MECHANICALLY RUGGED.
- ●STANDARD : GRAY FACE, WHITE DOT.

Description

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

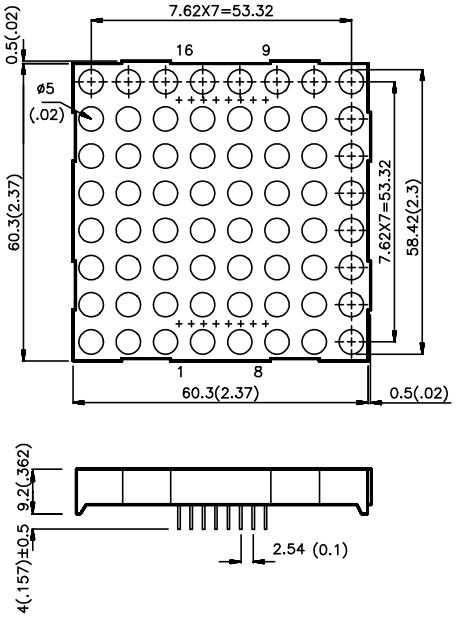
The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

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

The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.

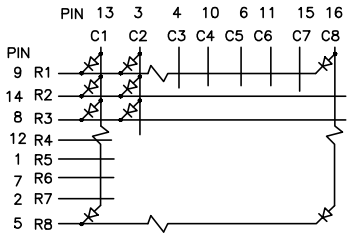
The Super Bright Red source color devices are made with Gallium Aluminum Arsenide Red Light Emitting Diode.

Package Dimensions

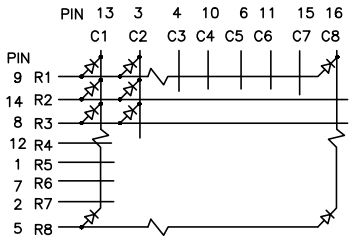


Interal Circuit Diagram

TA23−11

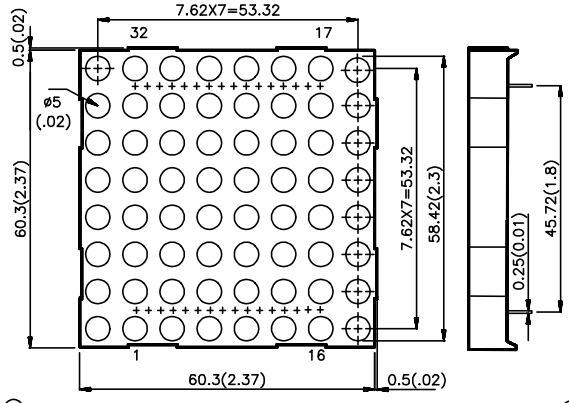


TC23−11

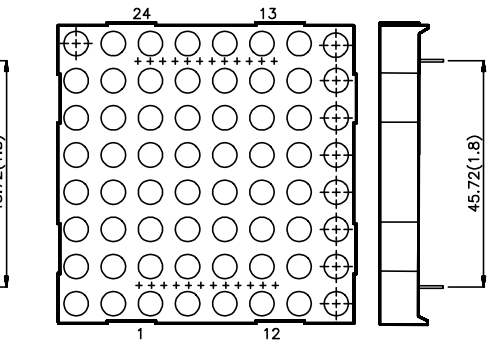


Package Dimensions & Internal Circuit Diagram

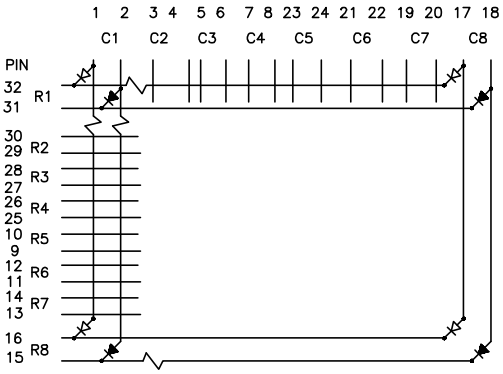
TBA23−11,TBC23−11



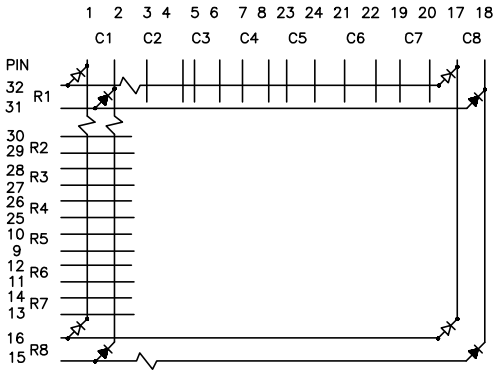
TBA23−12,TBC23−12



TBA23−11



TBC23−11



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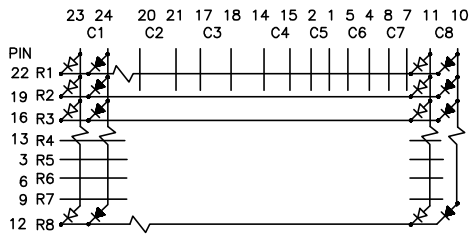
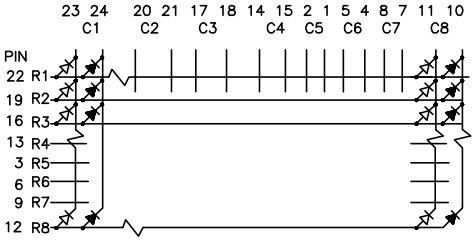


TBC23−12



GREEN RED

Notes:
1. All dimensions are in millimeters (inches).
Tolerance is ±0.25(0.01")unless otherwise noted.
2. Specifications are subjected to change whitout notice.

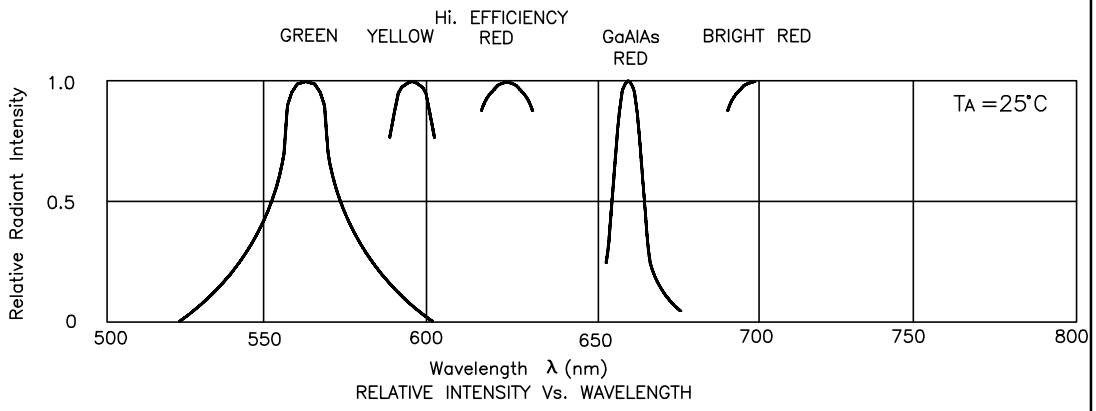
Selection Guide

Part No.	Dice	Iv (ucd) @ 10 mA		Description
		Min.	Max.	
TA23-11HWA	BRIGHT RED (GaP)	560	1400	Column Anode
TC23-11HWA				Column Cathode
TA23-11EWA	HIGH EFFICIENCY RED (GaAsP/GaP)	3600	9000	Column Anode
TC23-11EWA				Column Cathode
TA23-11GWA	GREEN (GaP)	2200	5600	Column Anode
TC23-11GWA				Column Cathode
TA23-11YWA	YELLOW (GaAsP/GaP)	2200	5600	Column Anode
TC23-11YWA				Column Cathode
TA23-11SRWA	SUPER BRIGHT RED (GaAlAs)	14000	31000	Column Anode
TC23-11SRWA				Column Cathode
TBA23-11HGWA	BRIGHT RED (GaP) GREEN(GaP)	560	1400	Column Anode
TBC23-11HGWA		2200	5600	Column Cathode
TBA23-11EGWA	HIGH EFFICIENCY RED (GaAsP/GaP) GREEN (GaP)	3600	9000	Column Anode
TBC23-11EGWA		2200	5600	Column Cathode
TBA23-12HGWA	BRIGHT RED (GaP) GREEN(GaP)	560	1400	Column Anode
TBC23-12HGWA		2200	5600	Column Cathode
TBA23-12EGWA	HIGH EFFICIENCY RED (GaAsP/GaP) GREEN (GaP)	3600	9000	Column Anode
TBC23-12EGWA		2200	5600	Column Cathode

Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	Bright Red High Efficiency Red Green Yellow Super Bright Red	700 625 565 590 660		nm	IF=20mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	Bright Red High Efficiency Red Green Yellow Super Bright Red	45 45 30 35 20		nm	IF=20mA
C	Capacitance	Bright Red High Efficiency Red Green Yellow Super Bright Red	40 12 45 10 95		pF	VF=0V;f=1MHz
V_F	Forward Voltage	Bright Red High Efficiency Red Green Yellow Super Bright Red	2.0 2.0 2.2 2.1 1.85	2.5 2.5 2.5 2.5 2.5	V	IF=20mA
I_R	Reverse Current	All	10		uA	VR = 5V

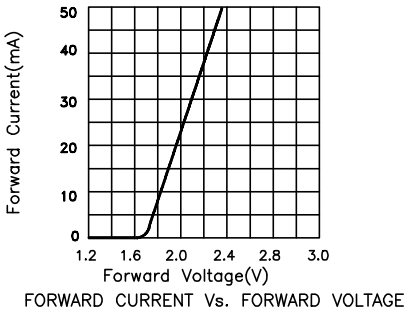
Absolute Maximum Ratings at T_A=25°C



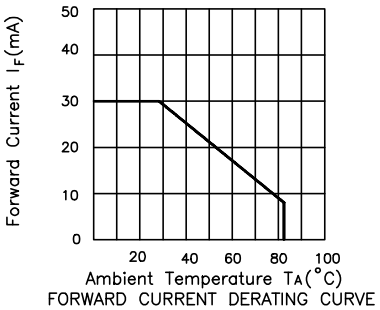
RELATIVE INTENSITY Vs. WAVELENGTH

Bright Red

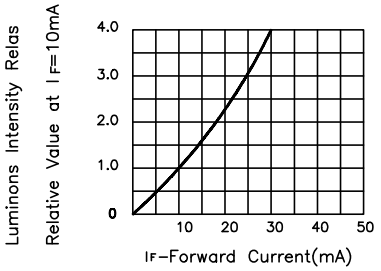
High Efficiency Red



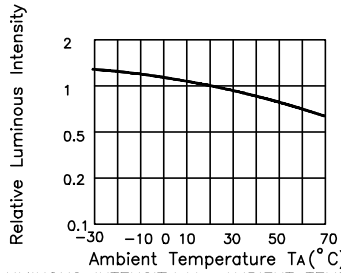
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

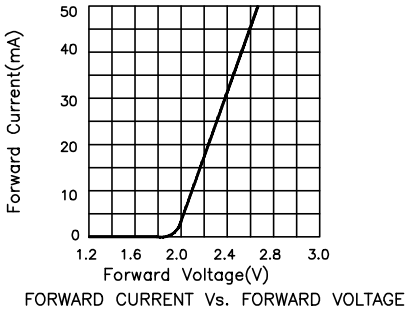


LUMINOUS INTENSITY Vs. FORWARD CURRENT

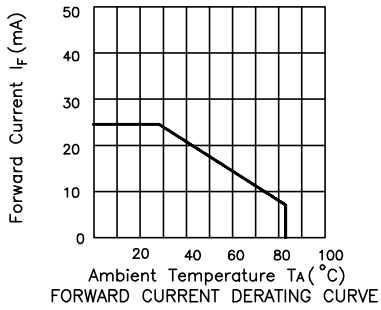


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

Green



FORWARD CURRENT Vs. FORWARD VOLTAGE



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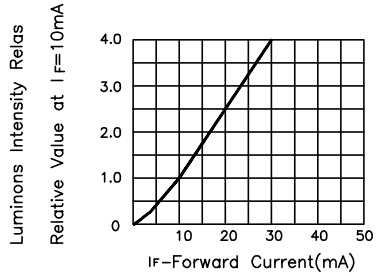
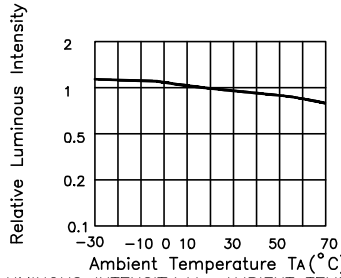
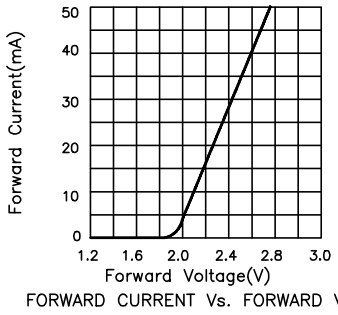


LUMINOUS INTENSITY Vs. FORWARD CURRENT

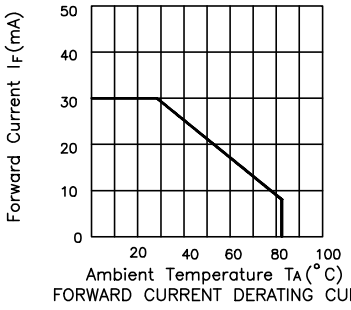


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

Yellow



FORWARD CURRENT Vs. FORWARD VOLTAGE



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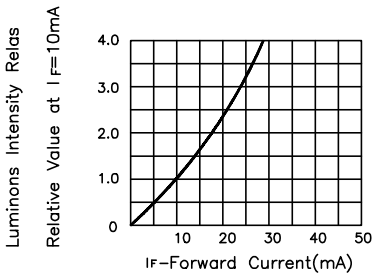
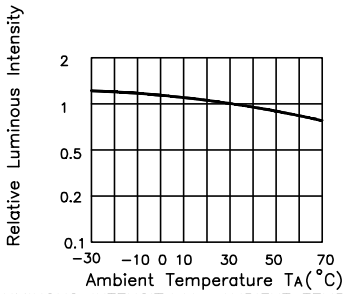
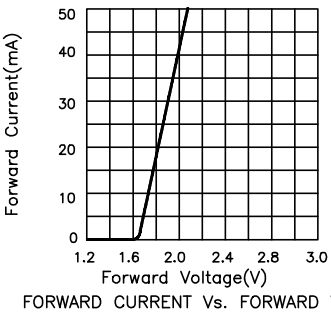


LUMINOUS INTENSITY Vs. FORWARD CURRENT

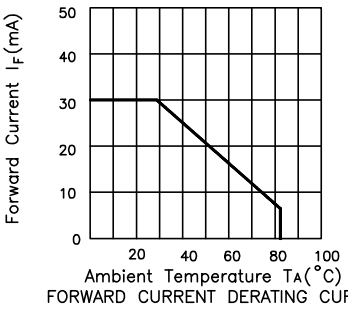


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

Super Bright Red



FORWARD CURRENT Vs. FORWARD VOLTAGE



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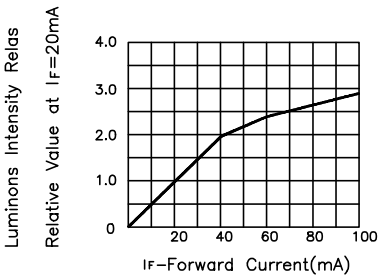
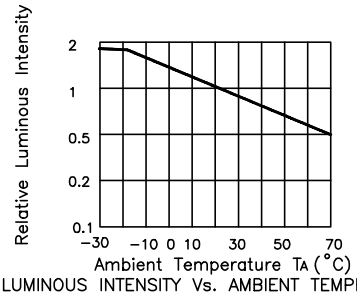


LUMINOUS INTENSITY Vs. FORWARD CURRENT



LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE