

PART NUMBER	LED COLOR
591-2001-002	HI.EFF. RED
591-2001-007	
591-2001-013	
591-2101-002	AlGaAs RED
591-2101-007	
591-2101-013	
591-2201-002	HI. INTENSITY GREEN
591-2201-007	
591-2201-013	
591-2301-002	GREEN
591-2301-007	
591-2301-013	
591-2401-002	YELLOW
591-2401-007	
591-2401-013	
*591-2601-002	InGaN BLUE
*591-2601-007	
*591-2601-013	
591-2701-002	AlInGaP YELLOW
591-2701-007	
591-2701-013	
*591-2901-002	InGaN GREEN
*591-2901-007	
*591-2901-013	

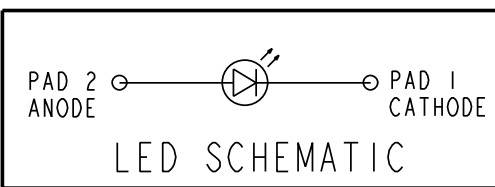
LED COLOR = HI.EFF. / RED - GREEN - YELLOW						
OPERATING CHARACTERISTICS AT 25°C AMBIENT						
CHARACTERISTICS		MIN	TYP	MAX	UNITS	TEST CONDITIONS
LUMINOUS INTENSITY	RED		4.5		mcd	I F = 10 mA
	GREEN		4.8			
	YELLOW		5.7			
FORWARD VOLTAGE	RED		2.0	2.6	V	I F = 10 mA
	GREEN		2.0	2.6		
	YELLOW		2.0	2.6		
REVERSE VOLTAGE	RED	5			V	I R = 10 μA
	GREEN	5				
	YELLOW	5				
DOMINANT WAVELENGTH	RED		628		nm	I F = 10 mA
	GREEN		570			
	YELLOW		587			

LED COLOR = HI.EFF. / RED - GREEN - YELLOW			
ABSOLUTE MAXIMUM RATING AT 25°C AMBIENT			
CHARACTERISTICS		UNITS	
POWER DISSIPATION	RED	95	mW
	GREEN	95	
	YELLOW	95	
CONTINUOUS FORWARD CURRENT	RED	30	mA
	GREEN	30	
	YELLOW	30	
OPERATING TEMPERATURE	R-G-Y	-40 TO 100	°C
STORAGE TEMPERATURE	R-G-Y	-40 TO 100	°C
SOLDERING TEMPERATURE @ 15 SECONDS	R-G-Y	240	°C

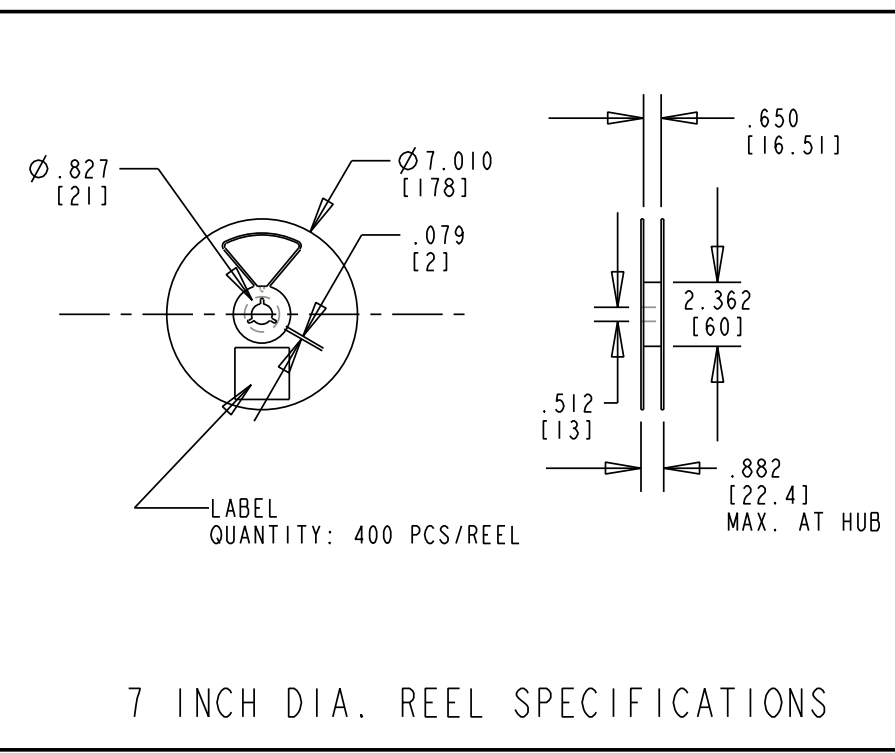
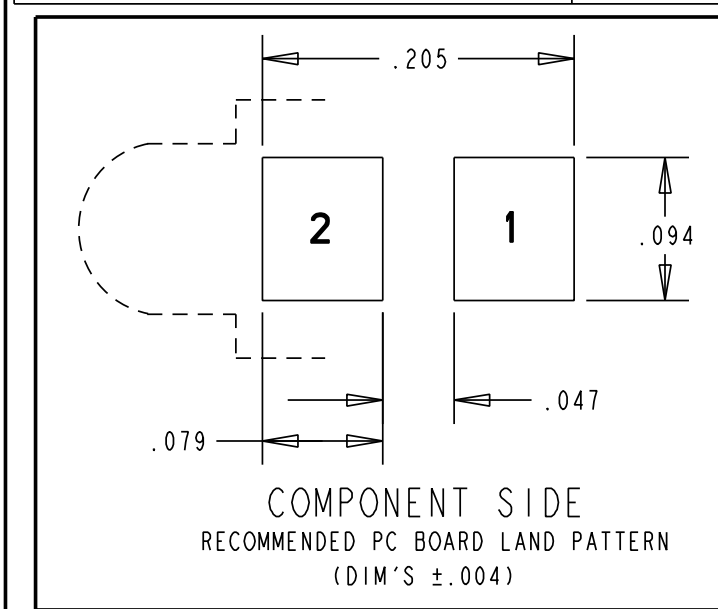
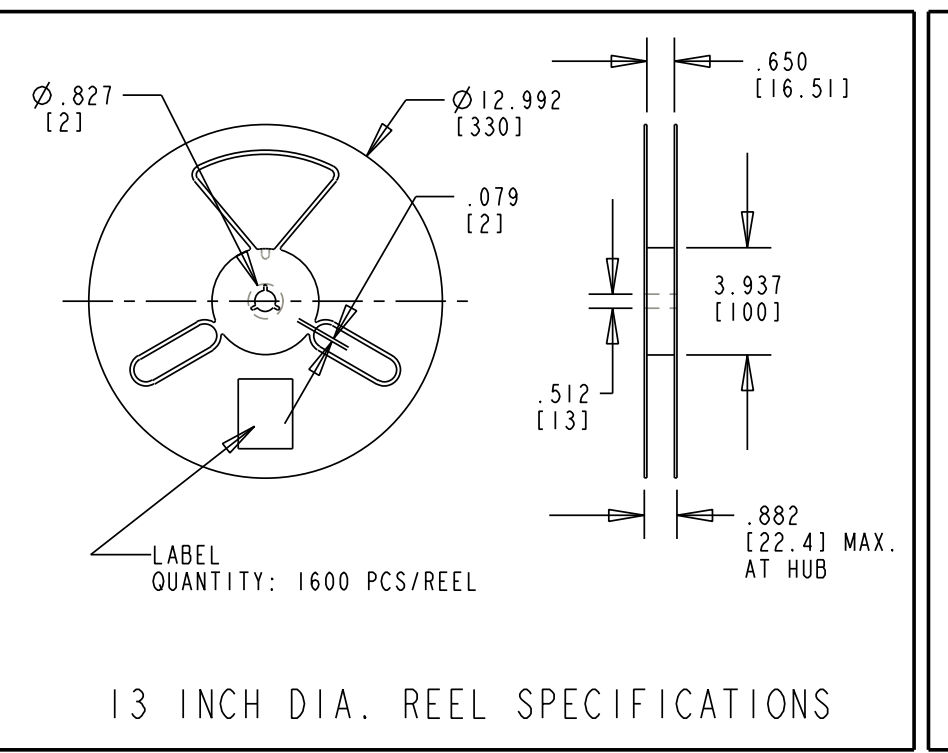
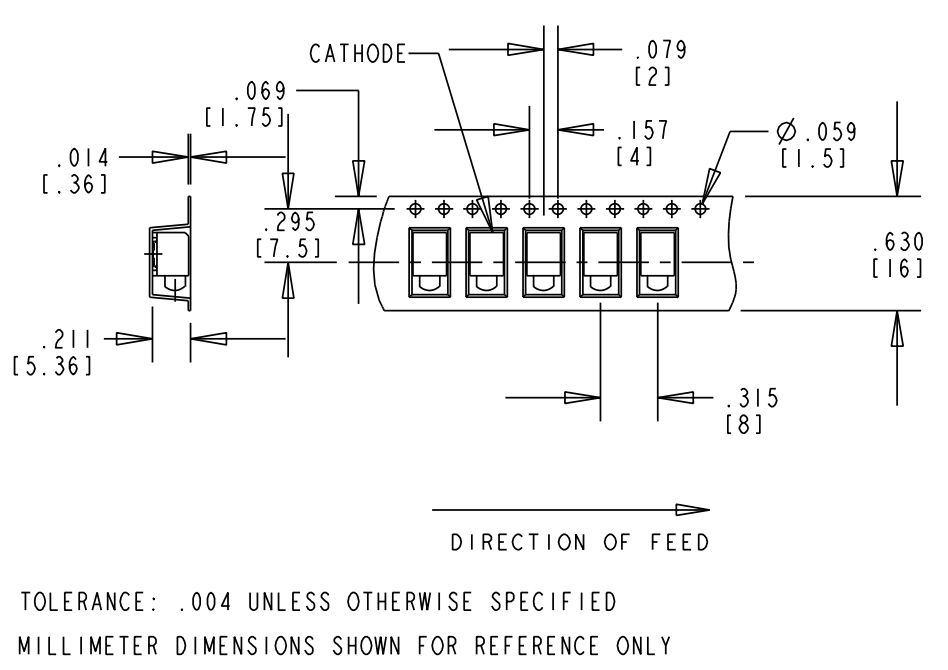
LED COLOR = RED (AlGaAs) GREEN (HI. INT.) YELLOW (AlInGaP)						
OPERATING CHARACTERISTICS AT 25°C AMBIENT						
CHARACTERISTICS		MIN	TYP	MAX	UNITS	TEST CONDITIONS
LUMINOUS INTENSITY	AlGaAs RED	12	23.9	49	mcd	I F = 10 mA
	HI. INT. GREEN	5.0	9.1	14		
	AlInGaP YELLOW	19	33.6	48		
FORWARD VOLTAGE	AlGaAs RED		1.8	2.6	V	I F = 20 mA
	HI. INT. GREEN		2.1	2.6		
	AlInGaP YELLOW		2.0	2.4		
REVERSE VOLTAGE	AlGaAs RED	5			V	I F = 10 mA
	HI. INT. GREEN	5				
	AlInGaP YELLOW	5				
DOMINANT WAVELENGTH	AlGaAs RED	632	638	644	nm	I F = 10 mA
	HI. INT. GREEN	564	570	576		
	AlInGaP YELLOW	580	587	595		

LED COLOR = InGaN BLUE LED COLOR = InGaN GREEN						
OPERATING CHARACTERISTICS AT 25°C AMBIENT						
CHARACTERISTICS		MIN	TYP	MAX	UNITS	TEST CONDITIONS
LUMINOUS INTENSITY	BLUE		6.0		mcd	I F = 10 mA
	GREEN		50			
FORWARD VOLTAGE	BLUE		3.5	4.2	V	I F = 10 mA
	GREEN		3.7	4.3		
REVERSE CURRENT	BLUE		0.01	10	μA	V R = 5 V
	GREEN		0.01	10		

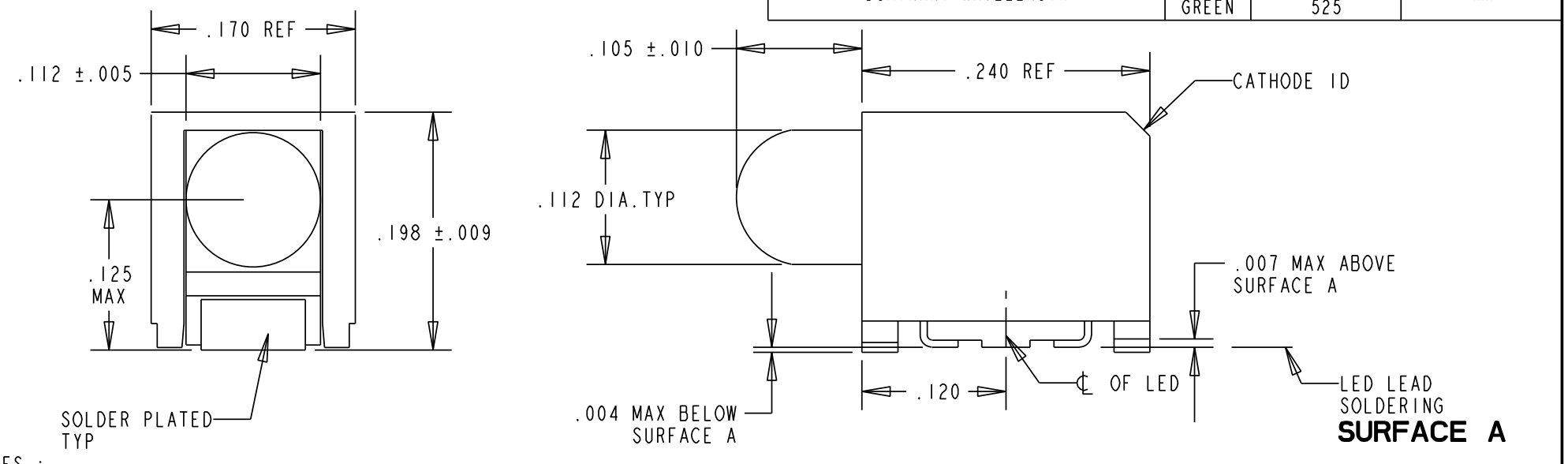
LED COLOR = RED (AlGaAs) GREEN (HI. INT.) YELLOW (AlInGaP)			
ABSOLUTE MAXIMUM RATING AT 25°C AMBIENT			
CHARACTERISTICS		UNITS	
POWER DISSIPATION	R-G-Y	100	mW
	AlGaAs RED	0.8	
	HI. INT. GREEN	0.6	
DERATE LINEARLY FROM 25°C	AlInGaP YELLOW	0.6	mA/°C
	AlGaAs RED	40	
	HI. INT. GREEN	30	
CONTINUOUS FORWARD CURRENT	AlInGaP YELLOW	30	mA
	AlGaAs RED	200	
	HI. INT. GREEN	120	
PEAK FORWARD CURRENT (1/10 DUTY CYCLE, 0.1 ms PULSE WIDTH)	AlInGaP YELLOW	160	mA
	AlGaAs RED	-55 TO 100	
	HI. INT. GREEN	-40 TO +100	
OPERATING TEMPERATURE	RED	-55 TO 100	°C
	GREEN / YELLOW	-40 TO +100	
STORAGE TEMPERATURE	RED	-55 TO 100	°C
	GREEN / YELLOW	-40 TO +100	
SOLDERING TEMPERATURE @ 15 SECONDS	R-G-Y	240	°C



TAPING SPECIFICATION



ATTENTION:
OBSERVE PRECAUTIONS FOR
HANDLING ELECTROSTATIC
SENSITIVE DEVICES



- NOTES:
- MILLIMETER DIMENSIONS SHOWN FOR REFERENCE ONLY
 - PAD NUMBERS ARE FOR REFERENCE ONLY; DESIGNATION NON-EXISTENT ON PART
 - STORAGE CONDITIONS FOR TAPED PRODUCT: RE-TAPING MAY BE NECESSARY FOR PRODUCTS STORED MORE THAN TWELVE MONTHS
 - ORDER QUANTITY IS LED ASSEMBLIES, NOT REELS
 - ...-002 SUFFIX MEANS PARTS ARE PACKED ON A 20 pc SAMPLE STRIP
...-007 SUFFIX MEANS PARTS ARE PACKED ON A 7 INCH REEL, 400 pcs/REEL
...-013 SUFFIX MEANS PARTS ARE PACKED ON A 13 INCH REEL, 1600 pcs/REEL
 - LENS MOVEMENT IN RELATIONSHIP TO THE HOUSING IS:
.009" T.I.R. VERTICALLY
.007" T.I.R. HORIZONTALLY
 - FRONT AND REAR TERMINALS OF THE ASSEMBLY TO BE WITHIN .005 COPLANARITY
 - LED LEAD FRAME MATERIAL:
CORE MATERIAL = COPPER
1st PLATING = Ag-100%, THICKNESS ABOUT 90 MICRO-INCH
2nd PLATING = 90% Sn - 10% Pb, THICKNESS RANGE 200 to 800 MICRO-INCH
 - DIALIGHT PART NUMBERS =
591-2x01-002 591-2x01-007 591-2x01-013
 - DEVICE HAS A MOISTURE SENSITIVITY LEVEL "2" CAUTION LABEL APPLIED AS PER JEDEC STD. 033
 - THIS ASSEMBLY CONTAINS ELECTROSTATIC DISCHARGE SENSITIVE DEVICES (ESDS). MAINTAIN ALL PRECAUTIONARY MEASURES DURING ASSEMBLY, HANDLING AND STORAGE IN ACCORDANCE WITH IPC-A-610.

REV.	ECN NO.	REVISIONS	DRN.	CKD.	APP.	DATE
A		---	---	---	---	---
B		---	---	---	---	---
C		---	---	---	---	---
D		REDRAWN WITH CHANGES -NEW HSG AND LENS DESIGN -ADDED NOTE 6-8 -CHANGE LED CHARACTERISTIC	YY	---	NO	3-7-94
E		ADDED HI. GREEN AND AlInGaP YELLOW AND CHANGE TO ANOTHER AlGaAs RED CHANGE NOTE 8	AV	DC	NO	3-8-00
F		ADD ...2601... (BLUE) CORRECT HI.EFF. LED SPEC	AV	DC	NO	10-10-00
G		ADDED NOTE 10	YIS	JMC	NO	2-14-03
H		UPDATED LED SPEC. FOR HI.EFF. RED, GREEN & YELLOW	YIS	JMC	YC	2-21-03
J		UPDATED LED SPEC. FOR HI. EFF. RED, GREEN AND YELLOW	JAV	JMC	N.O.	1-20-04
K		ADDED P/Ns 591-2901-002, 591-2901-007 & 591-2901-013 InGaN GREEN	TWC	TC	N.O.	6-3-05
L		REMOVED REFERENCE TO RoHS COMPLIANT PARTS AND PLACED ON NEW DRAWING; ADDED MAX & MIN VALUES TO INTENSITY AND WAVELENGTH; UPDATED OPERATING CHARACTERISTICS AND MAXIMUM RATINGS FOR -2101, -2201, & -2701; ADDED ESD NOTE & LOGO	TWC			

LED COLOR = InGaN BLUE LED COLOR = InGaN GREEN			
ABSOLUTE MAXIMUM RATING AT 25°C AMBIENT			
CHARACTERISTICS		UNITS	
POWER DISSIPATION	BLUE	100	mW
	GREEN	114	
DERATE LINEARLY FROM 55°C	BLUE	0.44	mA/°C
	GREEN	0.42	
CONTINUOUS FORWARD CURRENT	BLUE	20	mA
	GREEN	30	
OPERATING TEMPERATURE	BLUE	-40° TO +100°	°C
	GREEN	-55° TO +100°	
STORAGE TEMPERATURE	BLUE	-40° TO +100°	°C
	GREEN	-55° TO +100°	
SOLDERING TEMPERATURE @ 20 SECONDS	BLUE	240	°C
	GREEN	240	
DOMINANT WAVELENGTH	BLUE	470	nm
	GREEN	525	

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SCALE: DRAWING SCALE	DRAWING NUMBER	REV
ALL DIM'S IN: INCHES (MM)	C-15636	L
TOLERANCES: UNLESS OTHERWISE SPECIFIED	TITLE SURFACE MOUNT CBI - ROUND LENS	
FRACTIONS: ±1/64	MATERIAL	
DECIMALS (.XX): ±.020	FINISH:	
DECIMALS (.XXX): ±.005	FSCM 83330	
DECIMALS (.XXXX): ±.0005	SHEET 1 OF 1 FAMILY TABLE:	
ANGLES: ±3°	Dialight 1501 ROUTE 34 SOUTH FARMINGDALE, NJ 07727	