Dialight
Signals & Components

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599 SERIES

MicroLED® SMD LED Bi-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

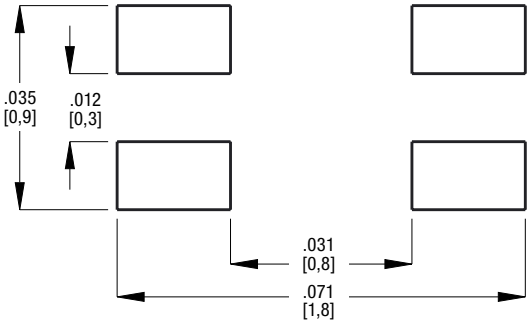
ROHS Compliant

FEATURES & BENEFITS

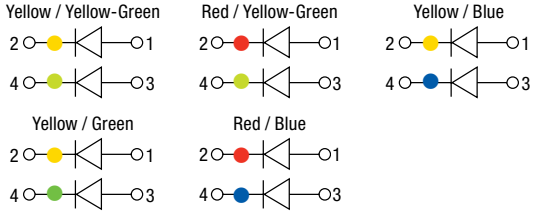
MOISTURE SENSITIVITY LEVEL: 3

Compatible with Automatic Placement Equipment

RECOMMENDED PAD LAYOUT

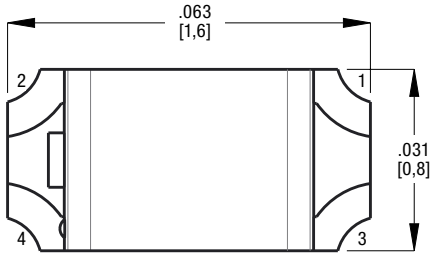


LED SCHEMATIC

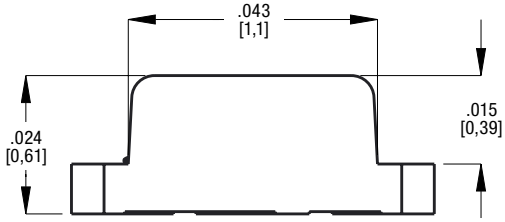


DIMENSIONS inches [mm]

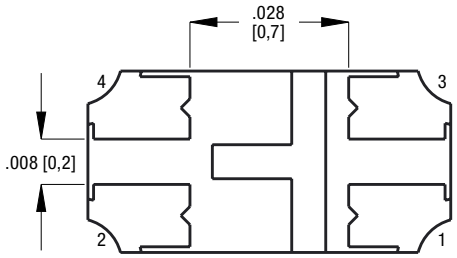
TOP VIEW



SIDE VIEW



BOTTOM VIEW



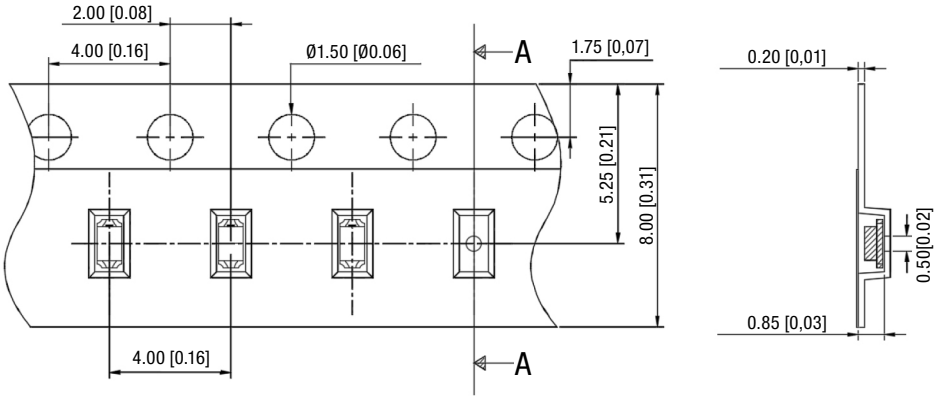
ELECTRICAL/OPTICAL CHARACTERISTICS AT Ta=25°C

				Luminous Intensity			Dominant Wavelength			Forward Voltage			Viewing Angle (°deg.)	Reverse Current Intensity (µA)	
				If=20mA											
Part Number	Emitted Color	Material	Lens Color	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max		(Ir) VR=5V	LED Die Pin Out
599-0040-227F	Yellow	AlGaInP	Water Clear	86	-	321	585	-	595	1.8	-	2.4	120	10	Pin 1, 2
	Yellow-Green			30	-	112	565	-	576	1.8	-	2.4			Pin 3, 4
599-0050-227F	Yellow	AlGaInP		112	-	321	585	-	595	1.8	-	2.4			Pin 1, 2
	Green	InGaN		417	-	1192	520	-	530	2.8	-	3.7			Pin 3,4
599-0070-227F	Red	AlGaInP		51	-	190	624	-	636	1.8	-	2.4			Pin 1, 2
	Yellow-Green			30	-	112	566	-	576	1.8	-	2.4			Pin 3, 4
599-0001-227F	Red	AlGaInP		86	-	247	620	-	630	1.8	-	2.4			Pin 1, 2
	Blue	InGaN		112	-	321	466	-	474	2.8	-	3.4			Pin 3,4
599-0090-227F	Yellow	AlGaInP		86	-	321	585	-	595	1.8	-	2.4			Pin 1, 2
	Blue	InGaN		146	-	417	465	-	475	2.8	-	3.7			Pin 3, 4

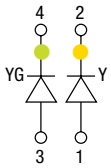
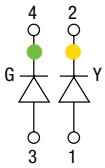
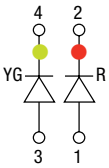
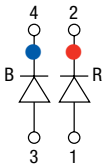
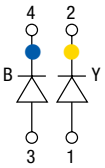
ABSOLUTE MAXIMUM RATINGS AT Ta=25°C

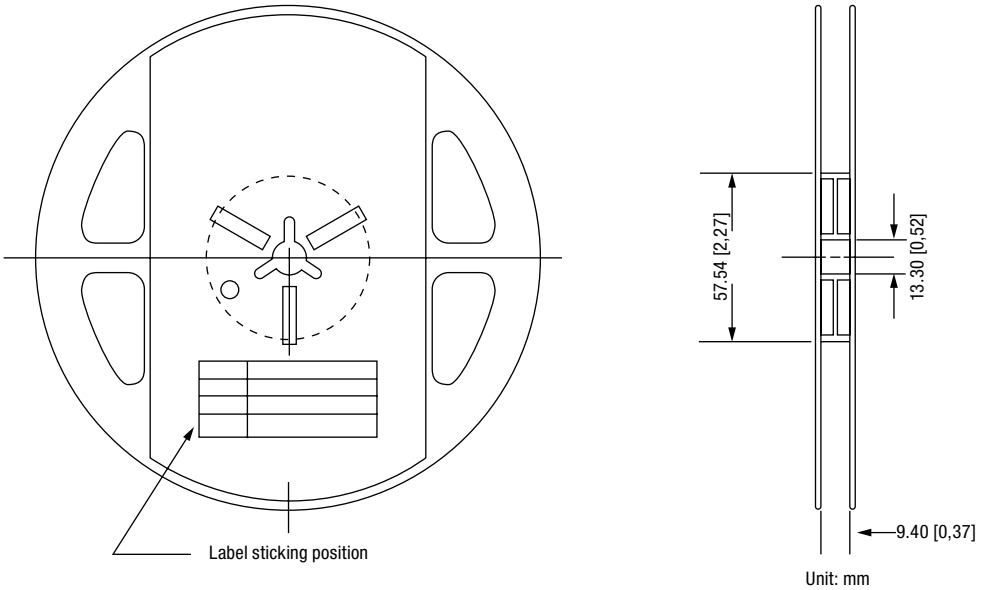
LED Color	Power Dissipation (mW)	Forward Current (mA)	Reverse Voltage (V)	Peak Forward Current *(mA)	Operating Temperature (°C)	Storage Temperature (°C)
Yellow Yellow-Green	72	30	5	125	-40 to +85	-40 to +85
Yellow	72					
Green	111					
Red Yellow-Green	72					
Red	72					
Blue	111					
Yellow	72					
Blue	111					

TAPE AND REEL SPECIFICATION



NOTE: Cathode side is facing toward the sprocket holes

599-0040-227F	599-0050-227F	599-0070-227F	599-0001-227F	599-0090-227F
				



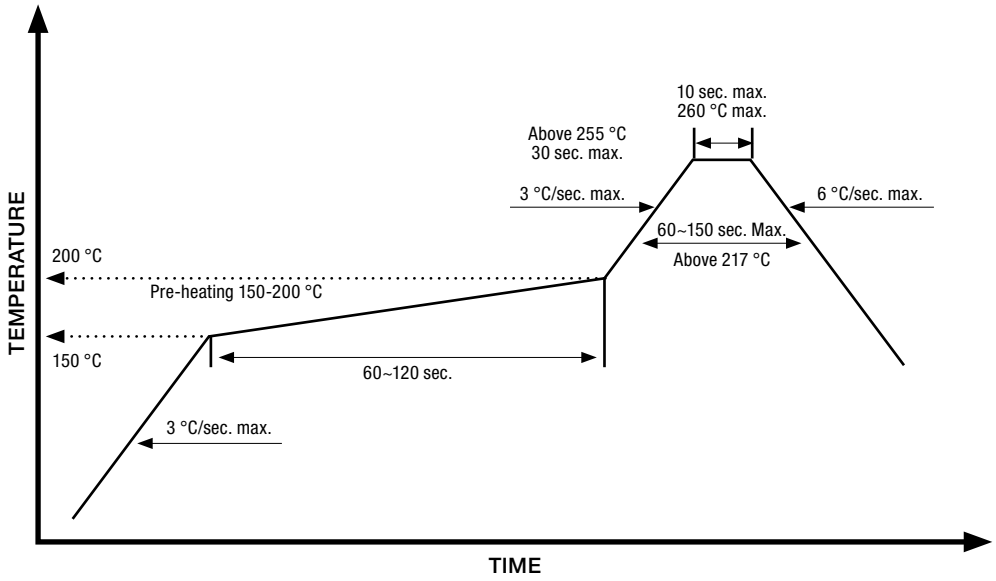
Unit: mm

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
TS_{max}	MAXIMUM OF PRE-HEATING TEMPERATURE	200°C
TS_{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
DTr/Dt	TEMPERATURE RISING RATE	WITHIN 3°C/sec
DTd/Dt	TEMPERATURE DECREASING RATE	WITHIN 6°C/sec

RoHS compliant

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