



599 SERIES  
**MicroLED® SMD LED**  
**Single-Color 0603**  
1.60 x 0.80 x 0.60mm

**MECHANICAL / SPECIFICATIONS**

DIMENSIONS:  
1.60 x 0.80 x 0.60mm

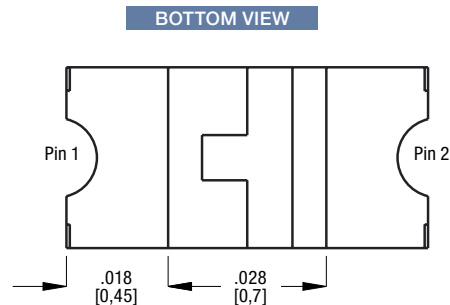
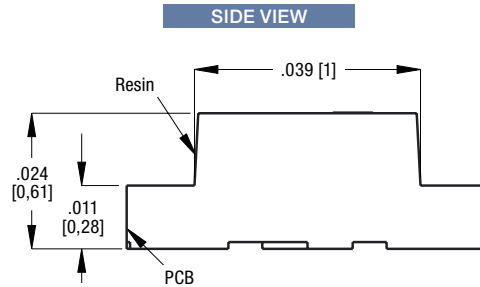
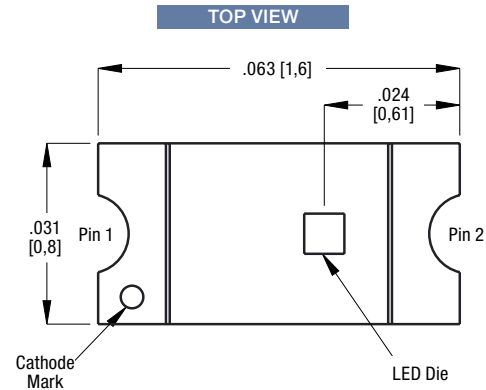
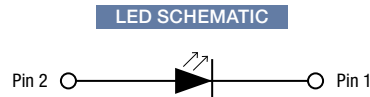
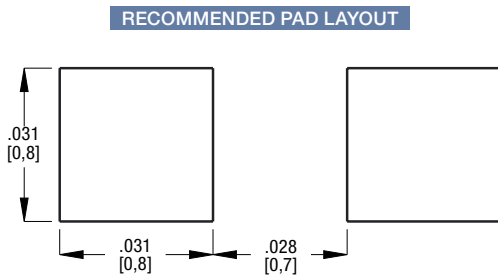
STANDARD PACKAGING:  
4000 pcs on 7in. reel

CERTIFICATIONS & RATINGS  
ROHS Compliant

FEATURES & BENEFITS  
MOISTURE SENSITIVITY LEVEL: 2a  
Compatible with Automatic Placement Equipment

COUNTRY OF ORIGIN  
Taiwan

**DIMENSIONS** inches [mm]



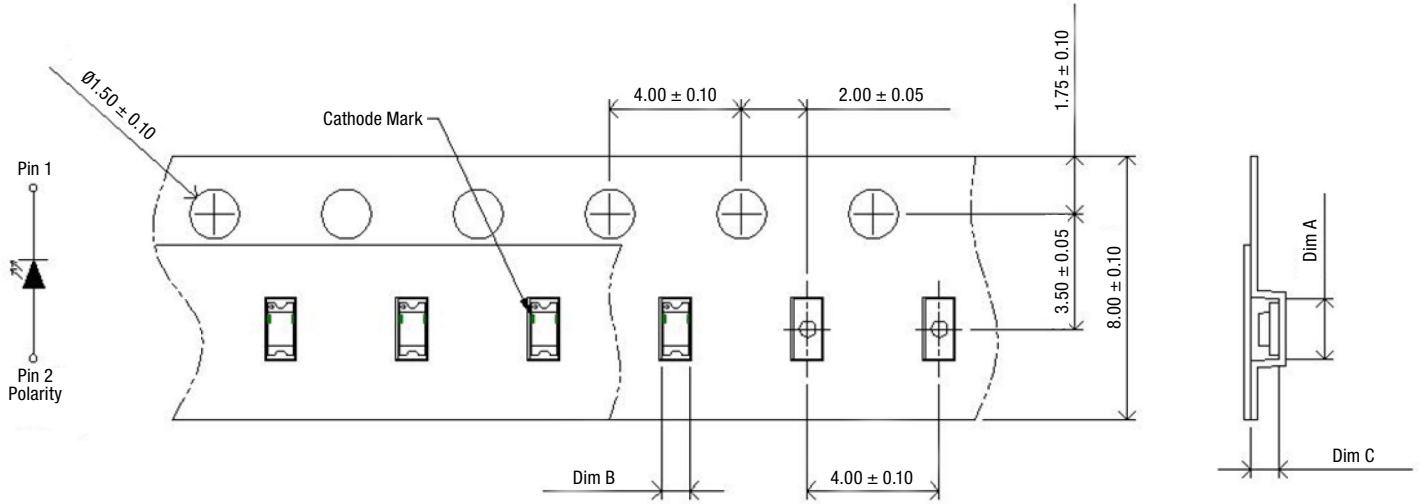
ELECTRICAL/OPTICAL CHARACTERISTICS AT Ta=25°C

Part Number	Emitted Color	Material	Lens Color	Luminous Intensity			Dominant Wavelength			Forward Voltage			Viewing Angle (°deg.)	Reverse Current Intensity (μA) (Ir) VR=5V
				If=20mA										
				Min	Typ	Max	Min	Typ	Max	Min	Typ	Max		
<a href="#">599-1010-147F</a>	● Red	AlGaInP	Diffused	28	45	113	620	624	635	1.6	2.0	2.4	130	10
<a href="#">599-1030-147F</a>	● Orange	AlGaInP		71	113	180	600	605	612	1.6	2.0	2.4		
<a href="#">599-1040-147F</a>	● Yellow	AlGaInP		71	113	180	587	591	595	1.6	2.0	2.4		
<a href="#">599-1060-147F</a>	● Yellow-Green	AlGaInP		45	72	113	570	573	577	1.6	2.0	2.4		
<a href="#">599-1080-147F</a>	● Green	InGaN		112	285	360	515	525	535	2.7	3.3	3.9		
<a href="#">599-1090-147F</a>	● Blue	InGaN		45	72	180	464	470	476	2.7	3.3	3.9		
<a href="#">599-2000-147F</a>	○ White	InGaN		226	300	560	x=0.2900 y=0.2850			2.7	3.0	3.9		

ABSOLUTE MAXIMUM RATINGS AT Ta=25°C

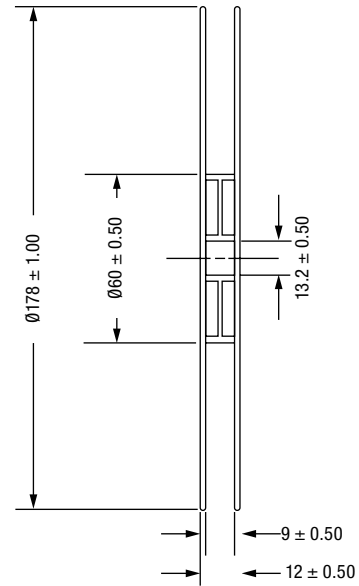
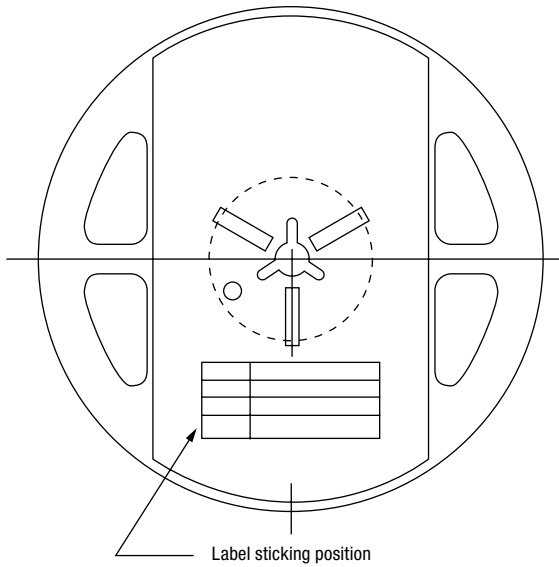
LED Color	Power Dissipation (mW)	Forward Current (mA)	Reverse Voltage (V)	Peak Forward Current *(mA)	Operating Temperature (°C)	Storage Temperature (°C)
● Red	48	20	5	100	-40~+85	-40~+100
● Orange	48	20	5	100	-40~+85	-40~+100
● Yellow	48	20	5	100	-40~+85	-40~+100
● Yellow-Green	48	20	5	100	-40~+85	-40~+100
● Green	78	20	5	80	-40~+85	-40~+100
● Blue	78	20	5	80	-40~+85	-40~+100
○ White	78	20	5	60	-40~+85	-40~+100

TAPE AND REEL SPECIFICATION



Dim A	Dim B	Dim C	Quantity/Reel
1.85±0.05	0.88±0.05	0.85±0.05	4K

Unit: mm



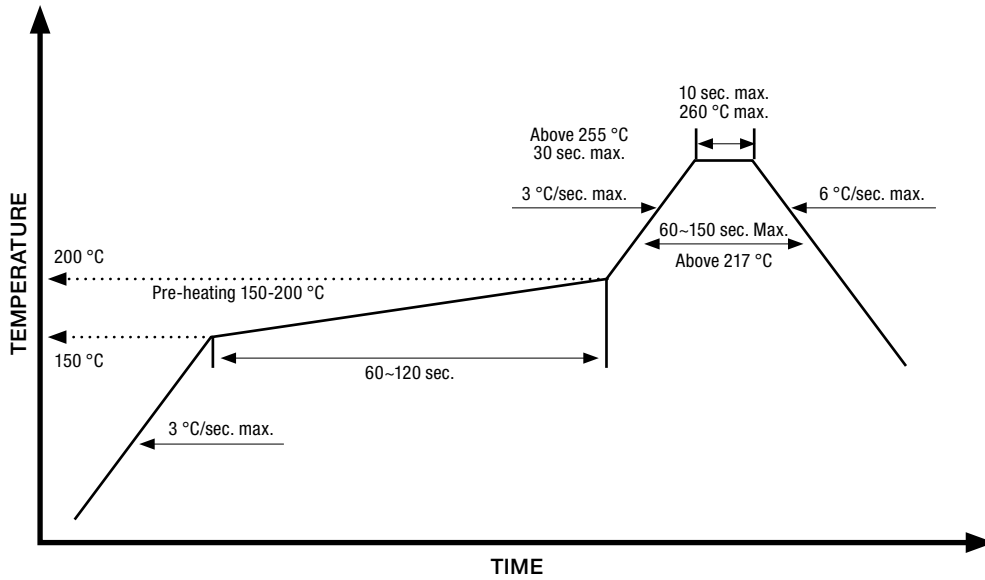
Unit: mm

REFLOW SOLDERING

Recommend 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.

REFLOW SOLDER PROFILE



Mark	Definition	Condition
$T_{S_{max}}$	MAXIMUM OF PRE-HEATING TEMPERATURE	200°C
$T_{S_{min}}$	MINIMUM OF PRE-HEATING TEMPERATURE	150°C
$T_S$	TIME FORM $T_{smin}$ To $T_{smax}$	60-120 sec
$T_L$	REFERENCE TEMPERATURE	217°C
$t_L$	RETENTION TIME FOR $T_L$	WITHIN 60s
$T_P$	PEAK TEMPERATURE	260°C
$t_p$	TIME FOR PEAK TEMPERATURE	WITHIN 10s
$DT_r/Dt$	TEMPERATURE RISING RATE	WITHIN 3°C/sec
$DT_d/Dt$	TEMPERATURE DECREASING RATE	WITHIN 6°C/sec



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