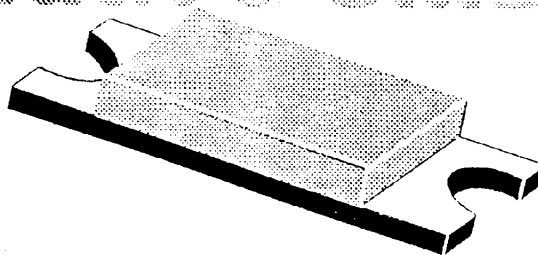


The alternative SMD LED



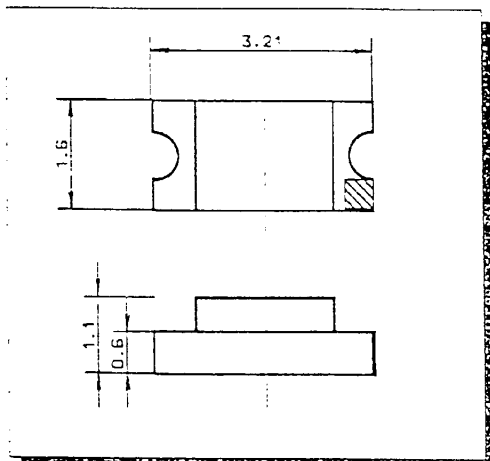
QTLP650

DESCRIPTION

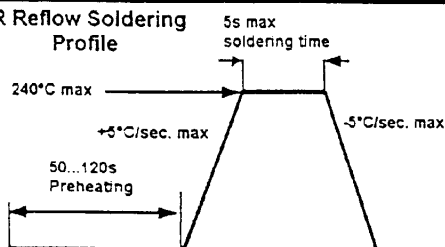
This chip on board SMD led are designed in an industry standard package and they are available in 3 colors; red, green and yellow and in AlGaAs red in both clear and diffused package. The low profile and wide viewing angle of 140° makes these Chip Led exellents for panel illumination and backlighting applications.

APPLICATIONS

Push - Button Backlighting
 Membrane Switches
 Front Panel Indicator
 LCD Backlighting
 Audio and Video Equipment
 Telecommunication
 Automotive



IR Reflow Soldering Profile

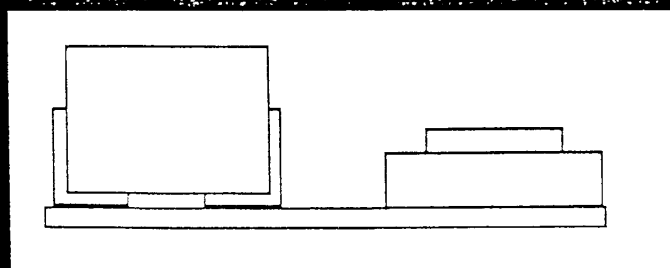


Color	Diffus 160°	(mcd) min 20mA	Clear 140°	(mcd) min 20mA
RED	QTLP650D-2	2,4	QTLP650C-2	3,6
AlGaAs Red			QTLP650C-7	9,0
Yellow	QTLP650D-3	2,4	QTLP650C-3	3,6
Green	QTLP650D-4	4,0	QTLP650C-4	6,0

Second Source

Citizen	Serie CL50
HP	Serie HSMX-C650
Everlight	
Stanley	Serie 1101/1102
Elcos	CERLED

Mechanical Comparison



TOP LED

QTLP650

RED QTLP650D-2 Diffused

YELLOW QTLP650D-3 Diffused

GREEN QTLP650D-4 Diffused

RED QTLP650C-2 Clear

YELLOW QTLP650C-3 Clear

GREEN QTLP650C-4 Clear

AlGaAs RED QTLP650C-7 Clear

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C unless otherwise specified)

Parameter	650X-2	650X-3	650X-4	650X-7	UNITS
DC Forward Current	30	20	30	40	mA
Reverse Voltage	5	5	5	5	V
Operating Temperature Range	-25°C to 80°C				
Storage Temperature Range	-25°C to 85°C				
Lead Soldering	260°C for 5 seconds				
Peak Forward Current (At F=1kHz, Dutyfactor = 1110)	160	160	160	200	mA
Power Dissipation	100	85	100	110	mW
Recommended Operating Current	20	20	20	20	mA

ELECTRO-OPTICAL CHARACTERISTICS (Ta = 25°C unless otherwise specified)

Parameter	650D-2	650D-3	650D-4	650C-2	650C-3	650C-4	650C-7	Test cond.
Luminous intensity (mcd) min	2,4	2,4	4,0	3,6	3,6	6,0	9,0	If = 20mA
max	4,0	4,0	6,5	6,0	6,0	10	15	
Forward Voltage (V) min	1,7	1,7	1,7	1,7	1,7	1,7	1,5	If = 20mA
typical	2,0	2,0	2,1	2,0	2,0	2,0	1,7	
max	2,8	2,8	2,8	2,8	2,8	2,8	2,8	
Peak wavelength (nm)	640	585 570		640	585	570	660	If = 20mA
Spectral line half width (nm)	45	35 30		45	35	30	20	If = 20mA
Min. Reverse Breakdown Voltage (VR)	5	5	5	5	5	5	5	Ir = 10uA
Viewing Angle (°)	160	160	160	140	140	140	140	

AlGaAs
rot (15mcd)
14 16 66
Best. Nr.

rot

gelb

grün

rot

gelb

grün

14 16 74

14 16 82

14 16 90

14 16 58

14 16 40

14 16 31

diffus, Abstr. $\angle = 160^\circ$

clear, Abstr. $\angle = 140^\circ$

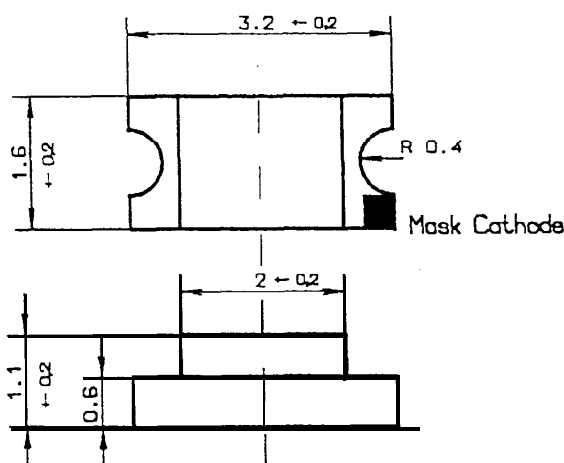
Best. Nr. →

**SURFACE MOUNT LED LAMP
CHIP TYPE**

RED QTLP650D-2 Diffused
YELLOW QTLP650D-3 Diffused
GREEN QTLP650D-4 Diffused

RED QTLP650C-2 Clear
YELLOW QTLP650C-3 Clear
GREEN QTLP650C-4 Clear
AlGaAs RED QTLP650C-7 Clear

PACKAGE DIMENSIONS



DESCRIPTION

These chip type LEDs are designed in an industry Standard package (Chip) and they are available in 3 colors; red, green and yellow and in AlGaAs red in both clear and diffused package. The low Profile and wide viewing angle 140° make these chip LEDs excellent for Panel illumination and backlighting applications

FEATURES

- ♦ Ultra Miniature
- ♦ industrial Standard Foot Print
- ♦ Clear and Diffused Optics
- ♦ Available in 8mm tape on 7" diameter reel
- t Moisture-Proof Packaging

APPLICATIONS

Push - Button Backlighting
Membrane switches
Front Panel indicator
LCD Backlighting
Audio and Video Equipment
Telephone
Automotive

