

Part Number: **5922121002F**

General Description

Series	592
Configuration	3 mm Lens
Description	AlGaAs Red/AlGaAs Red 3mm Bi-Level Prism CBI Surface Mount LED
Package Options	Sample Strip
Sizes	3mm
Lamp Type	Single Color
Compliance	UL 94V-0

Absolute Maximum Ratings (Ta = 25°)

Forward Current mA	40mA
Forward Current Pulsed	200mA
Solder Temperature	235 peak, above 185 for 90 sec, 215 for 3 min
Operating Temperature	-55 +100
Storage Temperature	-55 +100

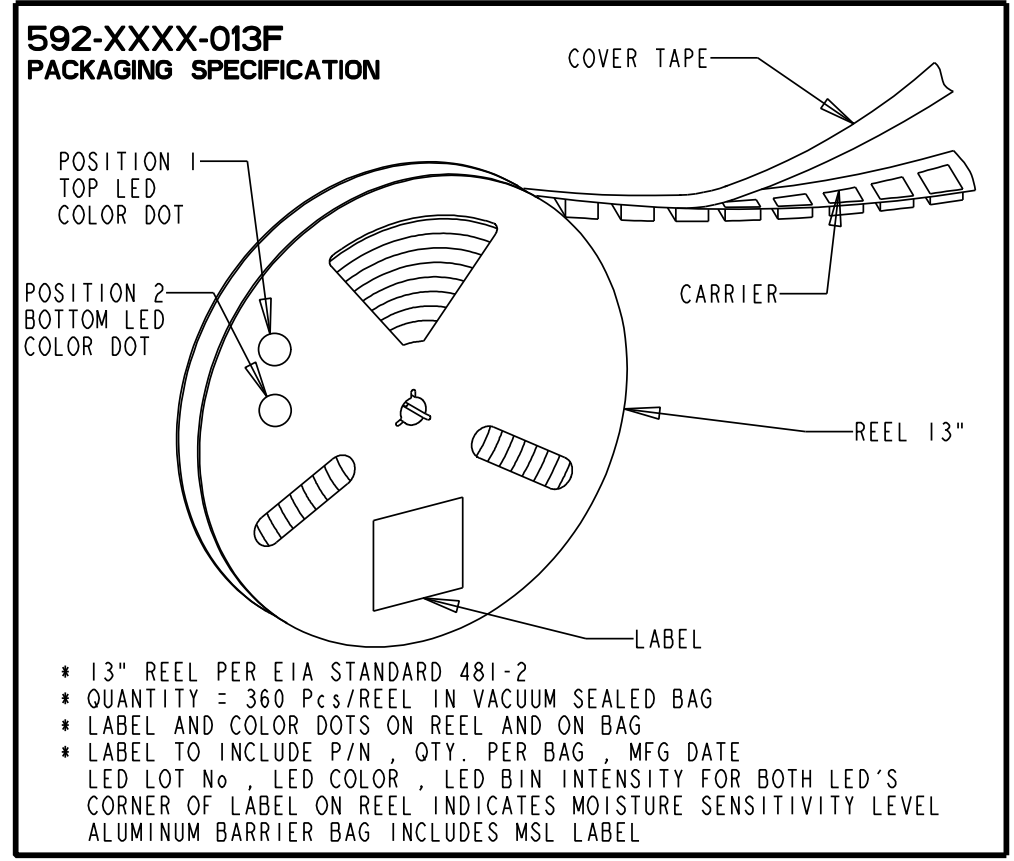
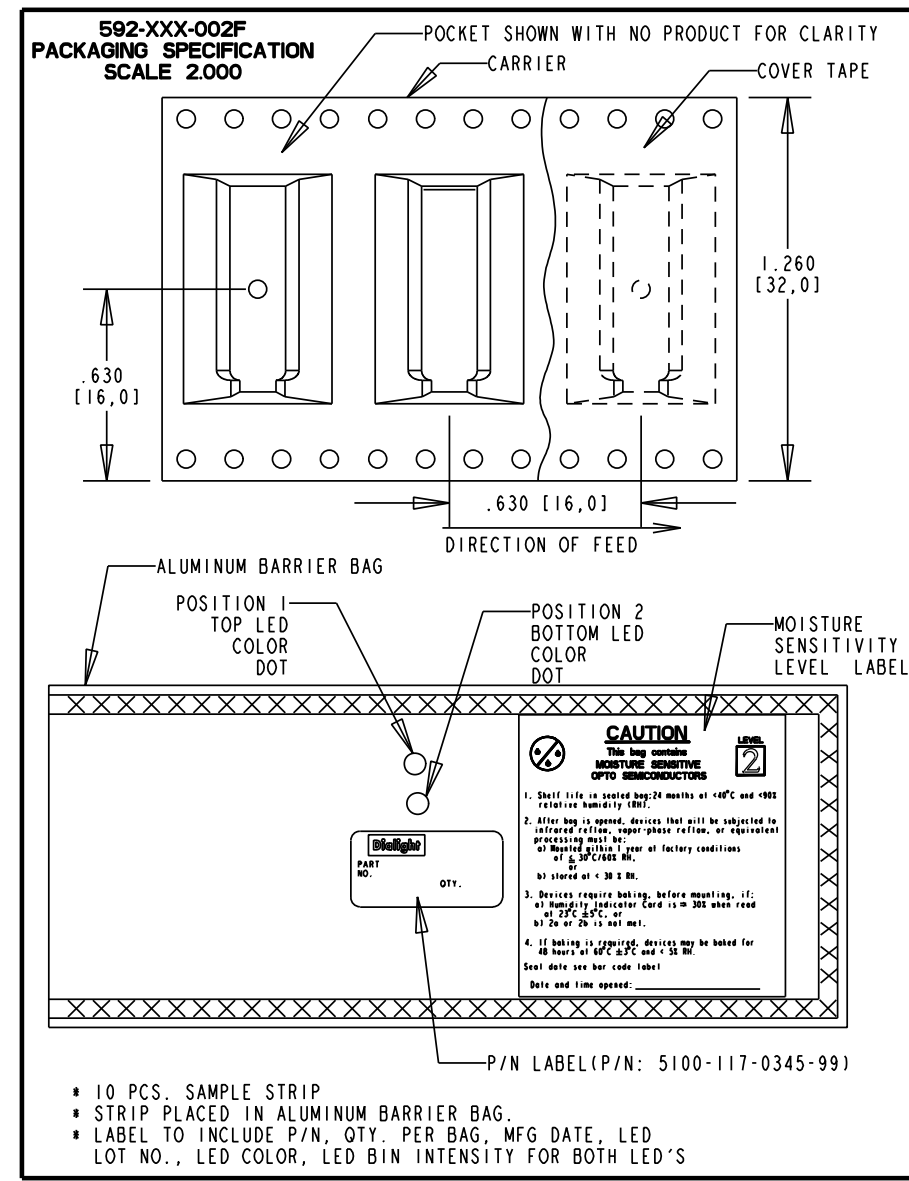
Operating Characteristics

Color	AlGaAs Red
LED Type	Standard Efficiency
LED Position	1,2
Luminous Intensity Typical	23.9
Dominant Wavelength Typical	638nm
Power Dissipation Max	100mWmW

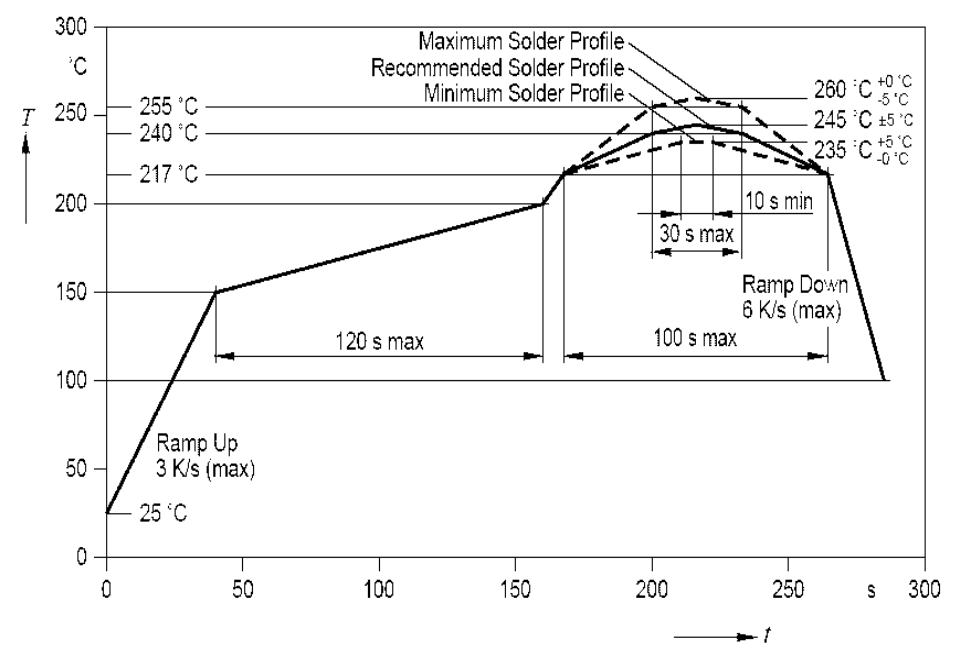


This is a
RoHS Compliant Product
[To learn more click here](#)

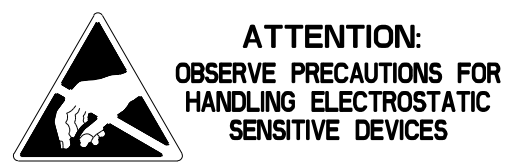
PART NUMBER	POSITION 1	POSITION 2	MOISTURE LEVEL
592-2020-002F	RED (HI.EFF)	RED (HI.EFF)	2
592-2020-013F	RED (HI.EFF)	RED (HI.EFF)	2
592-2023-002F	RED (HI.EFF)	GREEN	2
592-2023-013F	RED (HI.EFF)	GREEN	2
592-2121-002F	RED (AlGaAs)	RED (AlGaAs)	2
592-2121-013F	RED (AlGaAs)	RED (AlGaAs)	2
592-2124-002F	RED (AlGaAs)	YELLOW	2
592-2124-013F	RED (AlGaAs)	YELLOW	2
592-2222-002F	GREEN (HI.INT)	GREEN (HI.INT)	2
592-2222-013F	GREEN (HI.INT)	GREEN (HI.INT)	2
592-2320-002F	GREEN	RED (HI.EFF)	2
592-2320-013F	GREEN	RED (HI.EFF)	2
592-2323-002F	GREEN	GREEN	2
592-2323-013F	GREEN	GREEN	2
592-2324-002F	GREEN	YELLOW	2
592-2324-013F	GREEN	YELLOW	2
*592-2326-002F	GREEN	BLUE (InGaN)	2
*592-2326-013F	GREEN	BLUE (InGaN)	2
592-2420-002F	YELLOW	RED (HI.EFF)	2
592-2420-013F	YELLOW	RED (HI.EFF)	2
592-2422-002F	YELLOW	GREEN (HI.INT)	2
592-2422-013F	YELLOW	GREEN (HI.INT)	2
592-2423-002F	YELLOW	GREEN	2
592-2423-013F	YELLOW	GREEN	2
592-2424-002F	YELLOW	YELLOW	2
592-2424-013F	YELLOW	YELLOW	2
592-2525-002F	ORANGE	ORANGE	2
592-2525-013F	ORANGE	ORANGE	2
*592-2626-002F	BLUE (InGaN)	BLUE (InGaN)	2
*592-2626-013F	BLUE (InGaN)	BLUE (InGaN)	2
592-2627-002F	BLUE	YELLOW	2
592-2627-013F	BLUE	YELLOW	2
592-2628-002F	BLUE	WHITE	2
592-2628-013F	BLUE	WHITE	2
592-2631-002F	BLUE	YELLOW / GREEN	2
592-2631-013F	BLUE	YELLOW / GREEN	2
592-2627-002F	BLUE	YELLOW	2
592-2627-013F	BLUE	YELLOW	2
592-2727-002F	YELLOW (AlInGaP)	YELLOW (AlInGaP)	2
592-2727-013F	YELLOW (AlInGaP)	YELLOW (AlInGaP)	2
*592-2828-002F	WHITE	WHITE	2
*592-2828-013F	WHITE	WHITE	2
592-3030-002F	RED / GREEN	RED / GREEN	2
592-3030-013F	RED / GREEN	RED / GREEN	2
*592-3126-002F	YELLOW / GREEN	BLUE (InGaN)	2
*592-3126-013F	YELLOW / GREEN	BLUE (InGaN)	2
592-3131-002F	YELLOW / GREEN	YELLOW / GREEN	2
592-3131-013F	YELLOW / GREEN	YELLOW / GREEN	2
592-3232-002F	RED / YELLOW	RED / YELLOW	2
592-3232-013F	RED / YELLOW	RED / YELLOW	2
592-3535-002F	RED/GREEN/BLUE	RED/GREEN/BLUE	2
592-3535-013F	RED/GREEN/BLUE	RED/GREEN/BLUE	2
592-3031-002F	RED/GREEN	YELLOW/GREEN	2
592-3031-013F	RED/GREEN	YELLOW/GREEN	2
* ESD SENSITIVE - SEE CAUTION NOTE			



REV.	ECN NO.	REVISIONS	DRN.	CKD.	APP.	DATE
A		NEW RELEASE	TWC	NO	MES	2-22-05
B		ADDED P-N 592-2627-002F & 592-2627-013F & ESD LOGO	SM			

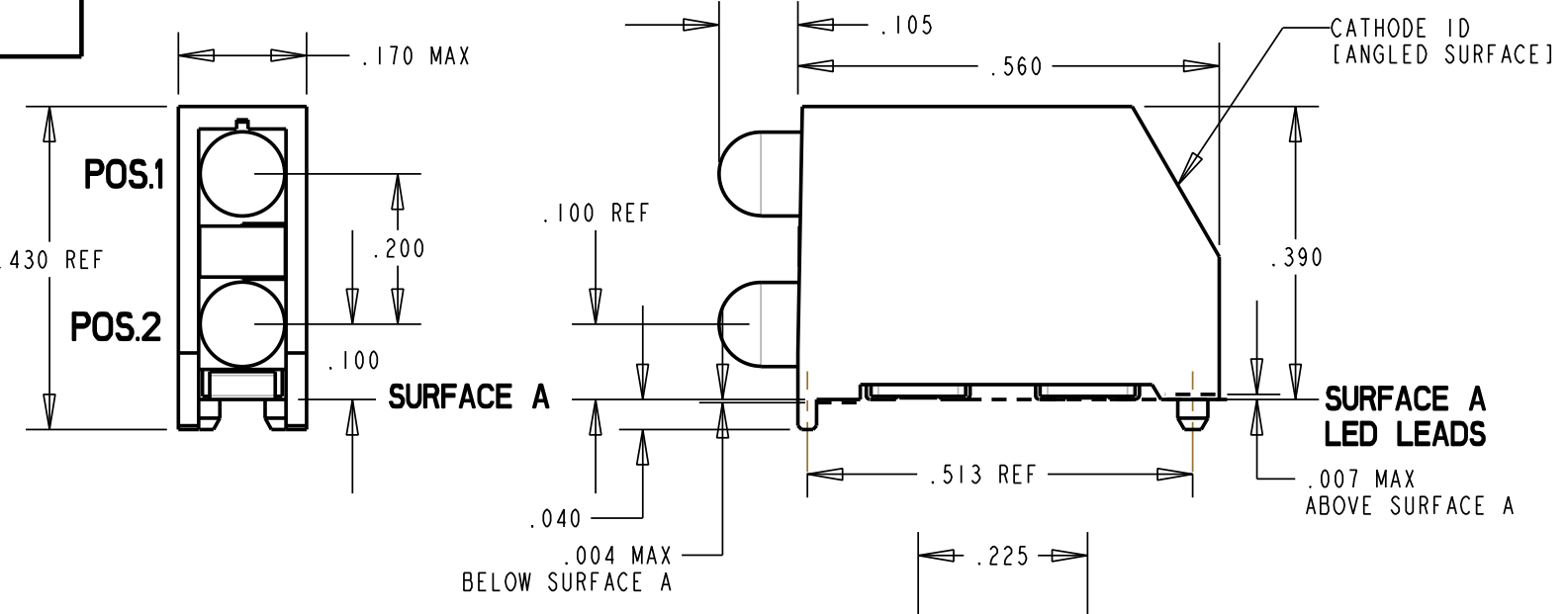


REFLOW PROFILE FOR RoHS COMPLIANT PART

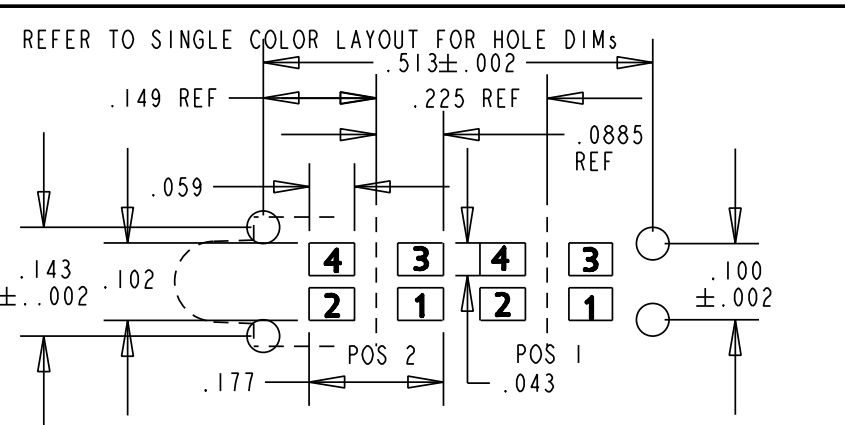


ATTENTION:
OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES

- NOTES:
- STORAGE OF TAPED PARTS SHALL NOT EXCEED TWELVE (12) MONTHS AFTER WHICH RE-PACKAGING IS REQUIRED
 - FRONT AND REAR TERMINALS (OF EACH LED) OF THE ASSEMBLY TO BE WITHIN .005 COPLANARITY
 - MOISTURE SENSITIVITY LEVEL A LABEL WILL BE PLACED ON THE BAG - CHECK CHART FOR PROPER LEVEL
 - *** CAUTION *** FOR PRODUCTS THAT ARE ESD SENSITIVE OBSERVE PRECAUTIONS IN HANDLING ELECTROSTATIC SENSITIVE DEVICES. FOR EYE SAFETY DO NOT STARE DIRECTLY INTO THE LIGHT BEAM OF THESE LED DEVICES AT CLOSE RANGE
 - DIALIGHT PART NUMBERS = 592-XXX-002F [STRIP] 592-XXXX-013F [13" REEL]

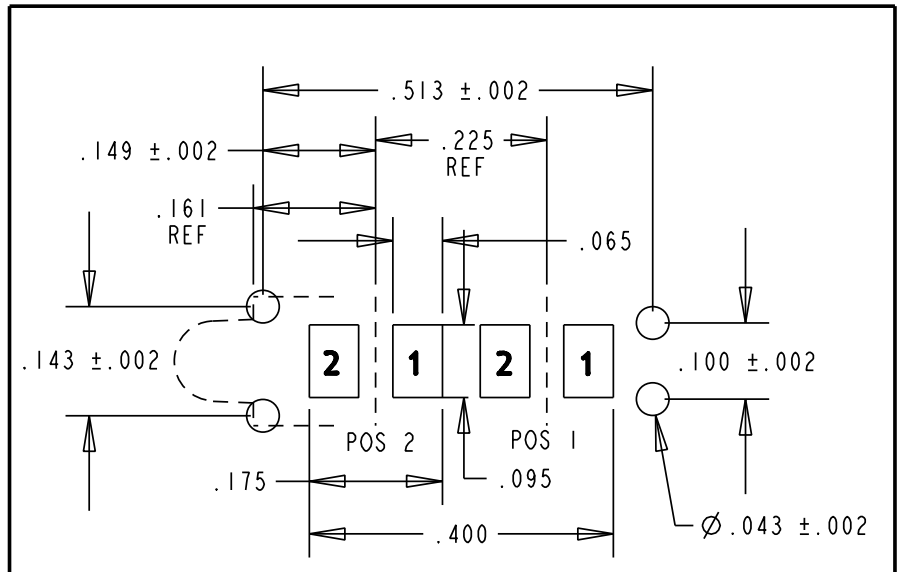


++ SINGLE COLOR LED SHOWN ++



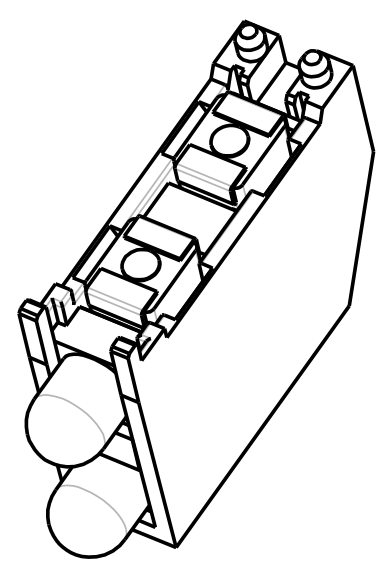
LED COLOR	PIN 1	PIN 2	PIN 3	PIN 4
RED / YELLOW	RED CATHODE	RED ANODE	YELLOW ANODE	YELLOW CATHODE
GREEN / YELLOW	YELLOW CATHODE	YELLOW ANODE	GREEN ANODE	GREEN CATHODE
RED / GREEN	RED CATHODE	RED ANODE	GREEN ANODE	GREEN CATHODE
R/G/B TRI-COLOR	RED CATHODE	COMMON ANODE	GREEN CATHODE	BLUE CATHODE

RECOMMENDED PAD LAYOUT - MULTI-COLOR

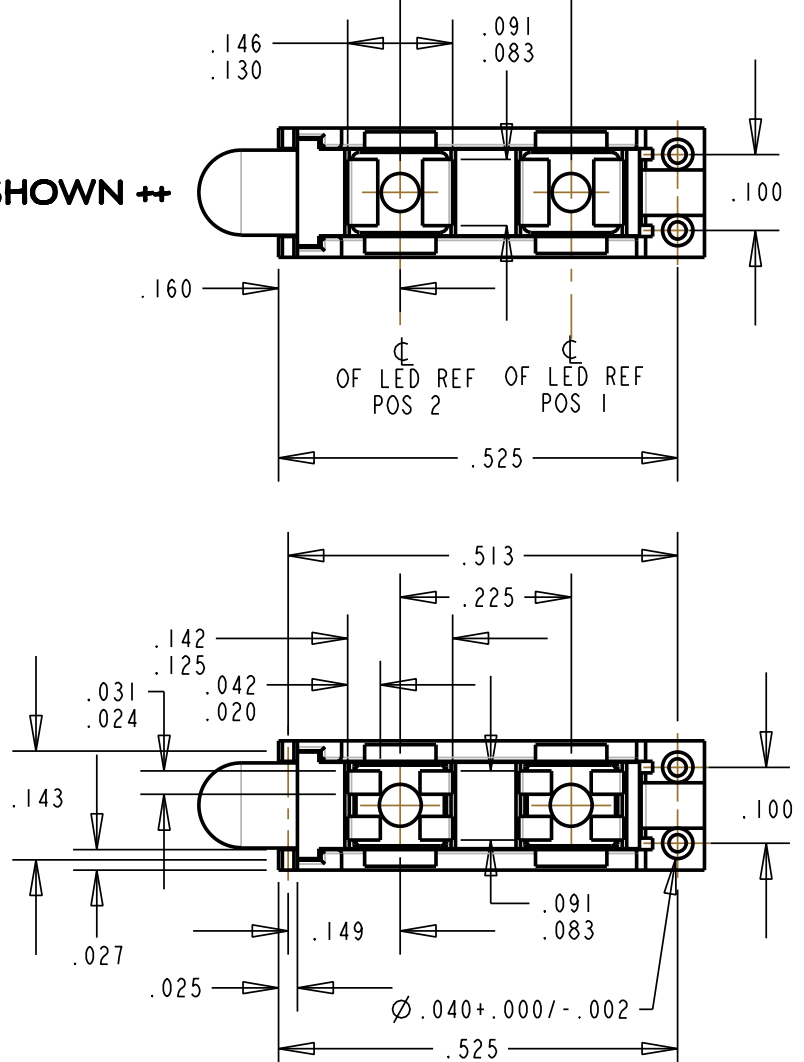


LED COLOR	PIN 1	PIN 2
SINGLE COLOR	CATHODE	ANODE

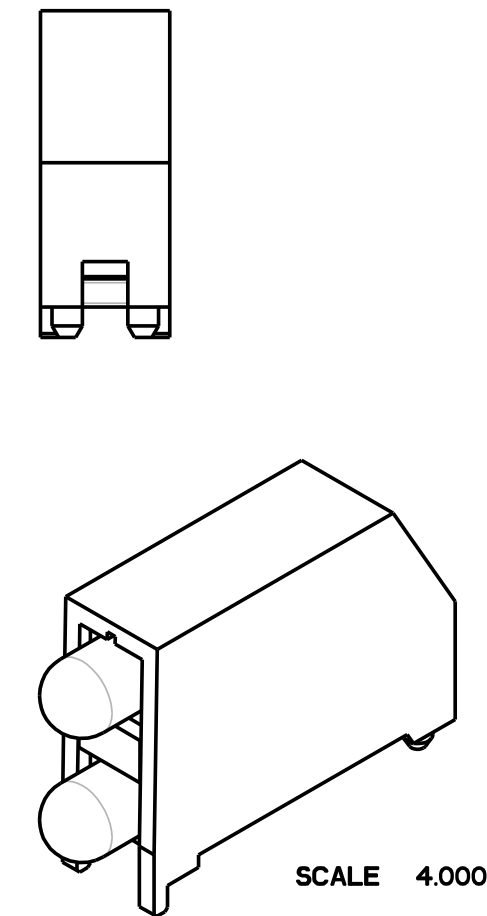
RECOMMENDED PAD LAYOUT - SINGLE COLOR



SCALE 4.000



++ BI-COLOR AND TRI-COLOR LED SHOWN ++ WITH TERMINAL DIMENSIONS



SCALE 4.000

RoHS Compliant 592 Bi-level Surface Mount Prism

Part Numbers with the "F" suffix ending are RoHS Compliant. Example: 592-2020-002F, 592-3535-013F The bag and reel are marked with "RoHS Compliant" label or equivalent markings. Parts can be reflow soldered to the Reflow Profile shown using typical lead-free soldering process with max 260°C peak temp.

SCALE: 4.000	DRAWING NUMBER	REV
ALL DIM'S IN: INCHES (MM)	C-17285	A
TOLERANCES: UNLESS OTHERWISE SPECIFIED	TITLE	BI-LEVEL PRISM
FRACTIONS: ±1/64		RoHS COMPLIANT
DECIMALS (.XX): ±.02	MATERIAL	
DECIMALS (.XXX): ±.015		
DECIMALS (.XXXX): ±.0005		
ANGLES: ±3°		
FINISH:	Dialight	
FSCM 83330	SHEET 1 OF 1	FAMILY TABLES:



592 SERIES

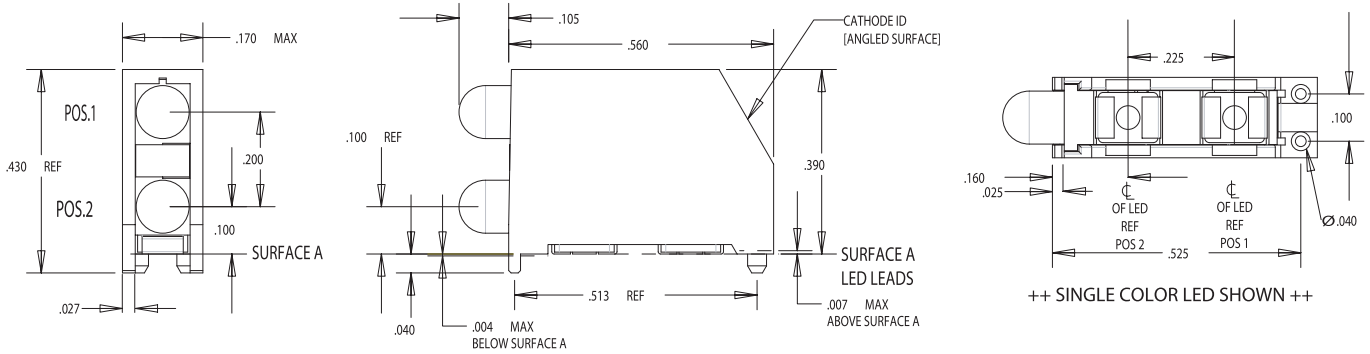
3mm Bi-level Prism® CBI® Surface Mount LED BRIGHT SINGLE COLOR



FEATURES / BENEFITS

- ▲ Available as a Lead (Pb) Free product - RoHS Compliant.
- ▲ Incorporates latest LED technology, specifically designed for surface mounting.
- ▲ Compatible with automatic placement equipment.
- ▲ Compatible with surface mount reflow soldering processes.
- ▲ Black housing enhances contrast ratio.
- ▲ Housing material meet UL-94V-0 flammability ratings.
- ▲ Patented Bi-level design provides increased indication without increased space.
- ▲ Illumination areas compatible with industry standard 3mm through-hole Bi-level Circuit Board Indicators.
- ▲ Packaged in moisture barrier bags for dry packaging per IPC/JEDEC J-STD-033.
- ▲ Helps to eliminate mixed technology pc board processing.

SPECIFICATIONS



++ SINGLE COLOR LED SHOWN ++

PART NUMBER CODE*

SERIES	Position 1	Package option
592	2X 2X	0XX

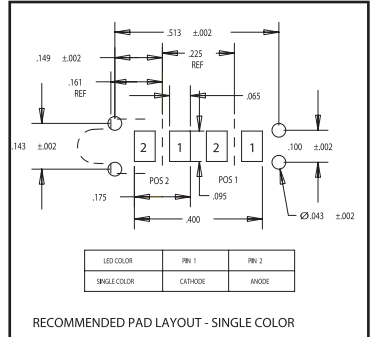
Position 2

Color = 21) AlGaAs Red, 22) Green
24) AllnGaP Yellow, 00) blank

Package Size Options
-002 = 10 piece strip -013 = 13" reel dia.

PART NUMBER *	COLOR COMBO
592-2121-0XX	AlGaAs Red/AlGaAs Red
592-2222-0XX	GREEN/GREEN
592-2727-0XX	AllnGaP Yellow/AllnGaP Yellow

* Part Number with "F" suffix ending is a Lead (Pb) Free Product - RoHS Compliant.



RECOMMENDED PAD LAYOUT - SINGLE COLOR



A4703



ISO 9001

Dialight Corporation



3mm Bi-level Prism[®] CBI[®] Surface Mount LED

ABSOLUTE MAXIMUM RATINGS (T_A= 25°C)

Parameter	21	22	27
COLOR	AlGaAs Red	Green	AllnGaP Yellow
POWER DISSIPATION (derate linearly from 25°C mW/°C)	100mW 0.8	100mW 0.6	100mW 0.6
FORWARD DC CURRENT	40mW	30mW	50mW
PEAK FORWARD CURRENT (10 µsec)	200mW	120mW	160mW
OPERATING TEMPERATURE	-55°C to +100°C		
STORAGE TEMPERATURE	-55°C to +100°C		
SOLDERING TEMPERATURES CONVECTION IR VAPOR PHASE	235°C Peak, above 185°C for 90 sec., 215°C for 3 min.		

OPERATING CHARACTERISTICS (T_A= 25°C)

Parameters	Part No.	Color	Min	Typ	Max	Units	Test Cond.
FORWARD VOLTAGE V _F	21	AlGaAs Red		1.8	2.4	V	I _F =10mA
	22	Green		2.1	2.6		
	27	AllnGaP Yellow		2	2.4		
REVERSE VOLTAGE V _R	21	AlGaAs Red	5			V	I _F =10µA
	22	Green	5				
	27	AllnGaP Yellow	5				
DOMINANT WAVELENGTH Dom	21	AlGaAs Red		638		nm	
	22	Green		569			
	27	AllnGaP Yellow		595			
LUMINOUS INTENSITY I _v	21	AlGaAs Red		23.9		mcd	I _F =10mA
	22	Green		9.1			
	27	AllnGaP Yellow		33.6			
VIEWING ANGLE (2θ _{1/2})	21	AlGaAs Red				deg.	
	22	Green					
	27	AllnGaP Yellow					

DIALIGHT RESERVES THE RIGHT TO MAKE CHANGES AT ANY TIME IN ORDER TO SUPPLY THE BEST PRODUCT POSSIBLE.



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