

599 SERIES

MicroLED® SMD LED
Bi-Color 1208 Right Angle

3.0 x 2.0 x 1.0mm

MECHANICAL / SPECIFICATIONS

DIMENSIONS:
3.0 x 2.0 x 1.0mm

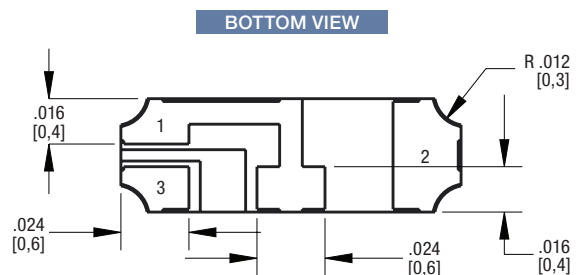
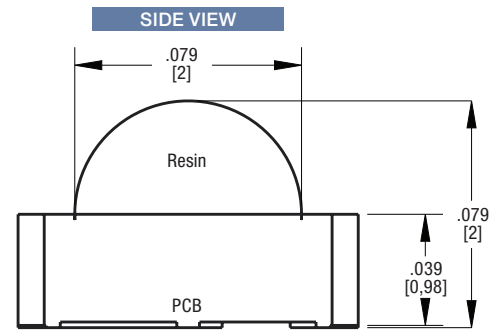
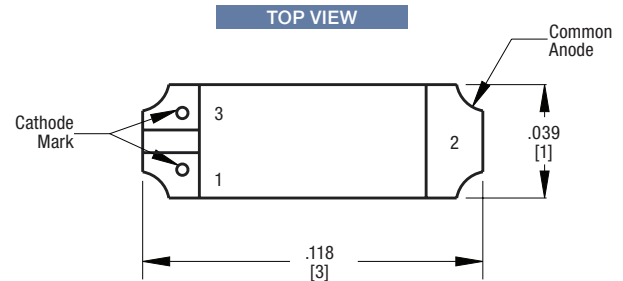
STANDARD PACKAGING:
3000 pcs on 7in. reel

CERTIFICATIONS & RATINGS
ROHS Compliant

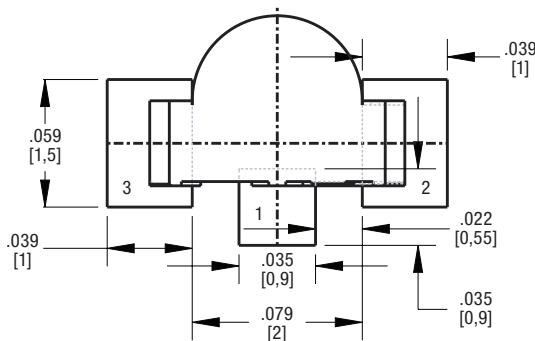
FEATURES & BENEFITS

MOISTURE SENSITIVITY LEVEL: 2a
Compatible with Automatic Placement Equipment

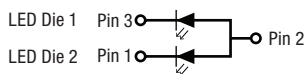
DIMENSIONS inches [mm]



RECOMMENDED PAD LAYOUT



LED SCHEMATIC



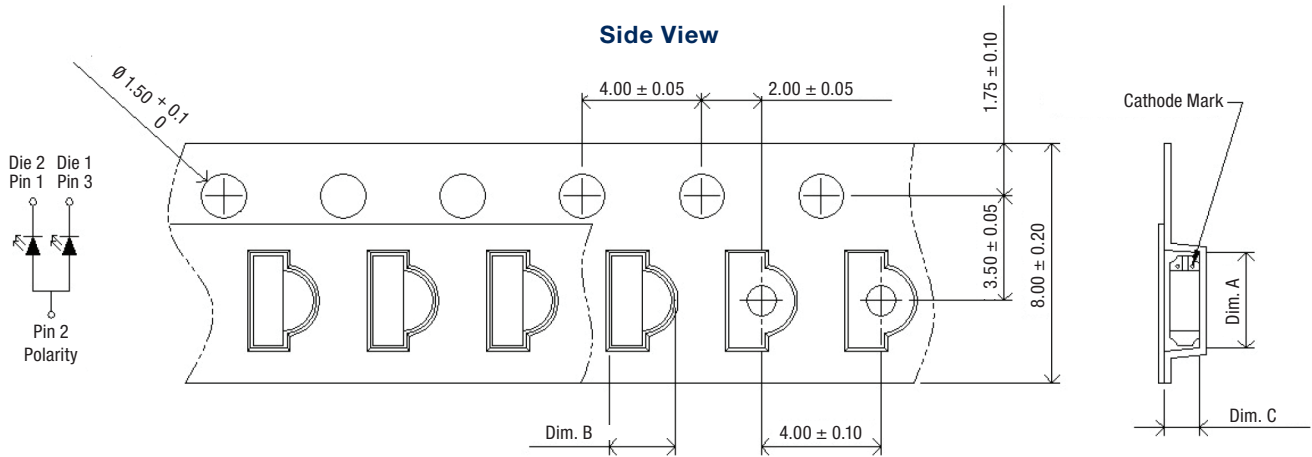
ELECTRICAL/OPTICAL CHARACTERISTICS

Part Number	Emitted Color	Material	Lens Color	Luminous Intensity			Dominant Wavelength			Forward Voltage			Viewing Angle (°deg.)	Reverse Current Intensity (μA)	LED Die Pin Out
				Min	Typ	Max	Min	Typ	Max	Min	Typ	Max			
				If=20mA										(Ir) VR=5V	
599-0Q30-247F	● Yellow-Green	AlGaInP	Water Clear	28.5	45	112.5	567.5	571	579.5	1.6	2.1	2.4	X=130 Y=123	< 10 μA	LED Die 1
	● Orange			45	71.5	180	600	605	612	1.6	2.0	2.4	X=125 Y=120		LED Die 2
599-0Q80-247F	● Orange	AlGaInP		45	71.5	180	600	605	612	1.6	2.0	2.4	X=125 Y=120		LED Die 1
	● Blue	InGaN		45	71.5	180	460	470	476	2.7	3.3	3.9	X=130 Y=123		LED Die 2
599-0Q70-247F	● Red	AlGaInP		140	230	320	620	631	640	1.6	2.0	2.6	X=125 Y=120		LED Die 1
	● Yellow-Green			45	71.5	180	564.5	571	576.5	1.6	2.1	2.4	X=130 Y=123		LED Die 2
599-0Q40-247F	● Yellow	AlGaInP		28.5	71.5	112.5	584.5	589	594.5	1.6	2.0	2.4	X=125 Y=120		LED Die 1
	● Yellow-Green			18	45	71.5	567.5	571	579.5	1.6	2.1	2.4	X=130 Y=123		LED Die 2

ABSOLUTE MAXIMUM RATINGS AT TS=25°C

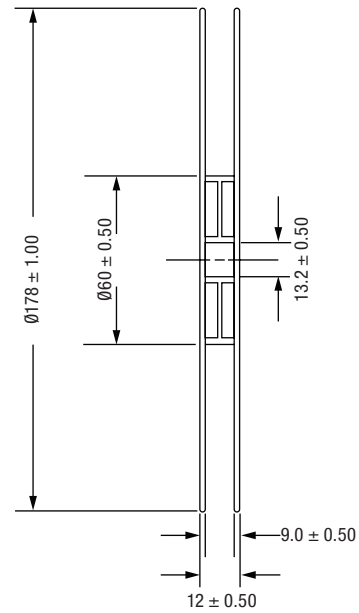
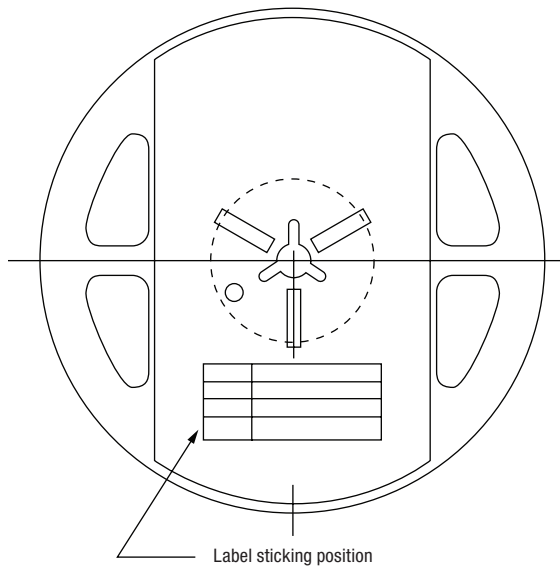
LED Color	Power Dissipation (mW)	Forward Current (mA)	Pulse Forward Current (V)	Operating Temperature (°C)	Storage Temperature (°C)
● Yellow-Green ● Orange	48	20	100	-40~+85	-40~+100
● Orange ● Blue	48 78	20	100 80	-40~+85	-40~+100
● Red ● Yellow-Green	52 48	20	100	-40~+85	-40~+100
● Yellow ● Yellow-Green	48	20	100	-40~+85	-40~+100

TAPE AND REEL SPECIFICATION



Dim A	Dim B	Dim C	Quantity/Reel
3.20±0.1	2.20±0.1	1.20±0.1	3K

Unit: mm



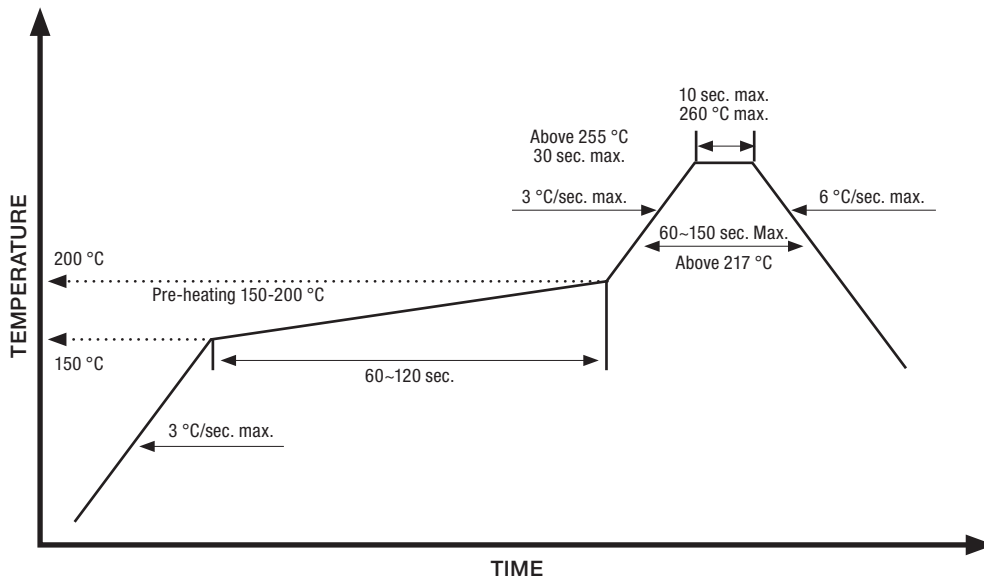
Unit: mm

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
DTr/Dt	TEMPERATURE RISING RATE	WITHIN 3°C/sec
DTd/Dt	TEMPERATURE DECREASING RATE	WITHIN 6°C/sec



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