Kingbright

**50mm (2.0 INCH) 5x7 DOT MATRIX DISPLAY**

Part Number: TC20-11EWA High Efficiency Red

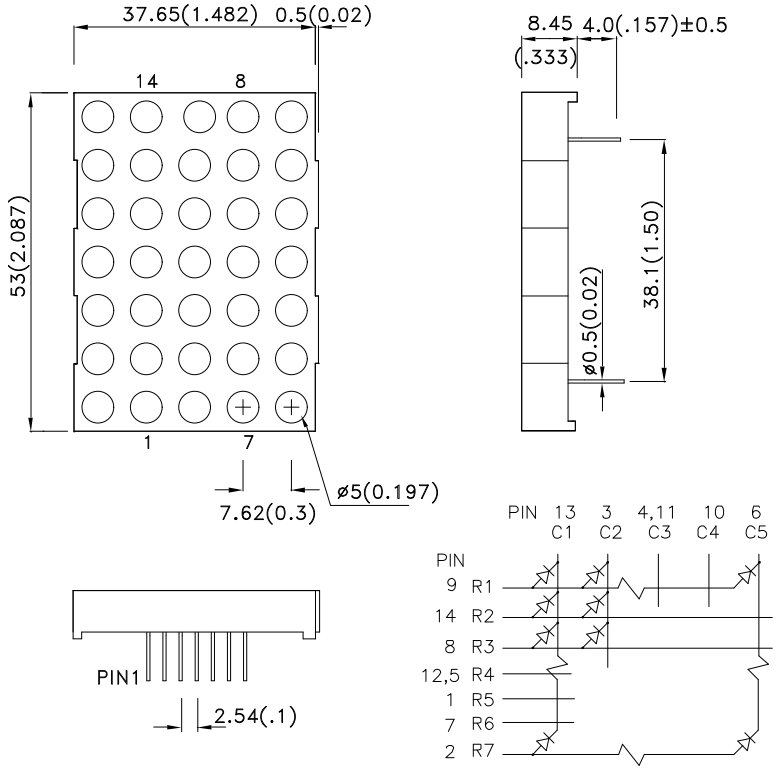
## Features

- 2.0 INCH MATRIX HEIGHT.
- DOT SIZE 5mm.
- LOW CURRENT OPERATION.
- HIGH CONTRAST AND LIGHT OUTPUT.
- COMPATIBLE WITH ASCII AND EBCDIC CODES.
- STACKABLE HORIZONTALLY.
- EASY MOUNTING ON P.C. BOARDS OR SOCKETS.
- CATEGORIZED FOR LUMINOUS INTENSITY.
- 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.

## 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. | |
| TC20-11EWA | High Efficiency Red (GaAsP/GaP) | WHITE DIFFUSED | 3000 | 12000 | Column Cathode |

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

## Electrical / Optical Characteristics at TA=25°C

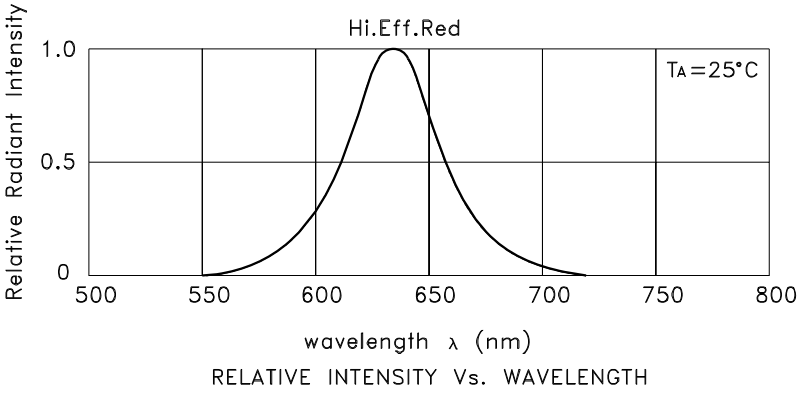
| Symbol | Parameter | Device | Typ. | Max. | Units | Test Conditions |
|---|---|---|---|---|---|---|
| λpeak | Peak Wavelength | High Efficiency Red | 627 | | nm | $I_F$=20mA |
| λD [1] | Dominant Wavelength | High Efficiency Red | 625 | | nm | $I_F$=20mA |
| Δλ1/2 | Spectral Line Half-width | High Efficiency Red | 45 | | nm | $I_F$=20mA |
| C | Capacitance | High Efficiency Red | 15 | | pF | $V_F$=0V;f=1MHz |
| $V_F$ [2] | Forward Voltage | High Efficiency Red | 2.0 | 2.5 | V | $I_F$=20mA |
| $I_R$ | Reverse Current | High Efficiency Red | | 10 | uA | $V_R$=5V |

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

## Absolute Maximum Ratings at TA=25°C

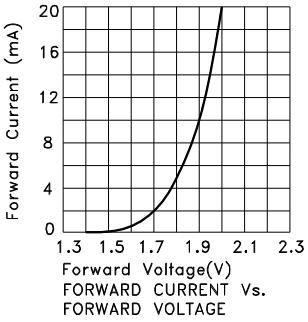
| Parameter | High Efficiency Red | Units |
|---|---|---|
| Power dissipation | 75 | mW |
| DC Forward Current | 30 | mA |
| Peak Forward Current [1] | 160 | mA |
| Reverse Voltage | 5 | V |
| Operating / Storage Temperature | -40°C To +85°C | |
| Lead Solder Temperature[2] | 260°C For 3-5 Seconds | |

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

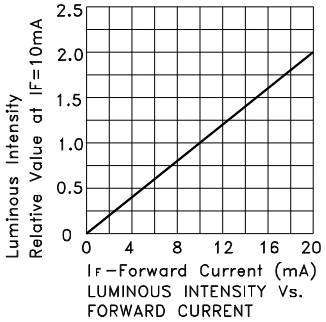


RELATIVE INTENSITY Vs. WAVELENGTH

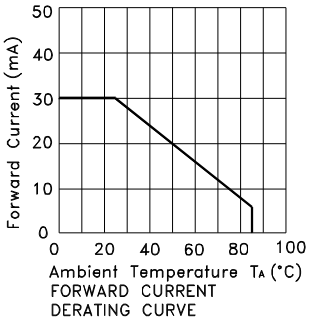
**High Efficiency Red** **TC20-11EWA**



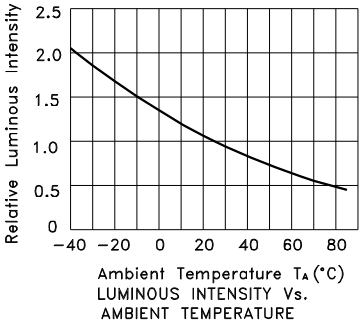
FORWARD CURRENT Vs.
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT

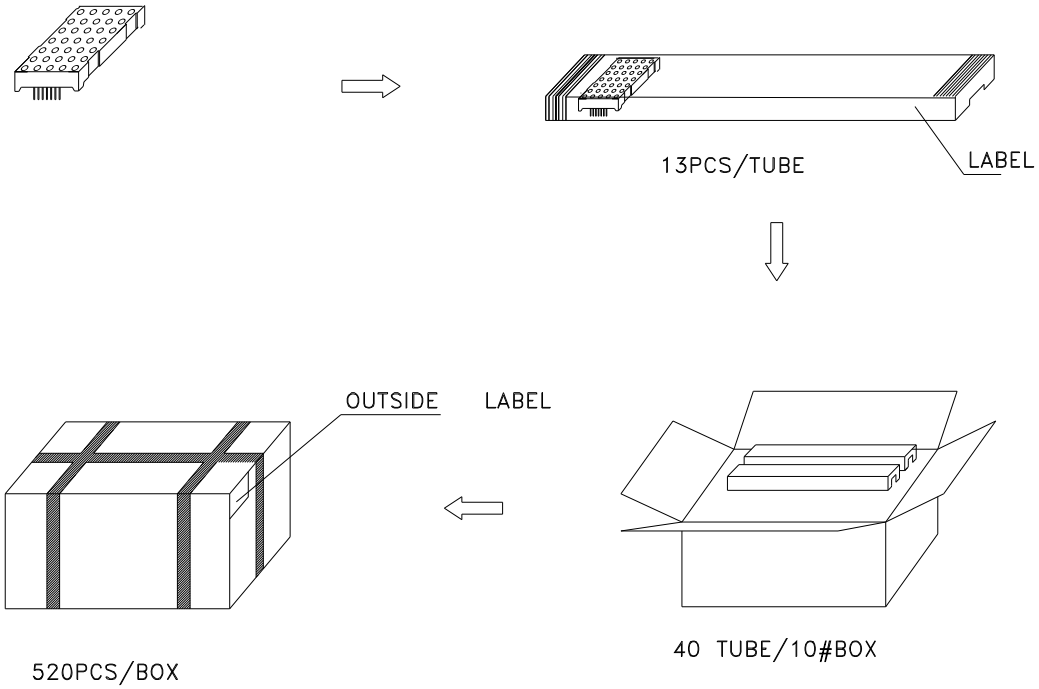


FORWARD CURRENT
DERATING CURVE

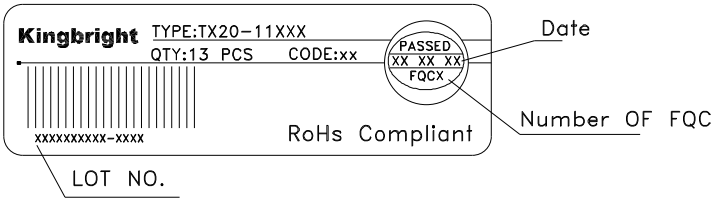


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

**PACKING & LABEL SPECIFICATIONS** **TC20-11EWA**




Inside LABEL Paste On The IC-tube




Outside LABEL Paste On The Box

