

Dialight

microLED® SMD LED Selector Guide 598 Series



Dialight is proud to introduce a new series of microLED[®] SMD LEDs. Our new 598 Series is comprised of 10 different package styles incorporating the most popular color combinations. Single color, bi-color, tri-color and right angle package styles are all available. Common wavelengths are available in various package styles to maintain color consistency.

Packages Offered:

0603

Colors Offered:

0606

0805

-

1206

1208

1210

Green - 525nm, 562nm

Yellow - 586nm, 592nm

■ Yellow-Green - 570nm

Orange - 605nm

Red - 635nm

Red-Orange - 620nm

■ *Blue* - 470nm

All 598 Series LEDs are RoHS compliant and many colors offered conform to the ANSI / VITA 40 standard regarding status indication.

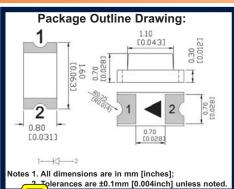
The 598 Series is added to Dialight's impressive line of SMD products that include our 597 Series of microLED® SMD LEDs, 515 Series Optopipes®, and our industry standard PRISM® Series of 2mm and 3mm right-angle SMD LEDs available in single, bi-level and tri-level configurations.

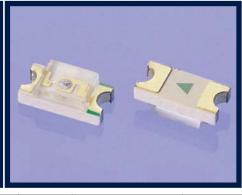
Dialight's new 598 Series is available through our extensive line of Sales Representatives and Distributors world-wide. For a complete listing that includes the ability to check stock status at our Distributon partners, please visit our website at www.dialight.com.

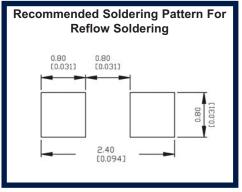




0603 SERIES PACKAGE (1.6MM X 0.8MM X 0.7MM) SINGLE COLOR

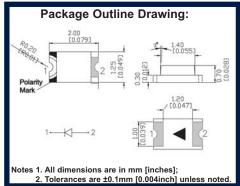




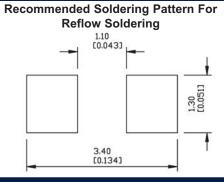


DIALIGHT P/N	EMITTED COLOR	MATERIAL	LENS COLOR			DOMINANT WAVELENGTH (nm)				ORWAF /OLTAG (V)	VIEWING ANGLE		
					If = 20 ma			If = 20 m	а	ŀ	f = 20 m	ıa	° DEGREES
				MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
598-8010-107F	RED	AllnGaP	Water Clear	30	40	80	630	635	642	1.7	2.2	2.4	140
598-8020-107F	RED-ORANGE	AllnGaP	Water Clear	120	150	200	620	625	630	1.7	2	2.4	140
598-8030-107F	ORANGE	AllnGaP	Water Clear	70	-	150	600	-	610	1.7	2	2.4	140
598-8040-107F	YELLOW	AllnGaP	Water Clear	100	130	160	590	-	595	1.7	2	2.2	140
598-8050-107F	YELLOW	AllnGaP	Water Clear	100	130	160	583	-	590	1.7	2	2.4	140
598-8060-107F	YELLOW-GREEN	AllnGaP	Water Clear	20	40	60	570	-	575	1.8	2	2.4	140
598-8070-107F	GREEN	GaP	Water Clear	10	20	40	562	-	570	1.8	2	2.4	140
598-8081-107F	GREEN	InGaN	Water Clear	220	300	400	520	523	525	3	3.2	3.5	140
598-8091-107F	BLUE	InGaN	Water Clear	90	140	160	470	473	475	2.8	3.2	3.5	140

0805 SERIES PACKAGE (2.0MM x 1.25MM x 0.70MM) SINGLE COLOR

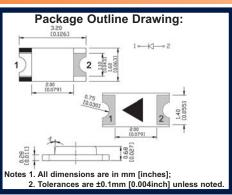




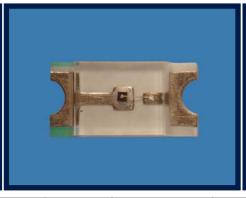


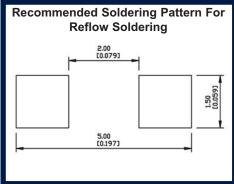
DIALIGHT P/N	EMITTED COLOR	MATERIAL	LENS COLOR	- , , ,			DOMINAN AVELENG (nm)	тн		FORWA VOLTA (V)	GE	VIEWING ANGLE	
				MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
598-8110-107F	RED	AllnGaP	Water Clear	30	40	80	630	635	642	1.7	2.2	2.4	140
598-8120-107F	RED-ORANGE	AllnGaP	Water Clear	120	150	200	620	625	630	1.7	2	2.4	140
598-8130-107F	ORANGE	AllnGaP	Water Clear	70	-	150	600	-	610	1.7	2	2.4	140
598-8140-107F	YELLOW	AllnGaP	Water Clear	100	130	160	590	-	595	1.7	2	2.4	140
598-8150-107F	YELLOW	AllnGaP	Water Clear	100	130	160	583	-	590	1.7	2	2.4	140
598-8160-107F	YELLOW-GREEN	AllnGaP	Water Clear	20	40	60	570	-	575	1.8	2	2.4	140
598-8170-107F	GREEN	GaP	Water Clear	10	20	40	562	-	570	1.8	2	2.4	140
598-8181-107F	GREEN	InGaN	Water Clear	220	300	400	520	523	525	3	3.2	3.5	140
598-8191-107F	BLUE	InGaN	Water Clear	90	140	160	470	473	475	2.8	3.2	3.5	140

1206 SERIES PACKAGE (3.2MM X 1.6MM X 0.7MM) SINGLE COLOR



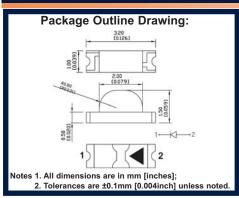
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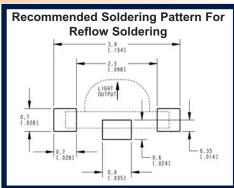


DIALIGHT P/N EMITTED COLOR		MATERIAL LENS COLOR		(IIIcu)			DOMINANT WAVELENGTH (nm)				FORWA VOLTA (V)	GE	VIEWING ANGLE
					If = 20 r	na		If = 20 n	na		If = 20	ma	° DEGREES
				MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
598-8210-107F	RED	AllnGaP	Water Clear	30	1	80	630	635	640	1.7	2	2.4	140
598-8220-107F	RED-ORANGE	AllnGaP	Water Clear	120	150	200	620	625	630	1.7	2	2.4	140
598-8230-107F	ORANGE	AllnGaP	Water Clear	70	110	150	600	-	610	1.7	2	2.4	140
598-8240-107F	YELLOW	AllnGaP	Water Clear	100	130	160	590	ı	595	1.7	2	2.4	140
598-8250-107F	YELLOW	AllnGaP	Water Clear	100	130	160	583	1	590	1.7	2	2.4	140
598-8260-107F	YELLOW-GREEN	AllnGaP	Water Clear	20	40	60	570	1	575	1.8	2	2.4	140
598-8270-107F	GREEN	GaP	Water Clear	10	20	40	562	1	570	1.8	2	2.4	140
598-8281-107F	GREEN	InGaN	Water Clear	220	300	400	520	523	525	3	3.2	3.5	140
598-8291-107F	BLUE	InGaN	Water Clear	90	140	160	470	473	475	2.8	3.2	3.5	140

1208 SERIES PACKAGE (3.2MM X 1.5MM X 1MM) SINGLE COLOR (RIGHT ANGLE)



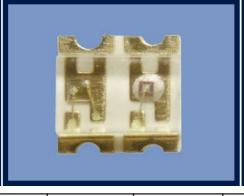


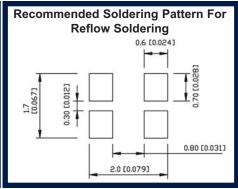


DIALIGHT P/N	EMITTED COLOR	MATERIAL	LENS COLOR	R LUMINOUS INTENSITY (mcd)			OMINAN VELENG (nm)			ORWA OLTA((V)		VIEWING ANGLE	
				lf	If = 20 ma		I	f = 20 m	а	If	f = 20 r	na	° DEGREES
				MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
598-8310-107F	RED	AllnGaP	Water Clear	-	-	70	630	635	640	1.8	2	2.4	160
598-8320-107F	RED-ORANGE	AllnGaP	Water Clear	80	120	150	620	625	630	1.8	2	2.4	160
598-8330-107F	ORANGE	AllnGaP	Water Clear	90	110	150	600	-	610	1.8	2	2.4	160
598-8340-107F	YELLOW	AllnGaP	Water Clear	100	130	160	590	-	595	1.8	2	2.4	160
598-8350-107F	YELLOW	AllnGaP	Water Clear	100	130	160	583	-	590	1.8	2	2.4	160
598-8360-107F	YELLOW-GREEN	AllnGaP	Water Clear	30	50	60	570	-	575	1.8	2	2.4	160
598-8370-107F	GREEN	GaP	Water Clear	18	28	50	562	-	570	1.8	2	2.4	160
598-8380-107F	GREEN	InGaN	Water Clear	150	220	300	520	523	525	3	3.2	3.5	160
598-8391-107F	BLUE	InGaN	Water Clear	90	140	160	470	473	475	2.8	3.2	3.5	160

0606 SERIES PACKAGE (1.6MM x 1.6MM x 0.7MM) BI-COLOR

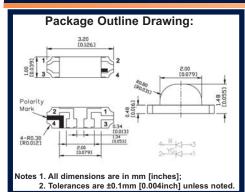
Package Outline Drawing: 1.60 0.063] 2 1.090 0.093 0



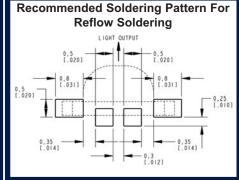


DIALIGHT P/N	EMITTED COLOR	MATERIAL	LENS COLOR	LUMINOUS INTENSITY (mcd)			_	OMINAN			ORWA VOLTA (V)		VIEWING ANGLE
				1	f = 20 n	na		lf = 20 m	а		lf = 20	ma	° DEGREES
				MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
598-8410-207F	RED	AllnGaP	Water Clear	40	60	80	630	635	645	1.8	2	2.4	140
330-0410-2071	GREEN	AllnGaP	Water Clear	30	40	50	560	565	570	1.8	2	2.4	140
598-8440-207F	YELLOW	AllnGaP	Water Clear	120	135	150	587	590	592	1.8	2	2.4	140
330-0440-2071	GREEN	AllnGaP	Water Clear	35	50	65	565	570	575	1.8	2	2.4	140
598-8450-207F	YELLOW	AllnGaP	Water Clear	80	120	150	587	590	592	1.8	2	2.4	140
330 0400 2071	GREEN	InGaN	Water Clear	90	120	140	525	528	530	2.7	3.2	3.5	140
598-8460-207F	YELLOW	AllnGaP	Water Clear	120	135	150	587	590	592	1.8	2	2.4	140
030-0400-2071	RED	AllnGaP	Water Clear	40	50	60	630	640	645	1.8	2.2	2.4	140

1208 SERIES PACKAGE (3.2MM X 1.5MM X 1.0MM) BI-COLOR (RIGHT ANGLE)

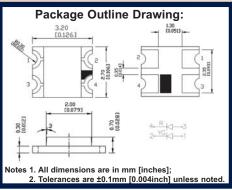


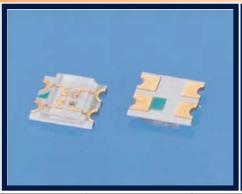


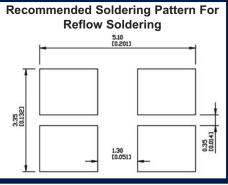


DIALIGHT P/N	EMITTED COLOR	MATERIAL	LENS COLOR		LUMINOU INTENSIT (mcd)			DOMINAN AVELENG (nm)	-		ORWAR OLTAG (V)	VIEWING ANGLE	
					If = 20 m	а		If = 20 ma	a	If	f = 20 m	ıa	° DEGREES
				MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
598-8510-207F	RED	AllnGaP	Water Clear	40	60	80	630	635	645	1.8	2	2.4	160
330-0310-2071	GREEN	AllnGaP	Water Clear	30	40	50	560	565	570	1.8	2	2.4	160
598-8520-207F	RED-ORANGE	AllnGaP	Water Clear	80	110	150	620	625	630	1.8	2	2.4	160
330-0320-2071	GREEN	AllnGaP	Water Clear	30	40	50	560	568	570	1.8	2	2.4	160
598-8540-207F	YELLOW	AllnGaP	Water Clear	90	110	150	587	590	592	1.8	2	2.4	160
330-0340-2071	GREEN	AllnGaP	Water Clear	30	40	60	560	565	570	1.8	2	2.4	160
598-8560-207F	YELLOW	AllnGaP	Water Clear	120	135	150	587	590	592	1.8	2.2	2.4	160
330-3300-2071	RED	AllnGaP	Water Clear	40	50	60	630	635	645	1.8	2.2	2.4	160

1210 SERIES PACKAGE (3.2MM X 2.7MM X 0.7MM) BI-COLOR

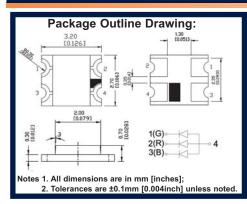


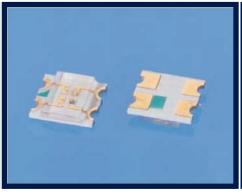


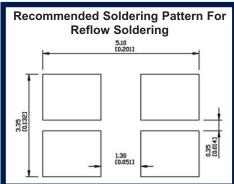


DIALIGHT P/N	N EMITTED COLOR MATERIAL LENS COLOR LUMINOUS INTENSITY (mcd)			DOMINA AVELEN (nm)			FORWA VOLTAC (V)		VIEWING ANGLE				
					lf = 20 n	na		If = 20 n	na		If = 20 r	na	° DEGREES
				MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
598-8610-207F	RED	AllnGaP	Water Clear	40	60	80	630	635	645	1.8	2	2.4	140
330-0010-2071	GREEN	AllnGaP	Water Clear	30	40	50	562	568	570	1.8	2	2.4	140
598-8621-207F	RED-ORANGE	AllnGaP	Water Clear	80	100	120	620	625	630	1.8	2	2.4	140
390-0021-2071	GREEN	InGaN	Water Clear	200	220	240	520	525	530	2.7	3.2	3.5	140
598-8640-207F	YELLOW	AllnGaP	Water Clear	90	110	150	587	590	592	1.8	2	2.4	140
330-0040-2071	GREEN	AllnGaP	Water Clear	30	40	50	562	568	570	1.8	2	2.4	140
598-8660-207F	YELLOW	AllnGaP	Water Clear	90	110	150	587	590	592	1.8	2.2	2.4	140
	RED	AllnGaP	Water Clear	40	60	80	630	635	645	1.8	2.2	2.4	140

1210 SERIES PACKAGE (3.2MM X 2.7MM X 0.7MM) TRI COLOR

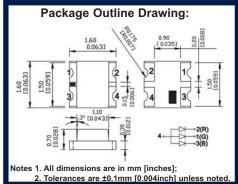




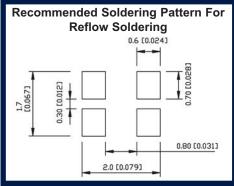


DIALIGHT P/N	EMITTED COLOR	MATERIAL	LENS COLOR						l .	FORWAR VOLTAG (V)	VIEWING ANGLE		
	OOLOK			If = 20 ma				lf = 20 m	a		If = 20 m	a	° DEGREES
				MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
	RED	AllnGaP	Water Clear	40	60	80	630	635	645	1.9	2	2.2	140
598-8610-307F	GREEN	InGaN	Water Clear	90	120	220	520	525	530	2.8	3.2	3.5	140
	BLUE	InGaN	Water Clear	60	90	140	465	470	475	2.8	3.2	3.5	140
	RED-ORANGE	AllnGaP	Water Clear	90	120	150	620	625	630	1.9	2	2.2	140
598-8920-307F	GREEN	InGaN	Water Clear	90	150	220	520	525	530	3	3.2	3.5	140
	BLUE	InGaN	Water Clear	30	60	90	465	470	475	3	3.2	3.5	140
	YELLOW	AllnGaP	Water Clear	90	110	150	587	590	592	1.8	2.2	2.4	140
598-8940-307F	GREEN	InGaN	Water Clear	150	220	300	520	525	530	2.8	3.2	3.5	140
	BLUE	InGaN	Water Clear	60	90	140	465	470	475	2.8	3.2	3.5	140

0606 SERIES PACKAGE (1.6MM X 1.6MM X 0.7MM) TRI-COLOR



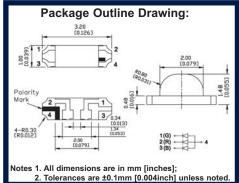




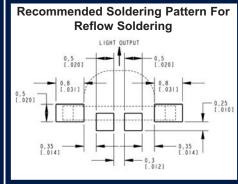
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			LUMINOUS DOMINANT										
DIALIGHT P/N	EMITTED COLOR	MATERIAL	TERIAL LENS COLOR		UMINOL NTENSI (mcd)			DOMINAI AVELEN (nm)			FORWAR VOLTAG (V)		VIEWING ANGLE
					lf = 20 m	ia		If = 20 m	ıa		If = 20 n	na	° DEGREES
				MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
	RED	AllnGaP	Water Clear	40	60	80	630	635	645	1.9	2	2.2	140
598-8710-307F	GREEN	InGaN	Water Clear	90	120	220	520	525	530	2.8	3.2	3.5	140
	BLUE	InGaN	Water Clear	60	90	140	465	470	475	2.8	3.2	3.5	140
	RED-ORANGE	AllnGaP	Water Clear	60	80	150	620	625	630	1.8	2.2	2.4	140
598-8720-307F	GREEN	InGaN	Water Clear	90	150	220	520	525	530	2.8	3	3.5	140
	BLUE	InGaN	Water Clear	40	60	90	465	470	475	3	3.2	3.5	140
	YELLOW	AllnGaP	Water Clear	90	110	150	587	590	595	1.8	2.2	2.4	140
598-8740-307F	GREEN	InGaN	Water Clear	150	220	300	520	525	530	2.8	3.2	3.5	140
	BLUE	InGaN	Water Clear	60	90	140	465	470	475	2.8	3.2	3.5	140

1208 SERIES PACKAGE (3.2MM X 1.5MM X 1.0MM) TRI-COLOR (RIGHT ANGLE)







			LUMINOUS DOMINA										
DIALIGHT P/N	DIALIGHT P/N EMITTED MATERIAL LE		ATERIAL LENS COLOR INTENSITY WAVELENGTH (mcd) (nm)					FORWAR VOLTAG (V)	VIEWING ANGLE				
				li	f = 20 ma	a	ı	f = 20 m	а		lf = 20 m	а	° DEGREES
				MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
	RED	AllnGaP	Water Clear	40	60	80	630	635	645	1.8	2.2	2.4	160
598-8810-307F	GREEN	InGaN	Water Clear	90	120	220	520	525	530	2.8	3.2	3.4	160
	BLUE	InGaN	Water Clear	60	90	140	465	470	475	2.8	3.2	3.4	160
	RED-ORANGE	AllnGaP	Water Clear	90	120	150	620	625	630	1.8	2	2.4	160
598-8820-307F	GREEN	InGaN	Water Clear	150	220	300	520	525	530	3	3.2	3.5	160
	BLUE	InGaN	Water Clear	60	90	140	465	470	475	3	3.2	3.5	160
	YELLOW	AllnGaP	Water Clear	90	110	150	587	590	595	1.8	2.2	2.4	160
598-8840-307F	GREEN	InGaN	Water Clear	150	220	300	520	525	530	2.8	3.2	3.5	160
	BLUE	InGaN	Water Clear	60	90	140	465	470	475	2.8	3.2	3.5	160

OPTICAL AND ELECTRICAL CHARACTERISTICS CURVES RED 630-642NM, RED-ORANGE 620-630NM, ORANGE 600-610NM, YELLOW 590-595NM, YELLOW 583-590NM, YELLOW GREEN 570-575NM, GREEN 562-570NM FORWARD VOLTAGE VS FORWARD CURRENT (Ta=25°C) RELATIVE INTENSITY VS FORWARD CURRENT (Ta=25°C) 30 1.5 50 Single Colors 1.0 Single Colors **Bi-Colors** Relative [10 제 **Bi-Colors Tri-Colors** 0.5 **Tri-Colors** 0 0.0 2.5 3.0 3.5 4.0 5.0 37.5 0 12.5 25 Forward Voltage VF(V) Forward Current (mA) RELATIVE INTENSITY VS AMBIENT TEMPERATURE **DERATING** Ambient Temperature vs. Maximum Forward Current 10 30 1.0 50 Single Colors Single Colors 0.5 **Bi-Colors Tri-Colors** E 10 **Bi-Colors Tri-Colors** 0 0.1 40 55 70 -50 50 Ambient Temperature Ta(℃) Ambient Temperature Ta(90) **GREEN 520-525NM, BLUE 470-475NM** FORWARD VOLTAGE VS FORWARD CURRENT (Ta=25°C) RELATIVE INTENSITY VS FORWARD CURRENT (Ta=25°C) 30 1.5 Single Colors 50 Ē 1.0 0606 Bi-Color Single Colors 0606 Tri-Color Relative I **Bi-Colors** 1208 Tri-Color Tri-Colors 10 1210 Bi-Color 1210 Tri-Color D 0.0 1208 Bi-Color 5.0 2.5 3.0 3.5 4.0 12.5 37.5 25 Forward Voltage VF(V) Forward Current (mA) **DERATING** RELATIVE INTENSITY VS AMBIENT TEMPERATURE Single Colors 30 0606 Bi-Color 0606 Tri-Color 1.0 50 1208 Tri-Color Single Colors 1210 Bi-Color Bi-Colors 0.5 1210 Tri-Color **Tri-Colors** ₾ 10 1208 Bi-Color D 0.1

-50

0

50

Ambient Temperature Ta(℃)

100

85 100

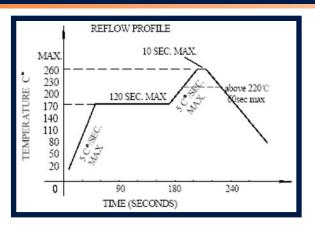
10 25

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40 55 70

Ambient Temperature Ta(90)

REFLOW PROFILE AND SOLDERING CONDITIONS

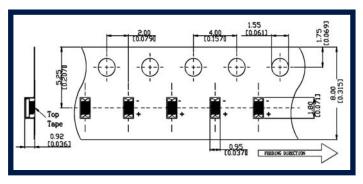


REFLOW	SOLDERING	HAND S	OLDERING
Pre-heat	160~180 ^o C	Temperature	300°C Max.
Pre-heat time	120 seconds Max.	-	-
Peak temperature	260 ⁰ C Max.	Soldering time	3 second Max (one time only)
Soldering time	10 seconds Max.	-	-
Condition	Refer to temperature profile	-	-

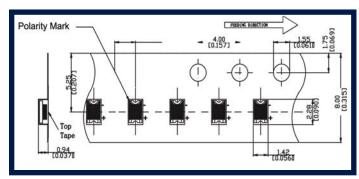
PACKAGING SPECIFICATIONS

DIMENSIONS IN MM [INCHES]

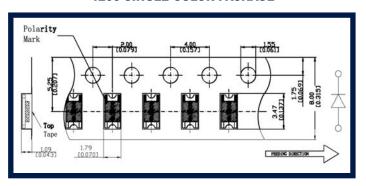
0603 SINGLE COLOR PACKAGE



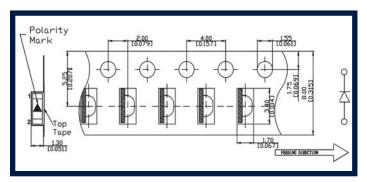
0805 SINGLE COLOR PACKAGE



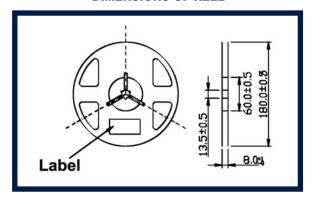
1206 SINGLE COLOR PACKAGE



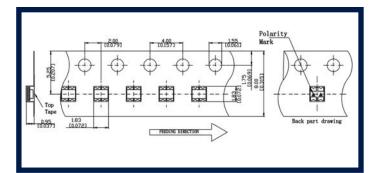
1208 SINGLE COLOR PACKAGE



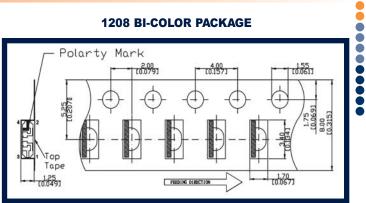
DIMENSIONS OF REEL



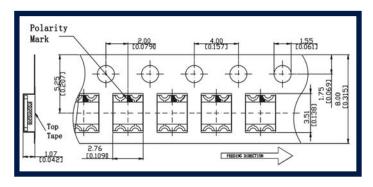
0606 BI-COLOR PACKAGE



1208 BI-COLOR PACKAGE



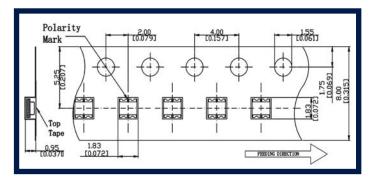
1210 BI-COLOR PACKAGE



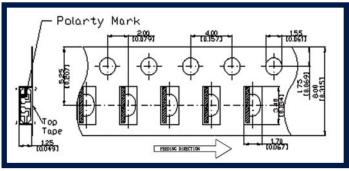
PACKAGING SPECIFICATIONS

DIMENSIONS IN MM [INCHES]

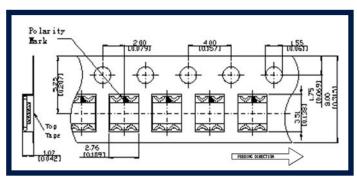
0606 TRI-COLOR PACKAGE

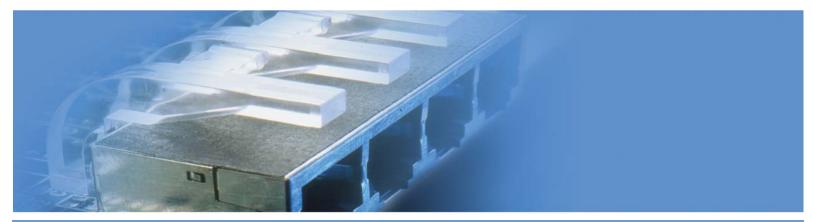


1208 TRI-COLOR PACKAGE



1210 TRI-COLOR PACKAGE





FROM INDICATION TO ILLUMINATION: BOARD LEVEL INDICATION PRODUCTS



Through Hole CBI[®] Circuit Board Indicators



598 Series microLED[®] Surface Mount LEDs



Prism[®] Series Right Angle SMT



Optopipe[®] Light Pipes for use with microLED[®] SMT

- ▶ Housed LEDs in variety of configurations including:
 Right angle, vertical & horizontal ganged arrays in single bi, tri, and quad blocks
- > Perfect for direct view or backlighting applications
- ∨ Variety of colors and LED types including:
 Single & bi-color, diffused, water-clear, tinted, super-bright, & high efficiency
- Delta Over 2500 variations, with custom LED placement available
- Chip LED in 10 different package styles including: 0603 0606 0805 1206 1208 1210
- Single color, bi color, tri color and right angle
- □ Using latest in AllnGaP & InGaN technology
- Cost competitive pricina
- Selector guide available
- > Surface mountable solution with integrated optics
- > Tape and reel / pick and place compatible
- Can withstand higher temp RoHS solder process and eliminates need for secondary optics or separate process
- > Available with square or round lens, and also in low current version
- ▶ Packaged in single, bi & tri level configurations
- ▶ Light pipes act as conduit for directing light from SMT to viewing angles

- ▷ Allows edge lighting over and around a variety of components including SFP assemblies and RJ45 jacks
- > Standard and custom available



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