



April 2005

FOLF598CIWTR Surface Mount LED Lamp, Flash LED, White

Features

- InGaN/Sapphire technology
- Footprint - 5.0(L) X 5.0(W) X 1.5(H) mm
- Viewing angle of 60°
- Available in 0.315" (8mm) width tape on 7" (178mm) diameter reel; 800 units per reel

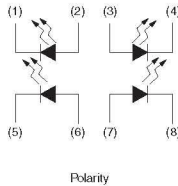
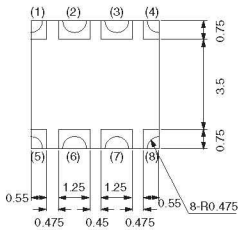
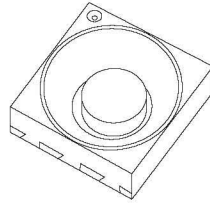
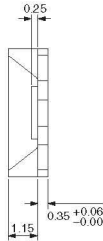
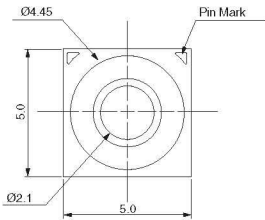
Description

This 8-pin surface mount chip LED emits super bright white light. Compact size and wide viewing angle makes this LED an ideal choice for auxiliary lighting for digital still cameras and flash lighting for camera phones with CMOS sensor.

Applications

- Auxiliary lighting for camera
- Flash lighting for camera with CMOS sensor

Package Dimensions



NOTE:
Dimensions for all drawings are in mm.

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Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ Unless otherwise specified)

Parameter	Symbol	Rating	Unit
Operating Temperature	T_{OPR}	-40 to +85	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 to +100	$^\circ\text{C}$
Lead Soldering Time	T_{SOL}	260 for 5 sec	$^\circ\text{C}$
Continuous Forward Current ⁽¹⁾	I_F	120	mA
Peak Forward Current ⁽¹⁾ (Duty Factor = 10%, $t_p = 0.1$ ms)	I_{FM}	400	mA
Reverse Voltage	V_R	5	V
Power Dissipation ⁽¹⁾	P_D	420	mW
Electrostatic Discharge	ESD	150	V

(1) Total for 4 dice

Electrical/Optical Characteristics ($T_A = 25^\circ\text{C}$)

Part Number	Min.	Typ.	Max.	Condition
Luminous Intensity (mcd)	3500	5500	–	$I_F = 80\text{mA}^{(2)}$
Forward Voltage (V)	–	3.5	4.0	$I_F = 20\text{mA}^{(3)}$
Chromaticity coordinate	See page 3			$I_F = 80\text{mA}^{(2)}$
Reverse Current (μA)	–	–	50	$V_R = 5\text{V}$
Typical Viewing Angle ($^\circ$)	–	60	–	$I_F = 80\text{mA}^{(2)}$

(2) Equivalent to 20 mA per die

(3) For each die

Color Ranks ($I_F = 20\text{mA}$, $T_a = 25^\circ\text{C}$)

Bin a0				
x	0.280	0.264	0.283	0.296
y	0.248	0.267	0.305	0.276

Bin b5				
x	0.296	0.311	0.307	0.287
y	0.276	0.294	0.315	0.295

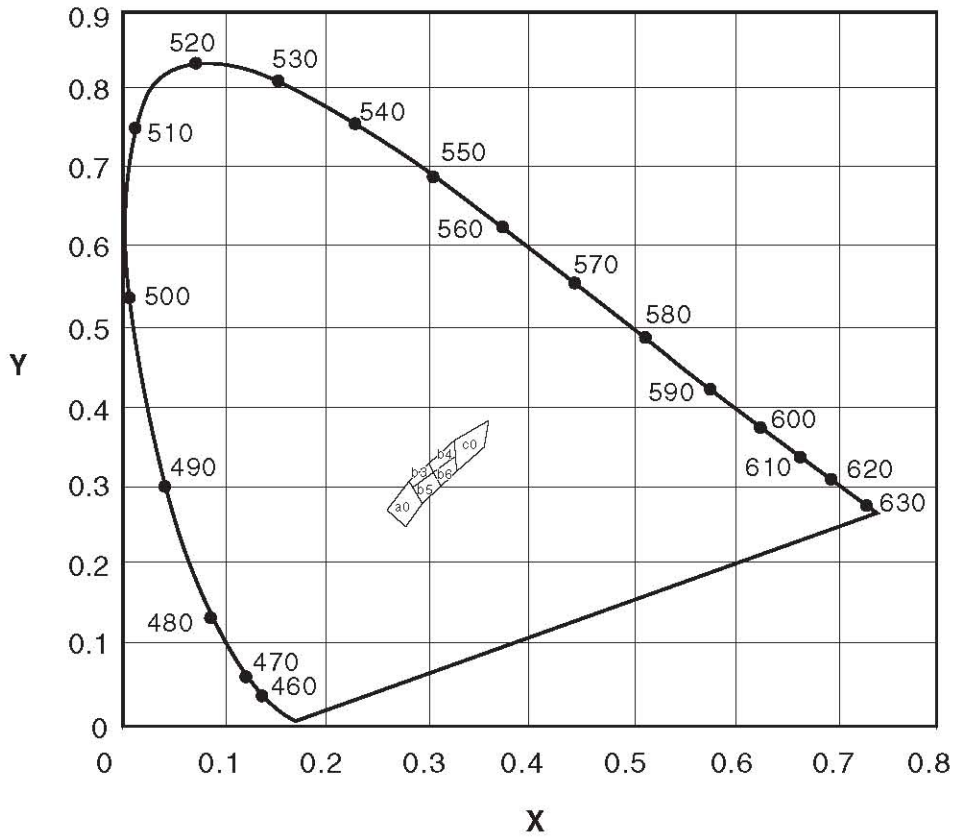
Bin b3				
x	0.307	0.287	0.304	0.283
y	0.315	0.295	0.330	0.305

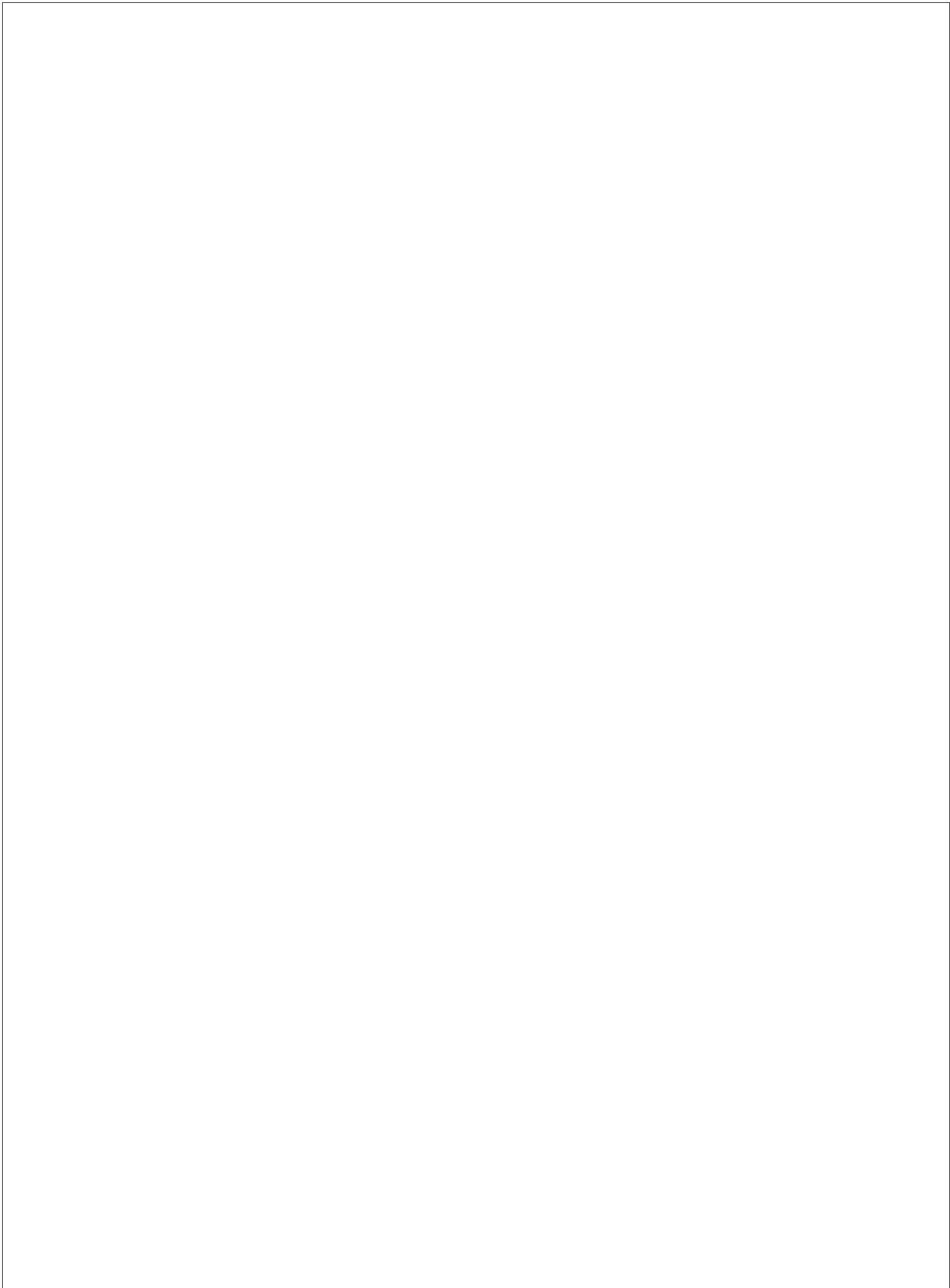
Bin b6				
x	0.311	0.307	0.330	0.330
y	0.294	0.315	0.318	0.339

Bin b4				
x	0.307	0.330	0.330	0.304
y	0.315	0.339	0.360	0.330

Bin c0				
x	0.330	0.330	0.361	0.356
y	0.318	0.360	0.385	0.351

Chromaticity Diagram





Typical Performance Curves

Fig. 1 Forward Voltage

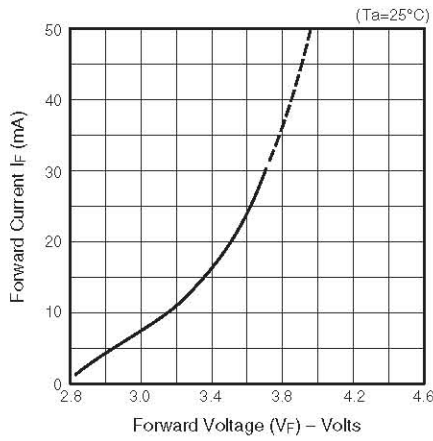


Fig. 2 Luminous Intensity vs. Forward Current

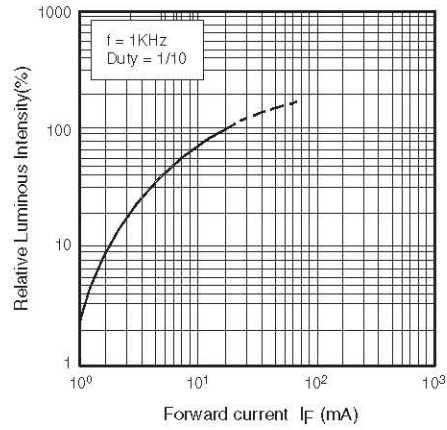


Fig. 3 Forward Current Derating Curve

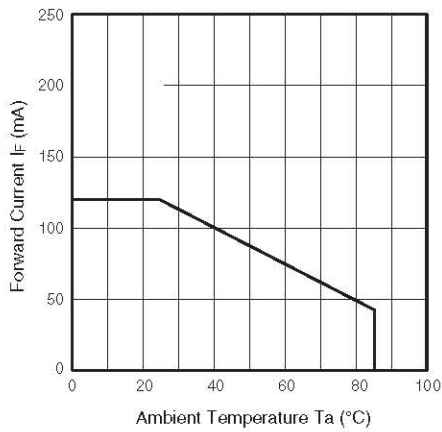


Fig. 4 Spectrum Distribution

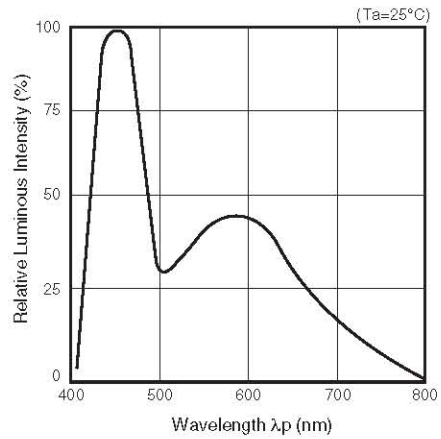


Fig. 5 Radiation Diagram

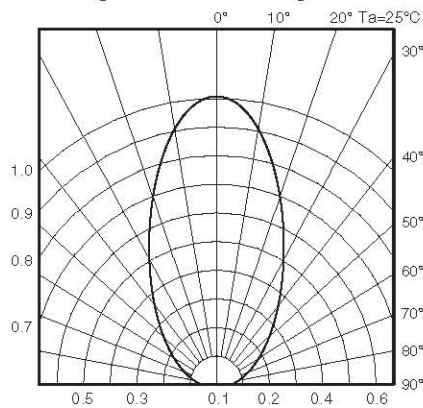
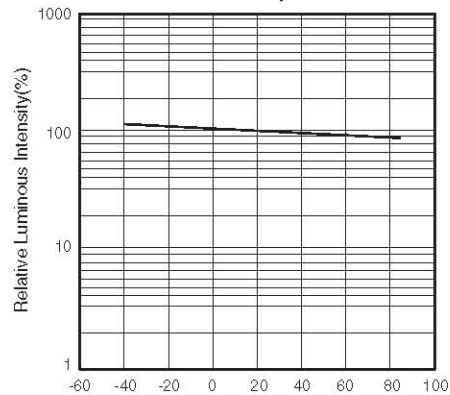
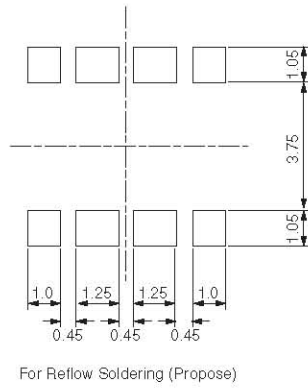


Fig. 6 Luminous Intensity vs. Ambient Temperature

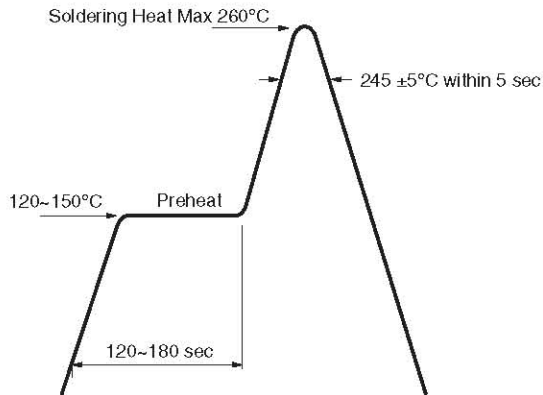


Recommended Printed Circuit Board Pattern

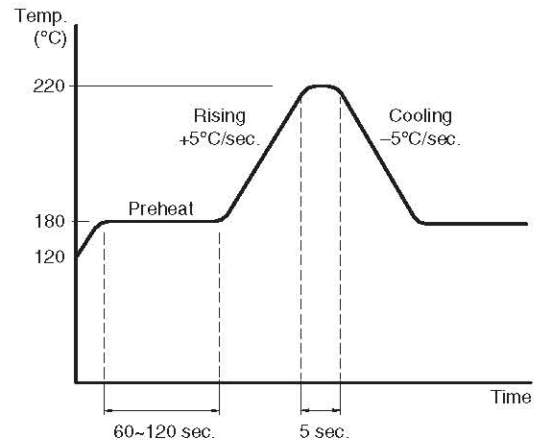


Recommended IR Reflow Soldering Profile

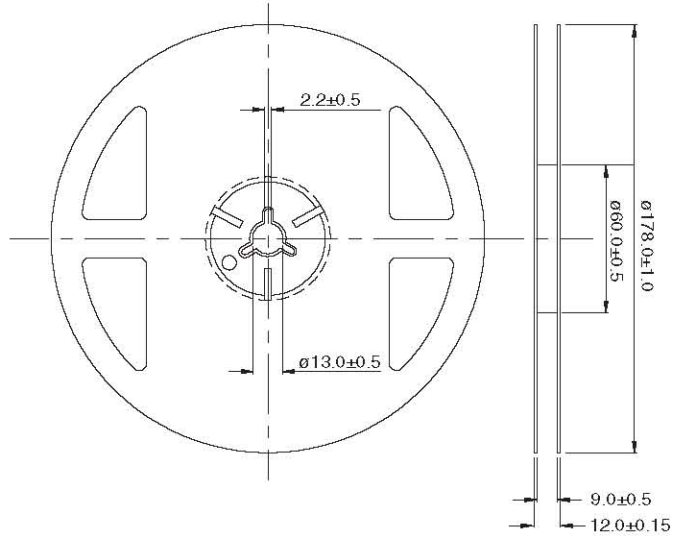
Soldering Heat



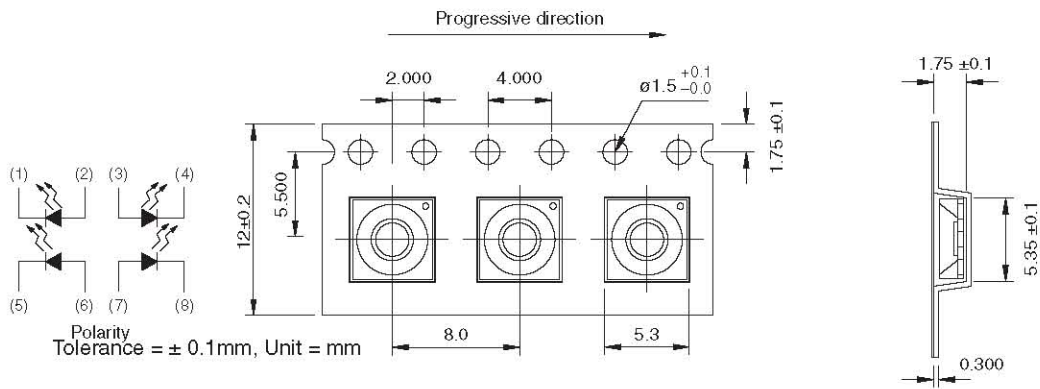
Reflow Solder Test



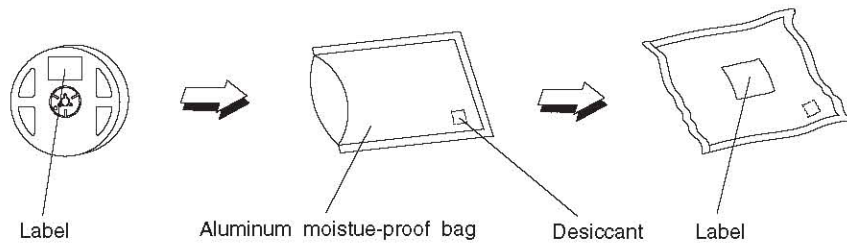
Tape and Reel Dimensions



Note: The tolerances unless mentioned is ± 0.1 mm, Unit = mm



Moisture Resistant Packaging



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DOMETM	GTO™	MicroPak™	QFET®	SuperSOT™-8
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