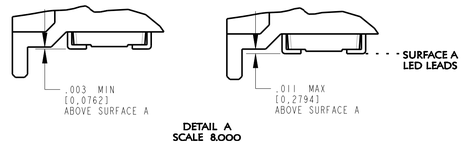
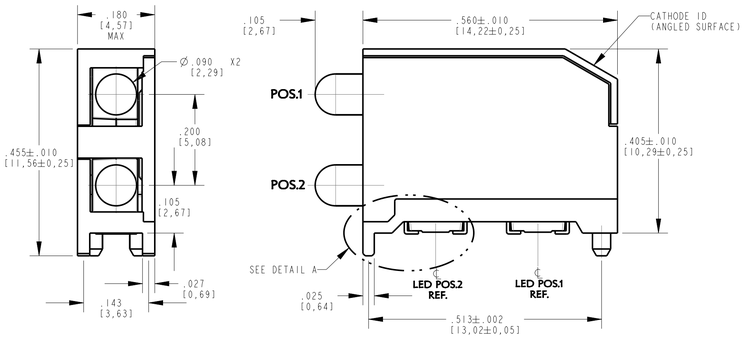
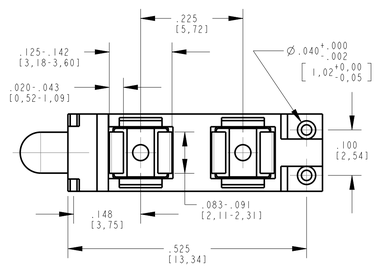
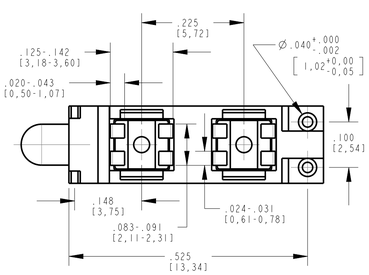
DIALIGHT PART NUMBER	PACKAGING	POSITION 1	POSITION 2	MSL
592-2020-302F	SAMPLE STRIP	RED [HI.EFF]	RED [HI.EFF]	2
592-2020-313F	13" REEL			
592-2023-302F	SAMPLE STRIP	RED [HI.EFF]	GREEN	2
592-2023-313F	13" REEL			
592-2121-302F	SAMPLE STRIP	RED [AlGaAs]	RED [AlGaAs]	2
592-2121-313F	13" REEL			
592-2124-302F	SAMPLE STRIP	RED [AlGaAs]	YELLOW	2
592-2124-313F	13" REEL			
592-2126-302F	SAMPLE STRIP	RED [AlGaAs]	BLUE [InGaN]	2
592-2126-313F	13" REEL			
592-2222-302F	SAMPLE STRIP	GREEN [HI.INT]	GREEN [HI.INT]	2
592-2222-313F	13" REEL			
592-2320-302F	SAMPLE STRIP	GREEN	RED [HI.EFF]	2
592-2320-313F	13" REEL			
592-2323-302F	SAMPLE STRIP	GREEN	GREEN	2
592-2323-313F	13" REEL			
592-2324-302F	SAMPLE STRIP	GREEN	YELLOW	2
592-2324-313F	13" REEL			
592-2326-302F	SAMPLE STRIP	GREEN	BLUE [InGaN]	2
592-2326-313F	13" REEL			
592-2420-302F	SAMPLE STRIP	YELLOW	RED [HI.EFF]	2
592-2420-313F	13" REEL			
592-2422-302F	SAMPLE STRIP	YELLOW	GREEN [HI.INT]	2
592-2422-313F	13" REEL			
592-2423-302F	SAMPLE STRIP	YELLOW	GREEN	2
592-2423-313F	13" REEL			
592-2424-302F	SAMPLE STRIP	YELLOW	YELLOW	2
592-2424-313F	13" REEL			
592-2436-302F	SAMPLE STRIP	YELLOW	ORANGE/GREEN	2
592-2436-313F	13" REEL			
592-2525-302F	SAMPLE STRIP	ORANGE	ORANGE	2
592-2525-313F	13" REEL			
592-2626-302F	SAMPLE STRIP	BLUE [InGaN]	BLUE [InGaN]	2
592-2626-313F	13" REEL			
592-2627-302F	SAMPLE STRIP	BLUE [InGaN]	YELLOW	2
592-2627-313F	13" REEL			
592-2628-302F	SAMPLE STRIP	BLUE [InGaN]	WHITE	2
592-2628-313F	13" REEL			
592-2631-302F	SAMPLE STRIP	BLUE [InGaN]	YELLOW/GREEN	2
592-2631-313F	13" REEL			
592-2727-302F	SAMPLE STRIP	YELLOW [AlInGaP]	YELLOW [AlInGaP]	2
592-2727-313F	13" REEL			
592-2729-302F	SAMPLE STRIP	YELLOW [AlInGaP]	GREEN [InGaN]	2a
592-2729-313F	13" REEL			
592-2826-302F	SAMPLE STRIP	WHITE	BLUE [InGaN]	2
592-2826-313F	13" REEL			
592-2828-302F	SAMPLE STRIP	WHITE	WHITE	2
592-2828-313F	13" REEL			
592-2926-302F	SAMPLE STRIP	TRUE GREEN [InGaN]	BLUE [InGaN]	2a
592-2926-313F	13" REEL			
592-2927-302F	SAMPLE STRIP	GREEN [InGaN]	YELLOW [AlInGaP]	2a
592-2927-313F	13" REEL			
592-3024-302F	SAMPLE STRIP	RED/GREEN	YELLOW	2
592-3024-313F	13" REEL			
592-3030-302F	SAMPLE STRIP	RED/GREEN	RED/GREEN	2
592-3030-313F	13" REEL			
592-3031-302F	SAMPLE STRIP	RED/GREEN	YELLOW/GREEN	2
592-3031-313F	13" REEL			
592-3034-302F	SAMPLE STRIP	RED/GREEN	RED/BLUE	2a
592-3034-313F	13" REEL			
592-3126-302F	SAMPLE STRIP	YELLOW/GREEN	BLUE [InGaN]	2
592-3126-313F	13" REEL			
592-3131-302F	SAMPLE STRIP	YELLOW/GREEN	YELLOW/GREEN	2
592-3131-313F	13" REEL			
592-3232-302F	SAMPLE STRIP	RED/YELLOW	RED/YELLOW	2
592-3232-313F	13" REEL			
592-3236-302F	SAMPLE STRIP	RED/YELLOW	ORANGE/GREEN	2
592-3236-313F	13" REEL			
592-3535-302F	SAMPLE STRIP	RED/GRN/BLUE	RED/GRN/BLUE	2a
592-3535-313F	13" REEL			



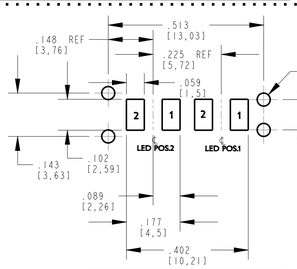




++SINGLE COLOR LED ASSEMBLY++

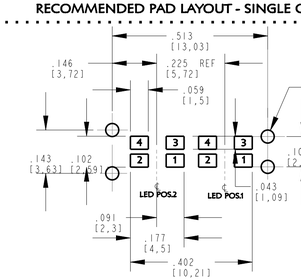


++BI-COLOR LED ASSEMBLY++



LED COLOR	PIN 1	PIN 2
SINGLE COLOR	CATHODE	ANODE

RECOMMENDED PAD LAYOUT - SINGLE COLOR



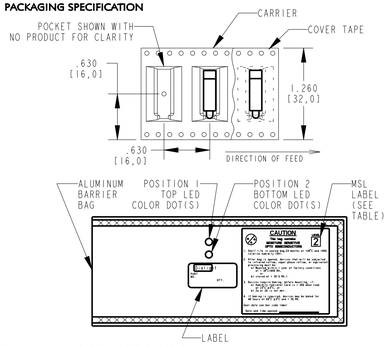
LED COLOR	PIN 1	PIN 2	PIN 3	PIN 4
RED/YELLOW	RED CATHODE	RED ANODE	YELLOW ANODE	YELLOW CATHODE
YELLOW/GREEN	YELLOW CATHODE	YELLOW ANODE	GREEN ANODE	GREEN CATHODE
RED/GREEN	RED CATHODE	RED ANODE	GREEN ANODE	GREEN CATHODE
RED/BLUE	RED CATHODE	RED ANODE	BLUE ANODE	BLUE CATHODE
ORANGE/GREEN	ORANGE CATHODE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

RECOMMENDED PAD LAYOUT - MULTI-COLOR

OPERATING CHARACTERISTICS AT 25°C AMBIENT - SINGLE COLOR LEDs

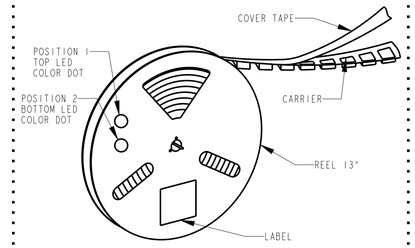
COLOR #	COLOR DESCRIPTION	LUMINOUS INTENSITY (mcd) TYP	TEST CURRENT (mA)	DOMINANT WAVELENGTH (nm) MIN	DOMINANT WAVELENGTH (nm) TYP	DOMINANT WAVELENGTH (nm) MAX	PEAK WAVELENGTH (nm) TYP	FORWARD VOLTAGE (V) TYP	FORWARD VOLTAGE (V) MAX	REVERSE CURRENT (µA) MAX
20	RED [HI.EFF]	3	10	622	628	634	635	2.0	2.5	10 @ Vr=12 V
21	RED [AlGaAs]	9	10	—	645	—	660	1.75	2.5	10 @ Vr=12 V
22	GREEN [HI.INT]	6	10	564	570	576	572	2.0	2.5	10 @ Vr=12 V
23	GREEN	4	10	564	570	576	572	2.0	2.5	10 @ Vr=12 V
24	YELLOW	2	10	580	587	595	586	2.0	2.5	10 @ Vr=5 V
25	ORANGE	2	10	600	606	609	610	2.0	2.5	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

SAMPLE STRIP
PACKAGING SPECIFICATION



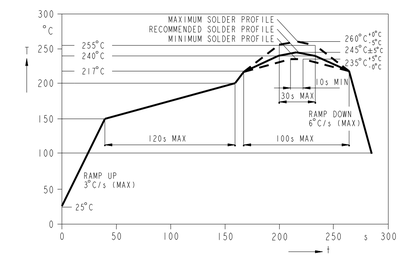
- 10 PCS. SAMPLE STRIP.
- STRIP PLACED IN ALUMINUM BARRIER BAG.
- LABEL TO INCLUDE P/N, QTY PER BAG, MFG DATE LED LOT NO., LED COLOR, LED BIN INTENSITY FOR BOTH LEDS AND "COUNTRY OF ORIGIN: MEXICO".

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	ECN NO	REVISIONS	DRN	CKD	APP	DATE
A	—	NEW RELEASE	JTD	KLJ	NO	12-14-11
B	—	CORRECT LED POSITION	JTD	KLJ	NO	1-10-12
C	—	NOTE 8 ADDED	WFB	JTD	NO	6-11-12
D	—	ADDED P/N's 592-3024-302F,-313F	MMB	WFB	JTD	5-28-13
E	—	CHANGED MSL VALUE OF P/N 5923535302/313 TO 2a	VP	WFB	NO	6-9-15
F	—	UPDATED DOCUMENT TO SHOW DIRECTION OF CB1 IN A TAPE	VP	JTD	NO	4-8-16
G	—	ADDED P/N'S 592-2729-302F, 313F. ALSO UPDATED LED SPECS FOR R/G AND Y/G BI-COLOR LED'S	BP	—	NO	8-11-17



RECOMMENDED RoHS COMPLIANT
REFLOW PROFILE

OPERATING CHARACTERISTICS AT 25°C AMBIENT

#30 & #31 LED COLOR		LUMINOUS INTENSITY @Ir = 10 mA (mcd) MIN	TYP	MAX	FORWARD VOLTAGE @Ir = 2 mA (V) TYP	MAX	REVERSE CURRENT (µA) V = 12V TYP	MAX	DOMINANT WAVELENGTH (nm) MIN	TYP	MAX	PEAK WAVELENGTH (nm) 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

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

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

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

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

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

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

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

NOTES :

1. DIALIGHT PART NUMBERS: 592-XXXX-3XXF.
2. ...-302F SUFFIX MEANS PARTS ARE SUPPLIED ON A 10 PCS. SAMPLE STRIP. ...-313F 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

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

#35 COLOR	LUMINOUS INTENSITY (mcd) TYP	TEST CURRENT (mA)	DOMINANT WAVELENGTH (nm) MIN	TYP	MAX	PEAK WAVELENGTH (nm) TYP	FORWARD VOLTAGE (V) 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

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

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

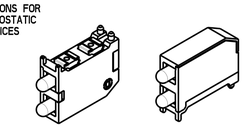
#36 COLOR	LUMINOUS INTENSITY (mcd) TYP	TEST CURRENT (mA)	DOMINANT WAVELENGTH (nm) MIN	TYP	MAX	PEAK WAVELENGTH (nm) TYP	FORWARD VOLTAGE (V) TYP	MAX
ORANGE	3	10	600	606	612	610	2.0	2.5
GREEN	4	10	564	570	576	572	2.0	2.5

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

RoHS COMPLIANT 592-XXXX-3XXF

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.

ATTENTION:
OBSERVE PRECAUTIONS FOR
HANDLING ELECTROSTATIC
SENSITIVE DEVICES



SCALE 2.000

ABSOLUTE MAXIMUM RATINGS AT 25°C AMBIENT - SINGLE COLOR LEDs	RED [HI.EFF]	RED [AlGaAs]	GREEN	GREEN [HI.INT]	YELLOW	YELLOW [AlInGaP]	ORANGE	WHITE	BLUE [InGaN]	GREEN [InGaN]	UNITS
POWER DISSIPATION	95	90	95	95	95	80	95	80	100	114	mW
PEAK FORWARD CURRENT (1/200 DUTY CYCLE, 10µs PULSE WIDTH)	500	500	500	500	500	200	500	200	200	200	mA
CONTINUOUS FORWARD CURRENT	30	30	30	30	30	30	30	20	20	30	mA
LINEAR DERATING FROM 60°C, UNLESS OTHERWISE NOTED	0.75	0.75	0.75	0.75	0.75	1.0 (FROM 85°C)	0.75	0.60 (FROM 75°C)	0.44 (FROM 55°C)	0.42 (FROM 40°C)	mA/°C
REVERSE VOLTAGE	12	5	12	12	5	12	5	5	5	5	V
LEAD REFLOW SOLDERING TEMPERATURE (FOR 5 SEC.)	260										°C
OPERATING TEMPERATURE	-40 TO +100									-55 TO +100	°C
STORAGE TEMPERATURE	-40 TO +100									-55 TO +100	°C

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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: -

DRAWING NUMBER: C-17882
REV: G
TITLE: BI-LEVEL PRISM RoHS COMPLIANT
MATERIAL: -

Dialight
1501 ROUTE 34 SOUTH
FARMINGDALE, NJ 07727

FSCM 83330
SHEET 1 OF 1 | FAMILY TABLE:

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