



599 SERIES
Infrared SMD LED
0603 Package Top View 850nm
With Dome Lens

MECHANICAL / SPECIFICATIONS

PART NUMBER:
[599-17A0-147IRE](#)

DIMENSIONS:
1.6 x 0.8 x 0.95mm

LENS COLOR:
Clear

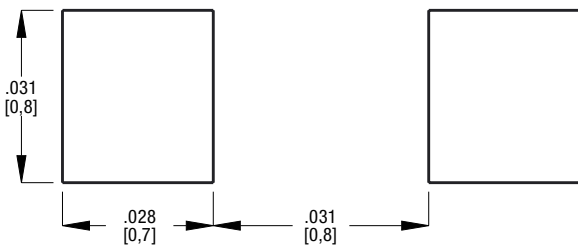
LENS MATERIAL:
Epoxy

STANDARD PACKAGING:
4000/reel

MOISTURE SENSITIVITY LEVEL:
2a

CERTIFICATIONS & RATINGS
RoHS Compliant

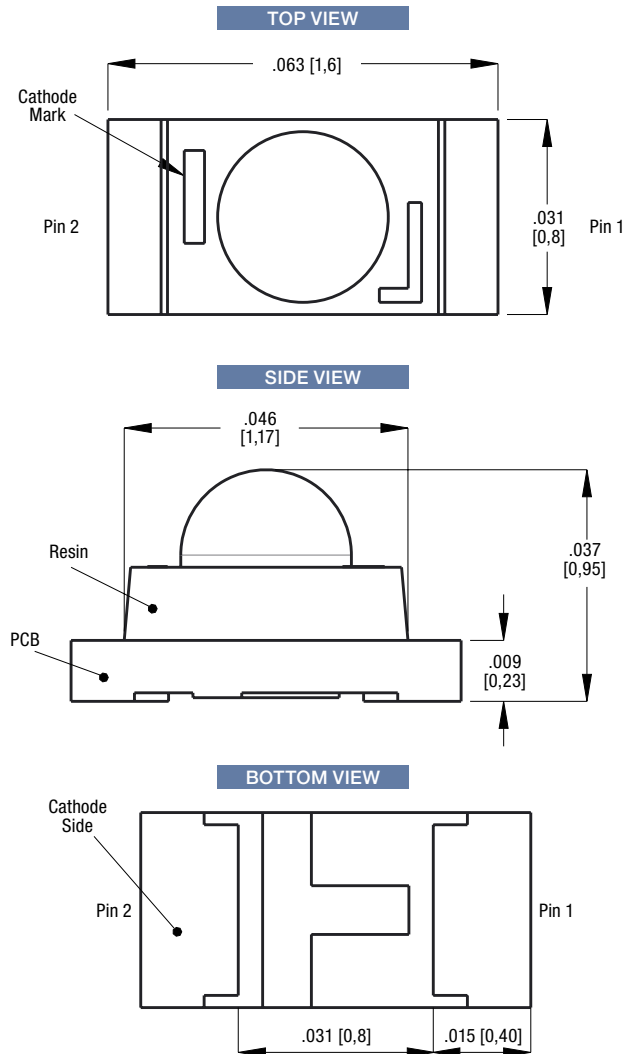
RECOMMENDED PAD LAYOUT



LED SCHEMATIC



DIMENSIONS inches [mm]



ABSOLUTE MAXIMUM RATINGS AT 25°C

Symbol	Parameter	Ratings	Units	Notes
I_F	Forward Current	100	mA	
I_{FP}	Peak Current	1000	mA	1
V_R	Reverse Voltage	5	V	
T_{opr}	Operating Temperature	-40~+85	°C	
T_{stg}	Storage Temperature	-40~+100	°C	
T_{sol}	Soldering Temperature	260	°C	2
P_d	Total Power Dissipation	130	mW	

Notes:

1. IFP Conditions — Pulse Width $\leq 100\mu s$ and Duty $\leq 1\%$.
2. Soldering time ≤ 5 seconds.

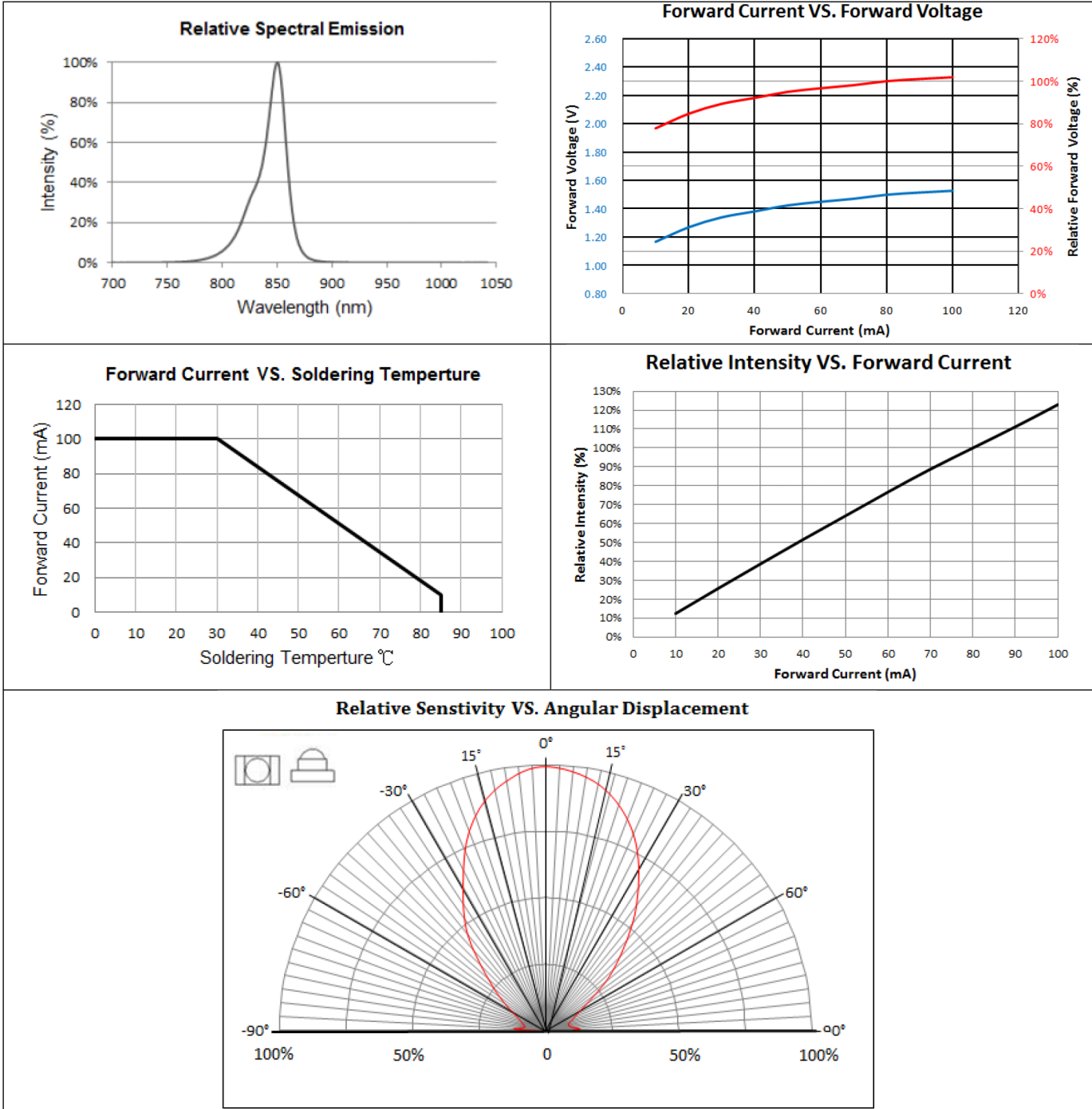
ELECTRICAL - OPTICAL CHARACTERISTICS AT 25°C

Symbol	Parameters	Test Conditions	Min	Typ	Max	Unit
I_e	Radiant Intensity	$I_F=80mA^*$	22	25	30	mW/sr
λ_p	Peak Wavelength	$I_F=80mA^*$	842	850	858	nm
$\Delta\lambda$	Spectral bandwidth	$I_F=80mA^*$	30	35	40	nm
V_F	Forward Voltage	$I_F=80mA^*$	1.2	-	2.0	V
I_R	Reverse Current	$V_R=5V^{**}$	-	-	10	μA
TC_I	Temperature Coefficient of λ_p	$I_F=80mA^{**}$	-	0.33	-	nm/K
TC_V	Temperature Coefficient of Radiant Power	$I_F=80mA^{**}$	-	-0.34	-	%/K
TC_A	Temperature Coefficient of Voltage	$I_F=80mA^{**}$	-	-2.3	-	mV/K
Rth	Thermal Resistance	$I_F=80mA^{**}$		178		K/W
$2\theta_{1/2}$	View Angle	$I_F=80mA^*$	-	80	-	deg

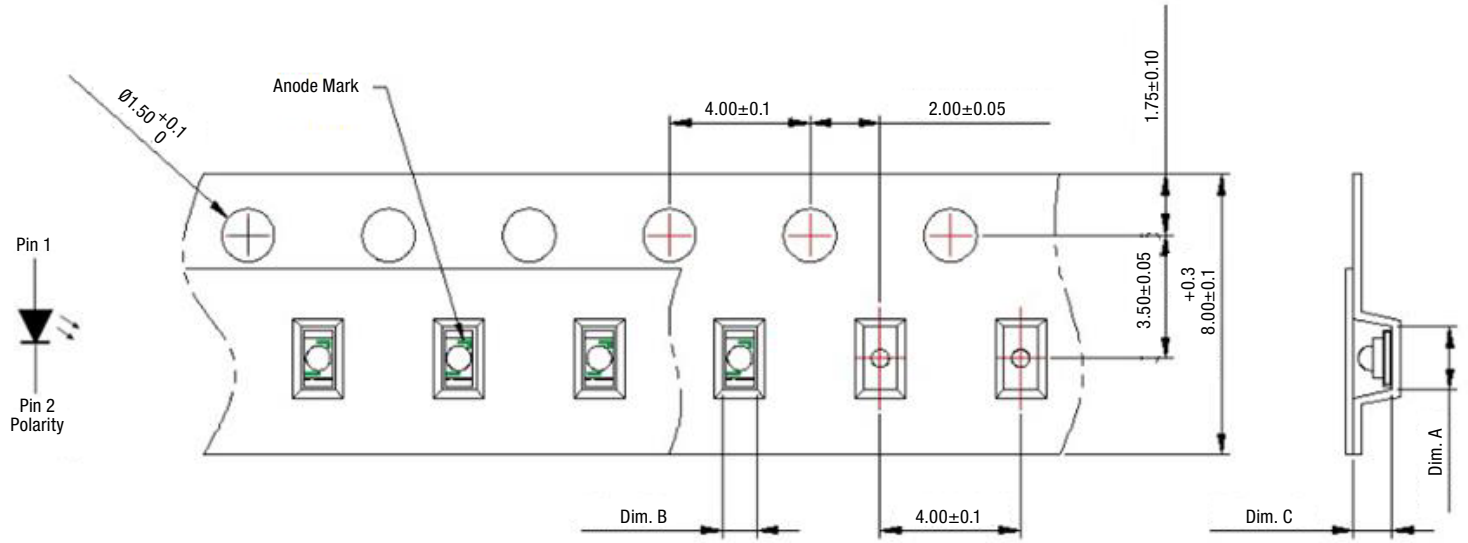
* $I_F=80$ mA, pulse width, $t_p=2$ ms. Frequency at 90 Hz. Ambient temp $T_{Amb}=25^\circ C$.

**Test Conditions.

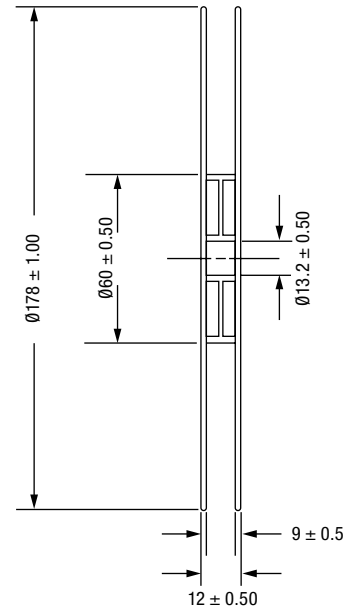
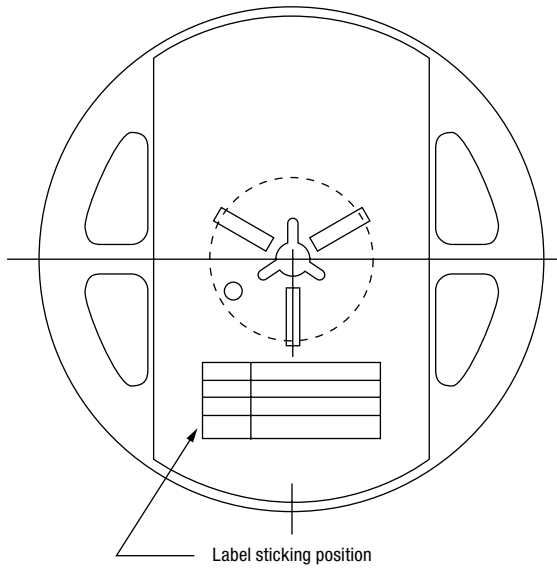
TYPICAL ELECTRICAL-OPTICAL CHARACTERISTICS



TAPE AND REEL SPECIFICATION



Dim A	Dim B	Dim C	Quantity/Reel
1.85±0.05	0.88±0.05	0.95±0.05	4K



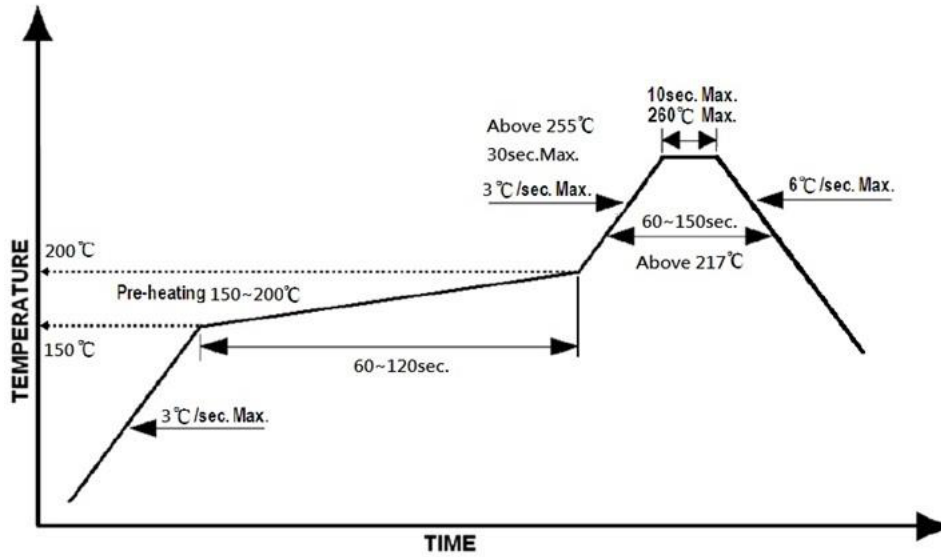
Unit: mm

REFLOW SOLDERING

Recommended soldering paste specifications:

1. Operating temp.: Above 217°C, 60~150 sec.
2. Peak temp.: 260°C Max., 10sec Max.
3. Reflow soldering should not be done more than two times.

LEAD-FREE SOLDER PROFILE



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