

599 SERIES

MicroLED® SMD LED

Bi-Color 0805

2.0 x 1.30 x 0.50mm

MECHANICAL / SPECIFICATIONS

DIMENSIONS:
2.0 x 1.30 x 0.50mm

STANDARD PACKAGING:
4000 pcs on 7in. reel

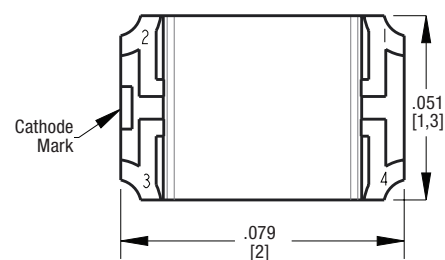
CERTIFICATIONS & RATINGS
ROHS Compliant

FEATURES & BENEFITS

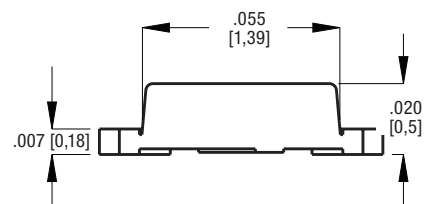
MOISTURE SENSITIVITY LEVEL: 2a
Compatible with Automatic Placement Equipment

DIMENSIONS inches [mm]

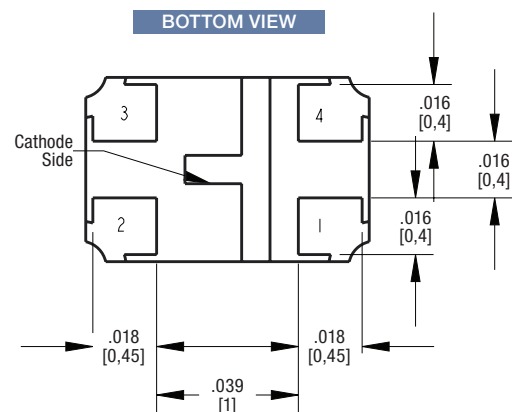
TOP VIEW



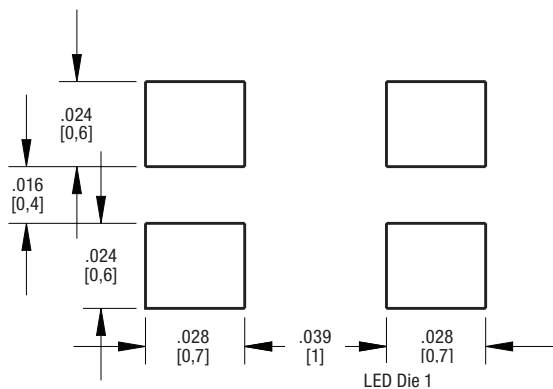
SIDE VIEW



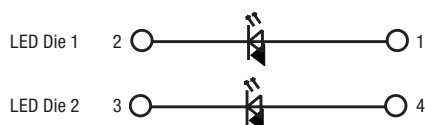
BOTTOM VIEW



RECOMMENDED PAD LAYOUT



LED SCHEMATIC



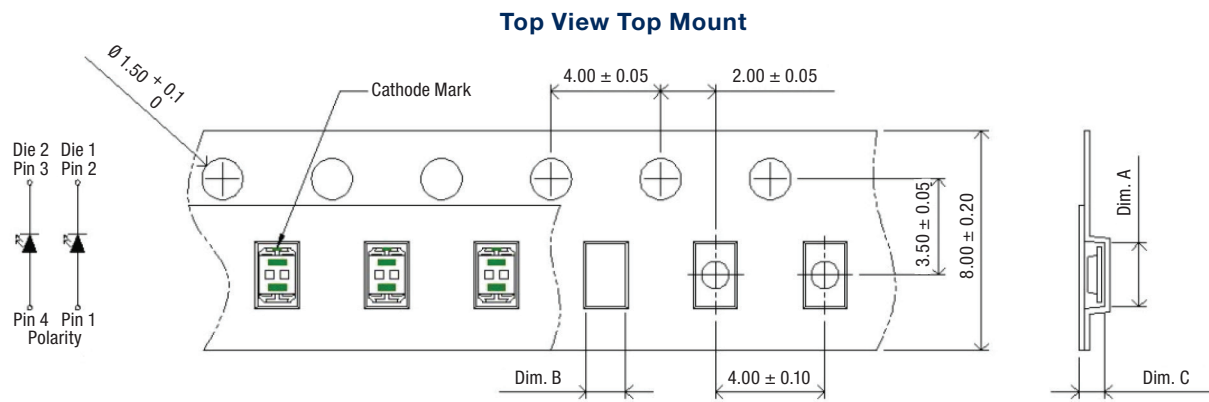
ELECTRICAL/OPTICAL CHARACTERISTICS

				Luminous Intensity			Dominant Wavelength			Forward Voltage			Viewing Angle (°deg.)	Reverse Current Intensity (μA)	
				If=20mA											
				Min	Typ	Max	Min	Typ	Max	Min	Typ	Max		(Ir) VR=5V	
599-1T30-247F	Yellow-Green	AlGaInP	Non-Tinted Diffused	18	—	72	567	—	577	1.6	—	2.4	X=120 Y=118	10	LED Die 1
	Orange			72	—	285	600	—	612	1.6	—	2.4	X=120 Y=125		LED Die 2
599-1T10-247F	Red	AlGaInP		45	—	180	625	—	635	1.6	—	2.4	X=120 Y=118	10	LED Die 1
	Green	InGaN		113	—	360	520	—	535	2.7	—	3.9	X=120 Y=125		LED Die 2
599-1T00-247F	Red	AlGaInP		45	—	180	615	—	635	1.6	—	2.4	X=120 Y=118	10	LED Die 1
	Blue	InGaN		72	—	285	460	—	472	2.7	—	3.9	X=120 Y=125		LED Die 2
599-1T70-247F	Red	AlGaInP		45	—	180	615	—	635	1.6	—	2.4	X=120 Y=118	10	LED Die 1
	Yellow-Green			29	—	113	567	—	577	1.6	—	2.4	X=120 Y=125		LED Die 2
599-1T40-247F	Yellow	AlGaInP		29	—	113	587	—	595	1.6	—	2.4	X=120 Y=125	10	LED Die 1
	Yellow-Green			72	—	226	567	—	577	1.6	—	2.4	X=120 Y=118		LED Die 2

ABSOLUTE MAXIMUM RATINGS AT TS=25°C

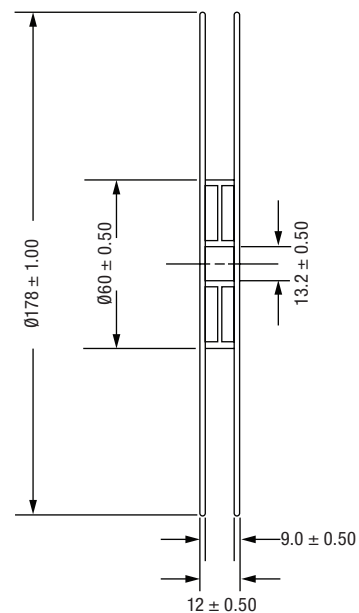
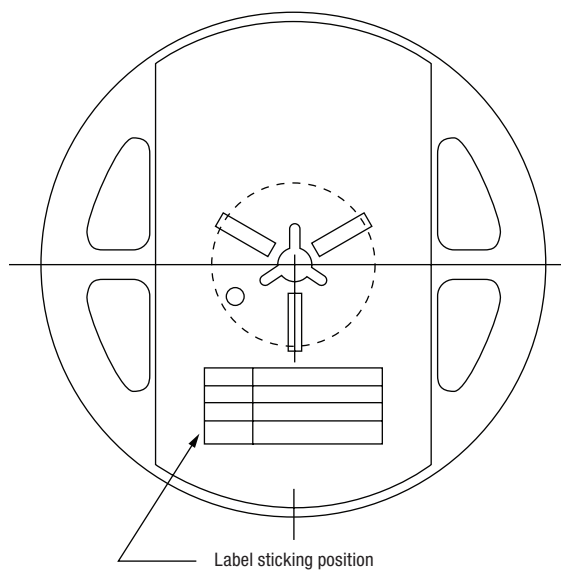
LED Color	Power Dissipation (mW)	Forward Current (mA)	Reverse Voltage (V)	Peak Forward Current *(mA)	Operating Temperature (°C)	Storage Temperature (°C)
● Yellow-Green ● Orange	48	20	5	100	-40 to +85	-40 to +100
● Red ● Green	48 78	20	5	100 80	-40 to +85	-40 to +100
● Red ● Blue	48 78	20	5	100 80	-40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

TAPE AND REEL SPECIFICATION



Dim A	Dim B	Dim C	Quantity/Reel
2.30 ± 0.1	1.40 ± 0.1	0.60 ± 0.1	4K

Unit: mm



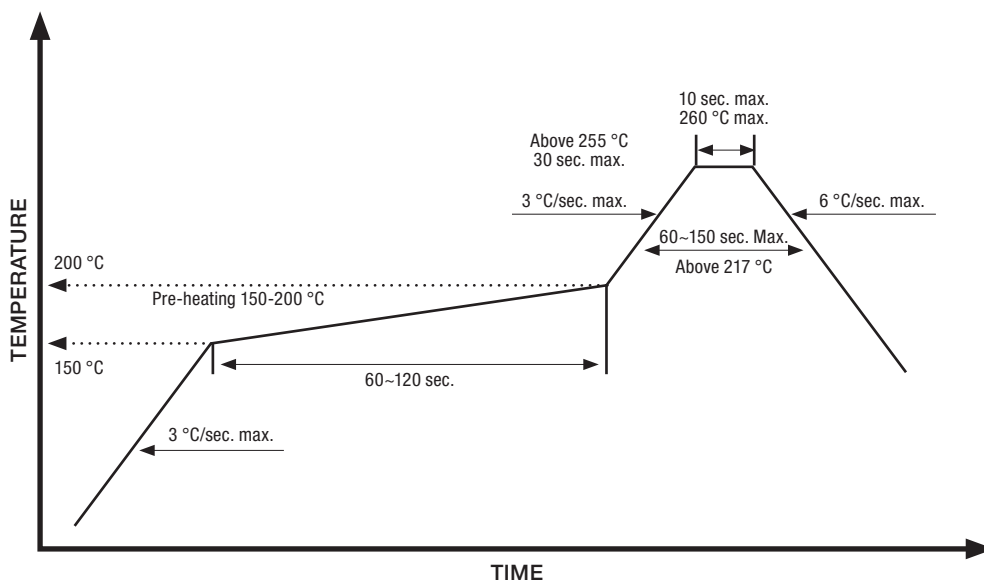
Unit: mm

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.
4. Never attempt next process until the component is cooled down to room temperature after reflow.
5. The recommended reflow soldering profile (measured on the surface of the LED terminal) is as following:

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 $T_{S_{min}}$ To $T_{S_{max}}$	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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