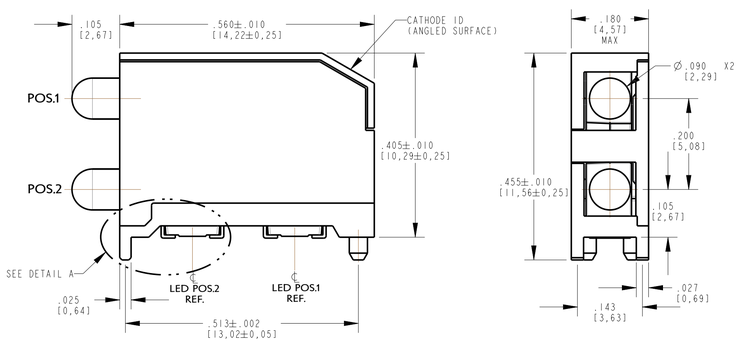
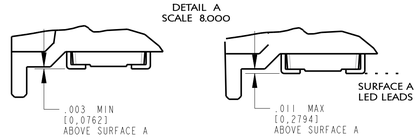
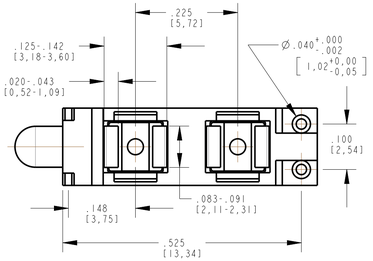
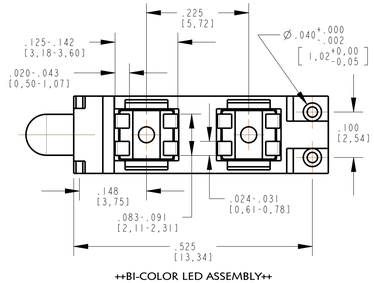
DIALIGHT PART NUMBER	PACKAGING	POSITION 1	POSITION 2	MSL
592-2020-302NF	SAMPLE STRIP	RED [HI.EFF]	RED [HI.EFF]	2
592-2020-313NF	13" REEL			
592-2023-302NF	SAMPLE STRIP	RED [HI.EFF]	GREEN	2
592-2023-313NF	13" REEL			
592-2121-302NF	SAMPLE STRIP	RED 640nm	RED 640nm	3
592-2121-313NF	13" REEL			
592-2122-302NF	SAMPLE STRIP	RED 640nm	GREEN	3
592-2122-313NF	13" REEL			
592-2124-302NF	SAMPLE STRIP	RED 640nm	YELLOW	3
592-2124-313NF	13" REEL			
592-2126-302NF	SAMPLE STRIP	RED 640nm	BLUE [InGaN]	3
592-2126-313NF	13" REEL			
592-2135-302NF	SAMPLE STRIP	RED 640nm	RED/GRN/BLUE	3
592-2135-313NF	13" REEL			
592-2221-302NF	SAMPLE STRIP	GREEN	RED 640nm	2
592-2221-313NF	13" REEL			
592-2320-302NF	SAMPLE STRIP	GREEN	RED [HI.EFF]	2
592-2320-313NF	13" REEL			
592-2323-302NF	SAMPLE STRIP	GREEN	GREEN	2
592-2323-313NF	13" REEL			
592-2324-302NF	SAMPLE STRIP	GREEN	YELLOW	2
592-2324-313NF	13" REEL			
592-2326-302NF	SAMPLE STRIP	GREEN	BLUE [InGaN]	2
592-2326-313NF	13" REEL			
592-2420-302NF	SAMPLE STRIP	YELLOW	RED [HI.EFF]	2
592-2420-313NF	13" REEL			
592-2422-302NF	SAMPLE STRIP	YELLOW	GREEN [HI.INT]	2
592-2422-313NF	13" REEL			
592-2423-302NF	SAMPLE STRIP	YELLOW	GREEN	2
592-2423-313NF	13" REEL			
592-2424-302NF	SAMPLE STRIP	YELLOW	YELLOW	2
592-2424-313NF	13" REEL			
592-2429-302NF	SAMPLE STRIP	YELLOW	GREEN (InGaN)	2
592-2429-313NF	13" REEL			
592-2525-302NF	SAMPLE STRIP	ORANGE	ORANGE	2
592-2525-313NF	13" REEL			
592-3024-302NF	SAMPLE STRIP	RED/GREEN	YELLOW	2
592-3024-313NF	13" REEL			
592-3123-302NF	SAMPLE STRIP	YELLOW/GREEN	GREEN	2
592-3123-302NF	13" REEL			
592-3520-302NF	SAMPLE STRIP	RED/GRN/BLUE	RED	2
592-3520-313NF	13" REEL			







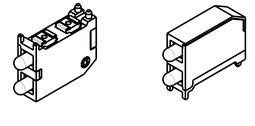
++SINGLE COLOR LED ASSEMBLY++



++BI-COLOR LED ASSEMBLY++

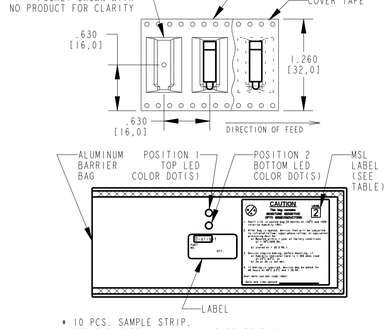
NOTES :

1. DIALIGHT PART NUMBERS: 592-XXXX-3XXNF.
2. ...-302NF SUFFIX MEANS PARTS ARE SUPPLIED ON A 10 PCS. SAMPLE STRIP.
   ...-313NF SUFFIX MEANS PARTS ARE SUPPLIED ON A 13 INCH REEL, 300 pcs/REEL
3. FRONT AND REAR TERMINALS (OF EACH LED) OF THE ASSEMBLY TO BE WITHIN .005" COPLANARITY.
4. STORAGE CONDITIONS FOR TAPED PRODUCT: RE-TAPING MAY BE NECESSARY FOR PRODUCT STORED MORE THAN TWELVE MONTHS.
5. PIN NUMBERS ARE FOR REFERENCE ONLY , DESIGNATION NON-EXISTENT ON PART.
6. MOISTURE SENSITIVITY LEVEL LABEL WILL BE PLACED ON BAG. CHECK CHART FOR PROPER LEVEL.
7. THIS ASSEMBLY CONTAINS ELECTROSTATIC DISCHARGE SENSITIVE DEVICES (ESDS). MAINTAIN ALL PRECAUTIONARY MEASURES DURING ASSEMBLY, HANDLING, AND STORAGE IN ACCORDANCE WITH IPC-A-610.
8. FLAMMABILITY RATING
   HOUSING: UL-94-VO
   SILICONE LENS AND LED: UL-94HB



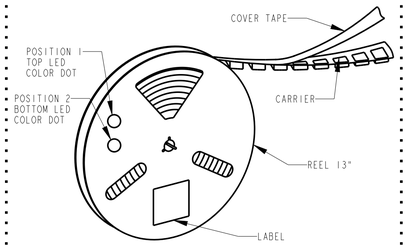
SCALE 2.000

SAMPLE STRIP
PACKAGING SPECIFICATION



- 10 PCS. SAMPLE STRIP.
- STRIP PLACED IN ALUMINUM BARRIER BAG.
- LABEL TO INCLUDE P/N, QTY PER BAG, MFG DATE LED LOT NO., LED COLOR, LED BIN INTENSITY FOR BOTH LEDS AND "COUNTRY OF ORIGIN: MEXICO".

13" REEL
PACKAGING SPECIFICATION



- 13" REEL PER EIA STANDARD 481-2
- QUANTITY = 300 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 BOTH LEDS AND "COUNTRY OF ORIGIN: MEXICO". CORNER OF LABEL ON REEL INDICATES MOISTURE SENSITIVITY LEVEL. ALUMINUM BARRIER BAG INCLUDES MSL LABEL.

REV	REVISIONS	DRN	CKD	APP	DATE
A	NEW RELEASE	LD		NO	2-23-21

OPERATING CHARACTERISTICS AT 25°C AMBIENT - SINGLE COLOR LEDs

COLOR		LUMINOUS INTENSITY (mcd)	TEST CURRENT (mA)	DOMINANT WAVELENGTH (nm)			PEAK WAVELENGTH (nm)	FORWARD VOLTAGE (V) @ 20mA		REVERSE CURRENT (µA)
#	DESCRIPTION	TYP		MIN	TYP	MAX	TYP	TYP	MAX	MAX
20	RED [HI.EFF]	12	10	627	633	639	635	2.0	2.3	10 @ Vr=12 V
21	RED [AlGaAs]	29	10	—	640	—	660	1.85	2.5	10 @ Vr=12 V
22	GREEN [HI.INT]	18	10	564	570	576	572	2.0	2.5	10 @ Vr=12 V
23	GREEN	18	10	566	570	575	572	2.0	2.4	10 @ Vr=12 V
24	YELLOW	50	10	580	587	595	586	2.0	2.4	10 @ Vr=5 V
25	ORANGE	81	10	600	606	609	610	2.0	2.4	10 @ Vr=5 V
26	BLUE [InGaN]	6	10	462	465	468	428	3.5	4.1	10 @ Vr=12 V
27	YELLOW [AlInGaP]	60	20	580	587	595	591	2.0	2.4	10 @ Vr=12 V
28	WHITE	34	10	X=.285; .33; .367 Y=.259; .33; .401		—		3.1	3.7	10 @ Vr=5 V
29	GREEN [InGaN]	56	20	—	525	—	523	3.7	4.3	10 @ Vr=12 V

#30 & #31 OPERATING CHARACTERISTICS AT 25°C AMBIENT

LED COLOR		LUMINOUS INTENSITY @Ir = 10 mA (mcd)			FORWARD VOLTAGE @Ir = 2 mA (V)		REVERSE CURRENT (µA) V = 12V		DOMINANT WAVELENGTH (nm)			PEAK WAVELENGTH (nm)
		MIN	TYP	MAX	TYP	MAX	TYP	MAX	MIN	TYP	MAX	TYP
RED/GRN	RED	—	11	—	1.8	2.2	0.01	10	624	630	636	643
	GREEN	—	5	—					566	570	575	572
YLW/GRN	YELLOW	—	14	—	1.8	2.2	0.01	10	580	587	595	591
	GREEN	—	5	—					566	570	575	572

OPERATING CHARACTERISTICS AT 25°C AMBIENT - RED/YELLOW BI-COLOR LED

#32 COLOR	LUMINOUS INTENSITY (mcd)	TEST CURRENT (mA)	DOMINANT WAVELENGTH (nm)			PEAK WAVELENGTH (nm)	FORWARD VOLTAGE (V)	
	TYP		MIN	TYP	MAX	TYP	TYP	MAX
RED	21	20	627	633	639	645	2.0	2.3
YELLOW	34	20	580	587	595	591	2.0	2.4

OPERATING CHARACTERISTICS AT 25°C AMBIENT - RED/BLUE BI-COLOR LED

#34 COLOR	LUMINOUS INTENSITY (mcd)	TEST CURRENT (mA)	DOMINANT WAVELENGTH (nm)			PEAK WAVELENGTH (nm)	FORWARD VOLTAGE (V)	
	TYP		MIN	TYP	MAX	TYP	TYP	MAX
RED	21	10	620	625	630	—	1.9	2.2
BLUE	24	10	465	467	470	—	3.0	3.2

OPERATING CHARACTERISTICS AT 25°C AMBIENT - RED/GRN/BLUE TRI-COLOR LED

#35 COLOR	LUMINOUS INTENSITY (mcd)	TEST CURRENT (mA)	DOMINANT WAVELENGTH (nm)			PEAK WAVELENGTH (nm)	FORWARD VOLTAGE (V)	
	TYP		MIN	TYP	MAX	TYP	TYP	MAX
RED	31	20		626		635	1.9	2.4
GREEN	84	20		525		523	3.4	4.1
BLUE	16	20		470		468	3.4	4.1

OPERATING CHARACTERISTICS AT 25°C AMBIENT - ORANGE/GREEN BI-COLOR LED

#36 COLOR	LUMINOUS INTENSITY (mcd)	TEST CURRENT (mA)	DOMINANT WAVELENGTH (nm)			PEAK WAVELENGTH (nm)	FORWARD VOLTAGE (V)	
	TYP		MIN	TYP	MAX	TYP	TYP	MAX
ORANGE	3	10	600	606	612	610	2.0	2.5
GREEN	4	10	564	570	576	572	2.0	2.5

ABSOLUTE MAXIMUM RATINGS AT 25°C AMBIENT SINGLE COLOR LEDs

	COLOR										UNITS
	RED [HI.EFF]	RED [GaAlAs]	GREEN	GREEN [HI.INT]	YELLOW	YELLOW [AlInGaP]	ORANGE	WHITE	BLUE [InGaN]	GREEN [InGaN]	
PEAK FORWARD CURRENT (1/200 DUTY CYCLE, 10µs PULSE WIDTH)	1000	155	1000	1000	200	200	1000	200	200	200	mA
CONTINUOUS FORWARD CURRENT	30	30	30	30	30	30	30	20	20	30	mA
LINEAR DERATING	1.0 (FROM 85°C)	.42 (FROM 25°C)	1.0 (FROM 85°C)	1.0 (FROM 85°C)	1.0 (FROM 85°C)	1.0 (FROM 85°C)	1.0 (FROM 85°C)	0.60 (FROM 75°C)	0.44 (FROM 55°C)	0.42 (FROM 40°C)	mA/°C
REVERSE VOLTAGE	12	12	12	12	12	12	12	5	5	5	V
LEAD REFLOW SOLDERING TEMP (FOR 5 SEC.)	260										°C
OPERATING TEMPERATURE	-40 TO +100	-40 TO +85	-40 TO +100						-55 TO +100		°C
STORAGE TEMPERATURE	-40 TO +100	-40 TO +85	-40 TO +100						-55 TO +100		°C

ABSOLUTE MAXIMUM RATINGS AT 25 °C AMBIENT RED/GRN & YLW/GRN BI-COLOR LED

	RED/GRN	YLW/GRN	UNITS
CONTINUOUS FORWARD CURRENT	15		mA
REVERSE VOLTAGE	12		V
SURGE CURRENT	100		mA
PEAK SOLDERING TEMPERATURE	245		°C
OPERATING TEMPERATURE	-40 TO +100		°C
STORAGE TEMPERATURE	-40 TO +100		°C

ABSOLUTE MAXIMUM RATINGS AT 25°C AMBIENT - RED/YELLOW BI-COLOR LED

	RED	YELLOW	UNITS
POWER DISSIPATION	80	80	mW
PEAK FORWARD CURRENT (1/200 DUTY CYCLE, 10µs PULSE WIDTH)	1000	200	mA
CONTINUOUS FORWARD CURRENT	30	30	mA
LINEAR DERATING FROM 75°C	0.60	0.60	mA/°C
LEAD REFLOW SOLDERING TEMPERATURE (FOR 5 SEC.)	260		°C
OPERATING TEMPERATURE	-40 TO +100		°C
STORAGE TEMPERATURE	-40 TO +100		°C

ABSOLUTE MAXIMUM RATINGS AT 25°C AMBIENT - RED/BLUE BI-COLOR LED

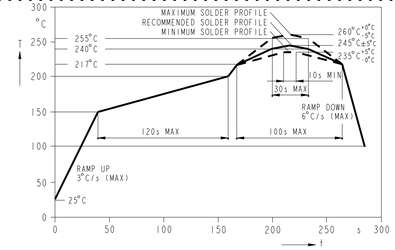
	RED	BLUE	UNITS
PEAK FORWARD CURRENT (1/10 DUTY CYCLE, 10ms PULSE WIDTH)	100		mA
CONTINUOUS FORWARD CURRENT	30		mA
LINEAR DERATING FROM 80°C	1.0		mA/°C
LEAD REFLOW SOLDERING TEMPERATURE (FOR 5 SEC.)	260		°C
OPERATING TEMPERATURE	-40 TO +100		°C
STORAGE TEMPERATURE	-40 TO +100		°C

ABSOLUTE MAXIMUM RATINGS AT 25°C AMBIENT - RED/GRN/BLUE TRI-COLOR LED

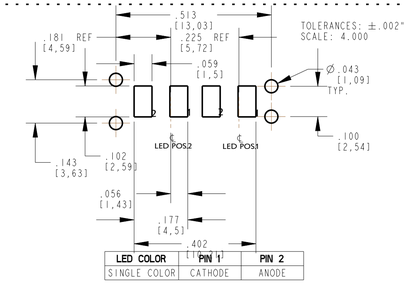
	RED	GREEN	BLUE	UNITS
POWER DISSIPATION	72	120	120	mW
CONTINUOUS FORWARD CURRENT	30	20	20	mA
LINEAR DERATING FROM 80°C (•BLUE & GREEN FROM 70°C) 1 CHIP ON	1.00	•0.50	•0.50	mA/°C
LINEAR DERATING FROM 65°C (•BLUE & GREEN FROM 50°C) 3 CHIPS ON	0.75	•0.30	•0.30	mA/°C
LEAD REFLOW SOLDERING TEMPERATURE (FOR 5 SEC.)	260			°C
OPERATING TEMPERATURE	-55 TO +100			°C
STORAGE TEMPERATURE	-55 TO +100			°C

ABSOLUTE MAXIMUM RATINGS AT 25°C AMBIENT - ORANGE/GREEN BI-COLOR LED

	ORANGE	GREEN	UNITS
POWER DISSIPATION	95	95	mW
PEAK FORWARD CURRENT (1/200 DUTY CYCLE, 10µs PULSE WIDTH)	500	500	mA
CONTINUOUS FORWARD CURRENT	30	30	mA
LINEAR DERATING FROM 55°C	0.66	0.66	mA/°C
LEAD REFLOW SOLDERING TEMPERATURE (FOR 5 SEC.)	260		°C
OPERATING TEMPERATURE	-40 TO +100		°C
STORAGE TEMPERATURE	-40 TO +100		°C

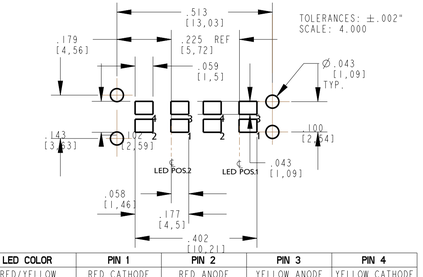


RECOMMENDED RoHS COMPLIANT REFLOW PROFILE



LED COLOR	PIN 1	PIN 2
SINGLE COLOR	CATHODE	ANODE

RECOMMENDED PAD LAYOUT - SINGLE COLOR



LED COLOR	PIN 1	PIN 2	PIN 3	PIN 4
• RED/YELLOW	RED CATHODE	RED ANODE	YELLOW ANODE	YELLOW CATHODE
• YELLOW/GREEN	YELLOW CATHODE	YELLOW ANODE	GREEN ANODE	GREEN CATHODE
• RED/GREEN	RED CATHODE	RED ANODE	GREEN ANODE	GREEN CATHODE
• RED/BLUE	RED CATHODE	RED ANODE	BLUE ANODE	BLUE CATHODE
• ORANGE/GREEN	ORANGE CATHODE	ORANGE ANODE	GREEN ANODE	GREEN CATHODE
• RG/B TRI-COLOR	RED CATHODE	COMMON ANODE	GREEN CATHODE	BLUE CATHODE

RECOMMENDED PAD LAYOUT - MULTI-COLOR

ATTENTION:
OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES

RoHS COMPLIANT 592-XXXX-3XXNF

Part Numbers with the "F" suffix ending are RoHS Compliant. For example: 592-2020-302F
Packaging is marked with "RoHS Compliant" label or equivalent markings. These parts can be used with RoHS reflow profile. Parts can be wave soldered, dip soldered or hand soldered using typical lead-free soldering process with max 260°C temp. for 5 sec.

THIS DRAWING AND THE CONTENTS HEREIN ARE CONFIDENTIAL AND THE SOLE PROPERTY OF DIALIGHT. REPRODUCTION OF THIS DRAWING OR CONSTRUCTION OF ANY PARTS WITHIN THIS DRAWING ARE FORBIDDEN WITHOUT THE WRITTEN CONSENT OF DIALIGHT.

SCALE: 6.000
ALL DIM'S IN: INCHES (MM)
TOLERANCES: UNLESS OTHERWISE SPECIFIED
FRACTIONS: ±1/64
DECIMALS (.XX): ±.02
DECIMALS (.XXX): ±.015
ANGLES: ±1°
FINISH: -
FSCM 83330

DRAWING NUMBER C-18503
REV A
TITLE BI-LEVEL PRISM RoHS COMPLIANT
MATERIAL

Dialight
1501 ROUTE 34 SOUTH
FARMINGDALE, NJ 07727

SHEET 1 OF 1
FAMILY TABLE: