



593 SERIES **PRISM®** Surface Mount LED 3mm Round Lens

APPLICATIONS

Data center infrastructure
Telecommunication
Electronic test and
measurement instruments
Automation
Medical
Wireless infrastructure

CERTIFICATIONS & RATINGS

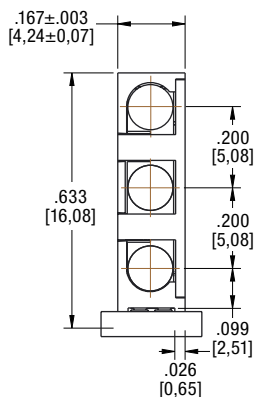
RoHS compliant

FEATURES & BENEFITS

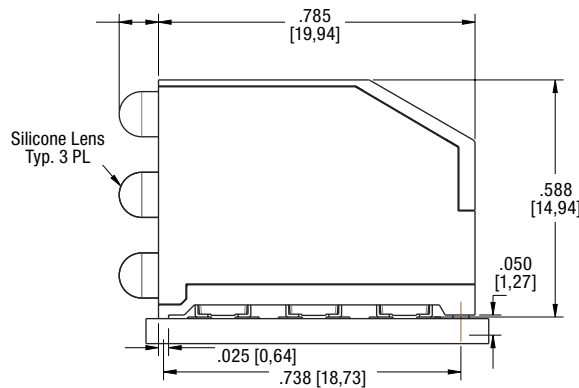
- SMT LED Technology designed to survive 260°C peak reflow temperature
- Eliminates wave soldering process
- Black, low profile PPA housing enhances the contrast ratio for better clarity
- Compatible with automatic pick-and-place equipment for reduced installation costs
- Ideal for limited space applications and board edge mounting

DIMENSIONS inches [mm]

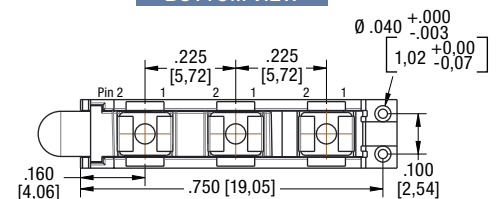
FRONT VIEW



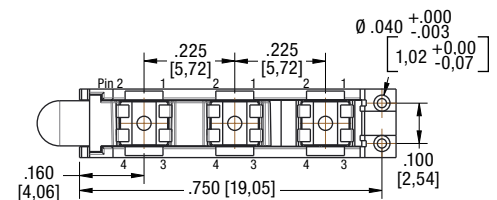
SIDE VIEW



BOTTOM VIEW

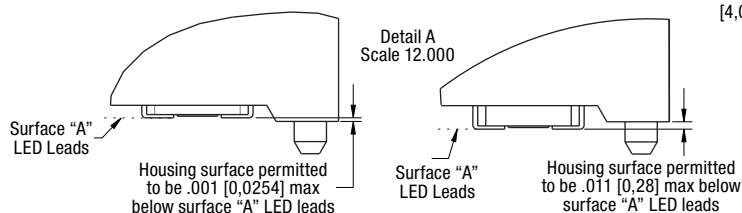


Single-Color LED



Bi-Color LED & Tri-Color LED

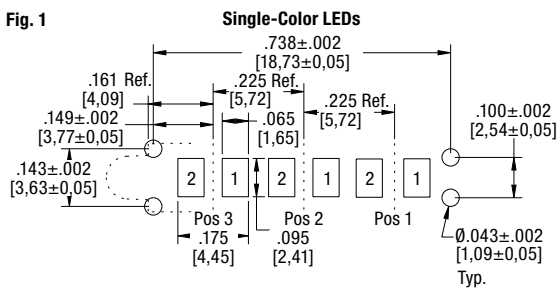
Scale 6.000



Red, yellow, green and yellow-green LEDs 2 kV HBM • True green, InGaN green, blue and white LEDs 500 V HBM

RECOMMENDED PAD LAYOUT

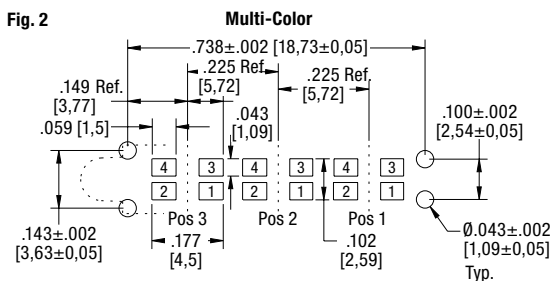
Fig. 1



Pin 1 = Cathode; Pin 2 = Anode

RECOMMENDED PAD LAYOUT

Fig. 2



For multi-color LED pin references, see table

SINGLE-COLOR LED PIN REFERENCE MULTI-COLOR LED PIN REFERENCE

Code	LED Color	Pin 1	Pin 2	Code	LED Color	Pin 1	Pin 2	Pin 3	Pin 4
20	Red	Cathode	Anode	30	Red / Yellow-Green	Red Cathode	Red Anode	Yellow-Green Anode	Yellow-Green Cathode
21	Red	Cathode	Anode	31	Yellow / Yellow-Green	Yellow Cathode	Yellow Anode	Yellow-Green Anode	Yellow-Green Cathode
26	Blue	Cathode	Anode	32	Red / Yellow	Red Cathode	Red Anode	Yellow Anode	Yellow Cathode
27	Yellow	Cathode	Anode	33	Yellow/Green InGaN	Green Cathode	Green Anode	Yellow Cathode	Yellow Anode
28	White	Cathode	Anode	34	Red/Blue	Red Cathode	Red Anode	Blue Anode	Blue Cathode
40	True Green	Cathode	Anode	37	Red / Green / Blue	Red Cathode	Common Anode	Green Cathode	Blue Cathode
				41	Yellow / Pure Green	Yellow Cathode	Yellow Anode	Pure Green Anode	Pure Green Cathode
				42	Red / Green / Blue	Red Cathode	Common Anode	Green Cathode	Blue Cathode

OPERATING CHARACTERISTICS AT 25°C AMBIENT

13" Reel	LED Color	Luminous Intensity (mcd)	Forward Voltage (V)		Dominant Wavelength (nm)	Reverse Current (μA)	MSL Rating	LED Position	
		Typ.	Min.	Max.	Typ.	Max.			
		IF=2mA							
593-303030-313F	Red	5	1.7	2.2	630	10	2	1	
	Yellow-Green	5			570				
	Red	5	1.7	2.2	630	10		2	
	Yellow-Green	5			570				
	Red	5	1.7	2.2	630	10		3	
	Yellow-Green	5			570				
		IF=2mA							
593-303126-413F	Red	5	1.7	2.2	630	10	3	1	
	Yellow-Green	5			570				
	Yellow	6	1.7	2.2	587	10		2	
	Yellow-Green	5			570				
		IF=10mA							
	Blue	95	2.8	3.5	470	10		3	
		IF=2mA							
593-313131-313F	Yellow	6	1.7	2.2	587	10	2	1	
	Yellow-Green	5			570				
	Yellow	6	1.7	2.2	587	10		2	
	Yellow-Green	5			570				
	Yellow	6	1.7	2.2	587	10		3	
	Yellow-Green	5			570				
		IF=20mA							
593-323232-313F	Red	60	1.8	2.3	633	10	2	1	
	Yellow	50	1.9	2.4	587				
	Red	60	1.8	2.3	633	10		2	
	Yellow	50	1.9	2.4	587				
	Red	60	1.8	2.3	633	10		3	
	Yellow	50	1.9	2.4	587				
593-333321-313F	Yellow	300	1.8	2.4	590	10	3	1	
	InGan Green	500	2.8	3.4	520				
	Yellow	300	1.8	2.4	590	10		2	
	InGan Green	500	2.8	3.4	520				
	Red	60	1.8	2.5	630	10		3	
593-333333-313F	Yellow	300	1.8	2.4	590	10	3	1	
	InGan Green	500	2.8	3.4	520				
	Yellow	300	1.8	2.4	590	10		2	
	InGan Green	500	2.8	3.4	520				
	Yellow	300	1.8	2.4	590	10		3	
	InGan Green	500	2.8	3.4	520				
593-373321-313F	Red	150	1.8	2.4	620	10	3	1	
	Green	400	2.8	3.6	523				
	Blue	60	2.8	3.6	470				
	Yellow	300	1.8	2.4	590	10		2	
	InGan Green	500	2.8	3.4	520				
	Red	60	1.8	2.5	630				10

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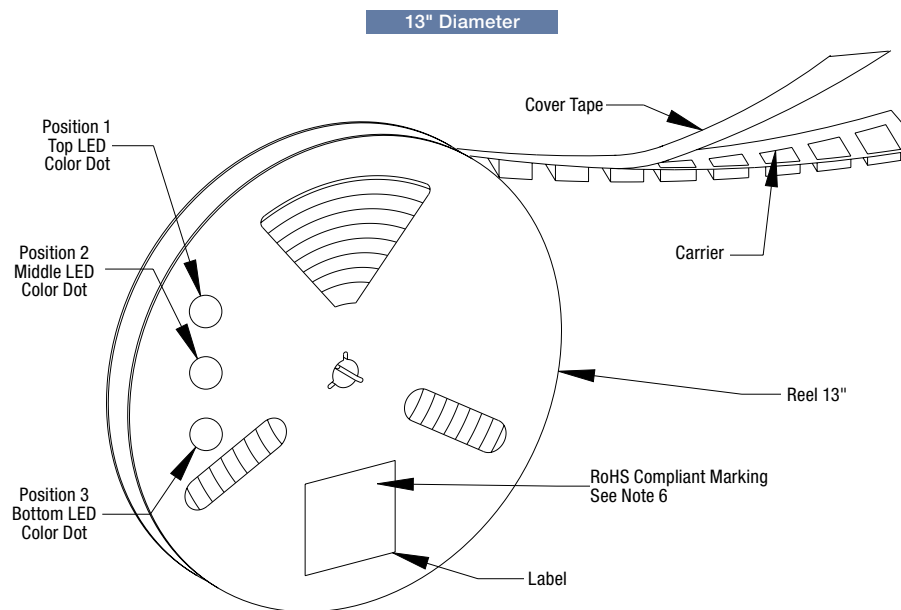
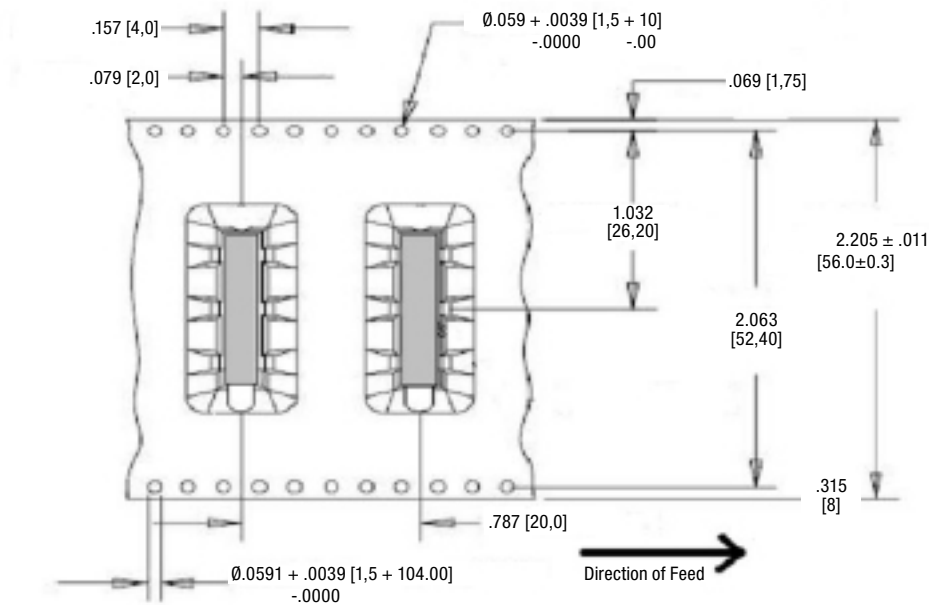
OPERATING CHARACTERISTICS AT 25°C AMBIENT

13" Reel	LED Color	Luminous Intensity (mcd)	Forward Voltage (V)		Dominant Wavelength (nm)	Reverse Current (μA)	MSL Rating	LED Position
		Typ.	Min.	Max.	Typ.	Max.		
		IF=20mA						
593-414141-313F	Yellow	100	1.8	2.4	590	10	3	1
	Pure Green	5.0	1.8	2.4	560			
	Yellow	100	1.8	2.4	590	10		2
	Pure Green	5.0	1.8	2.4	560			
	Yellow	100	1.8	2.4	590	10		3
	Pure Green	5.0	1.8	2.4	560			
593-373737-413F	Red	150	1.8	2.4	620	10	3	1
	Green	400	2.8	3.6	523			
	Blue	60	2.8	3.6	470			
	Red	150	1.8	2.4	620	10		2
	Green	400	2.8	3.6	523			
	Blue	60	2.8	3.6	470			
	Red	150	1.8	2.4	620	10		3
	Green	400	2.8	3.6	523			
	Blue	60	2.8	3.6	470			
593-402627-413F	True Green	400	2.8	3.5	525	10	3	1
	Blue	100	2.8	3.5	470	10		2
	AlInGaP Yellow	130	1.9	2.4	587	10		3
593-424242-413F	Red	50	1.5	2.4	620	10	3	1
	Green	300	2.8	3.6	523	50		
	Blue	50	2.8	3.6	470	50		
	Red	50	1.5	2.4	620	10		2
	Green	300	2.8	3.6	523	50		
	Blue	50	2.8	3.6	470	50		
	Red	50	1.5	2.4	620	10		3
	Green	300	2.8	3.6	523	50		
	Blue	50	2.8	3.6	470	50		

ABSOLUTE MAXIMUM RATINGS AT 25°C AMBIENT

	Codes																		Units					
	20	21	26	27	28	30	31		32	33		34		37		40	41			42				
	R	R	B	Y	W	R	YG	Y	YG	R	Y	Y	Y	R	B	R	G	B		TG	Y	TG	R	G
Continuous Forward Current	30	30	30	30	30	15	15		30	20		20		30			30	30	50	30	30	mA		
Reverse Voltage	12	5	5	12	5	12	12		12	5		5		5			5	5	5			V		
Peak Forward Current	250	185	100	200	100	100	100		200	125		100		100			100	100	130	100	100	mA		
Operating Temperature Range	-40°C to +85°C																				°C			
Storage Temperature Range	-40°C to +100°C																				°C			

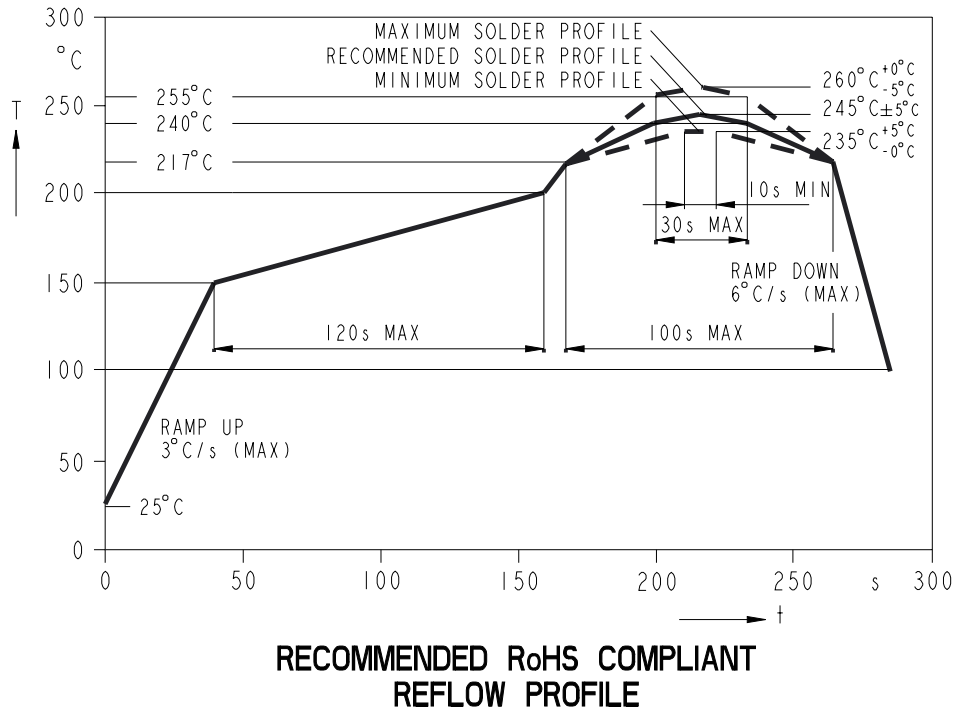
TAPE AND REEL SPECIFICATIONS



* 13" Reel Per EIA standard 481-2 on 56mm wide carrier tape
 * Quantity = 150 Pcs/reel in vacuum sealed bag
 * Label and color dots on reel and on bag
 * Label to include P/N, qty. per bag, MFG date, LED lot no., LED color, LED bin Intensity for all LEDs
 corner of label on reel indicates moisture sensitivity level
 aluminum barrier bag includes MSL label

REFLOW SOLDERING PROFILE:

Note: Reflow soldering should not be done more than two times.



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