

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	

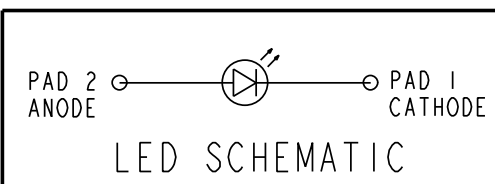
LED COLOR = HI.EFF. / RED - GREEN - YELLOW						
OPERATING CHARACTERISTICS AT 25°C AMBIENT						
CHARACTERISTICS		MIN	TYP	MAX	UNITS	TEST CONDITIONS
LUMINOUS INTENSITY	RED		4.5		mcd	I F = 10 mA
	GREEN		4.8			
	YELLOW		5.7			
FORWARD VOLTAGE	RED		2.0	2.6	V	I F = 10 mA
	GREEN		2.0	2.6		
	YELLOW		2.0	2.6		
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

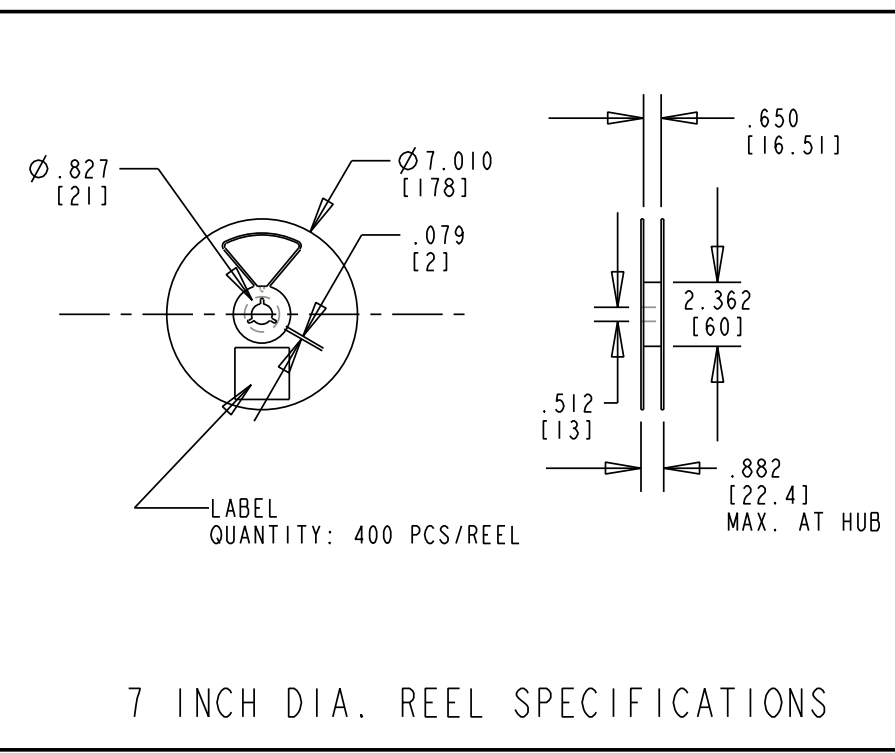
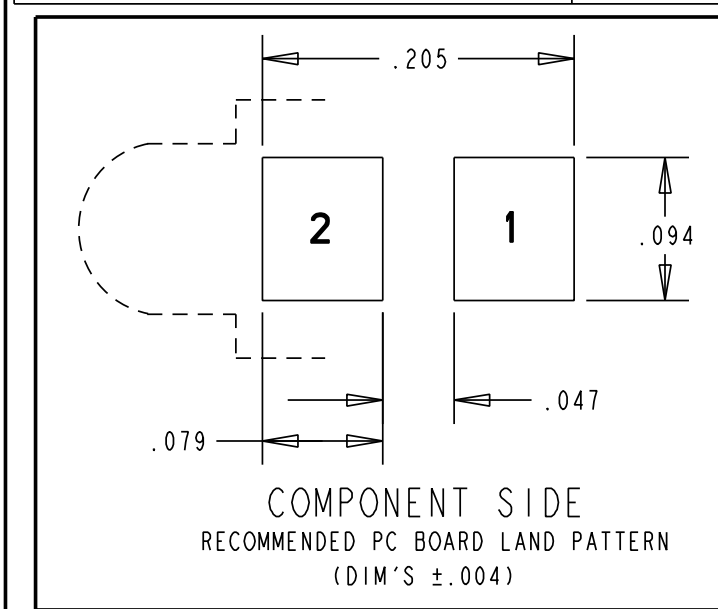
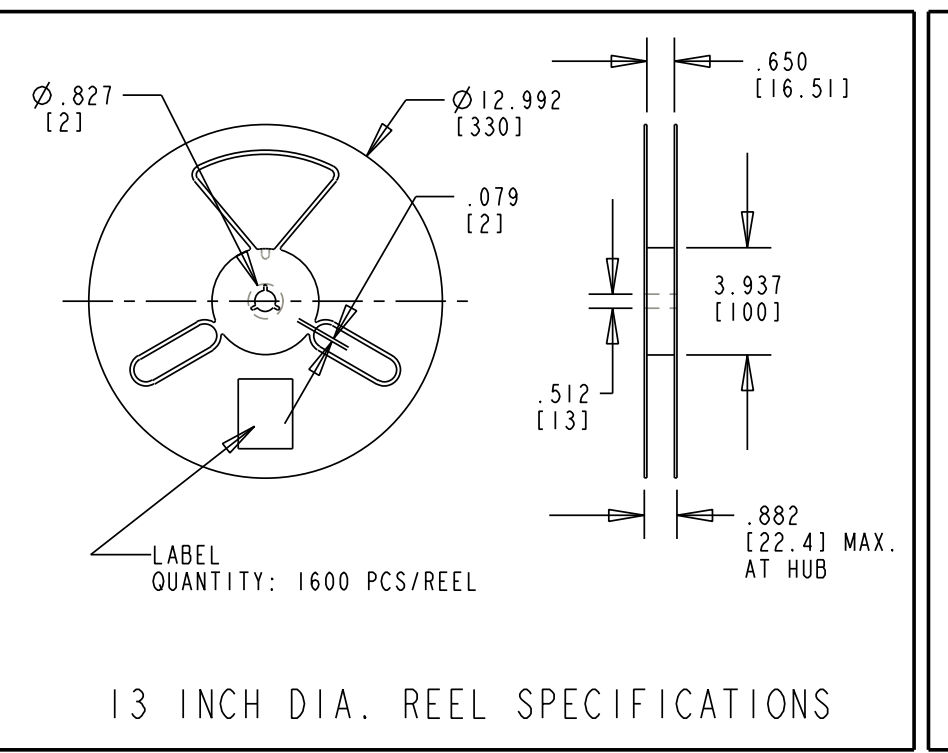
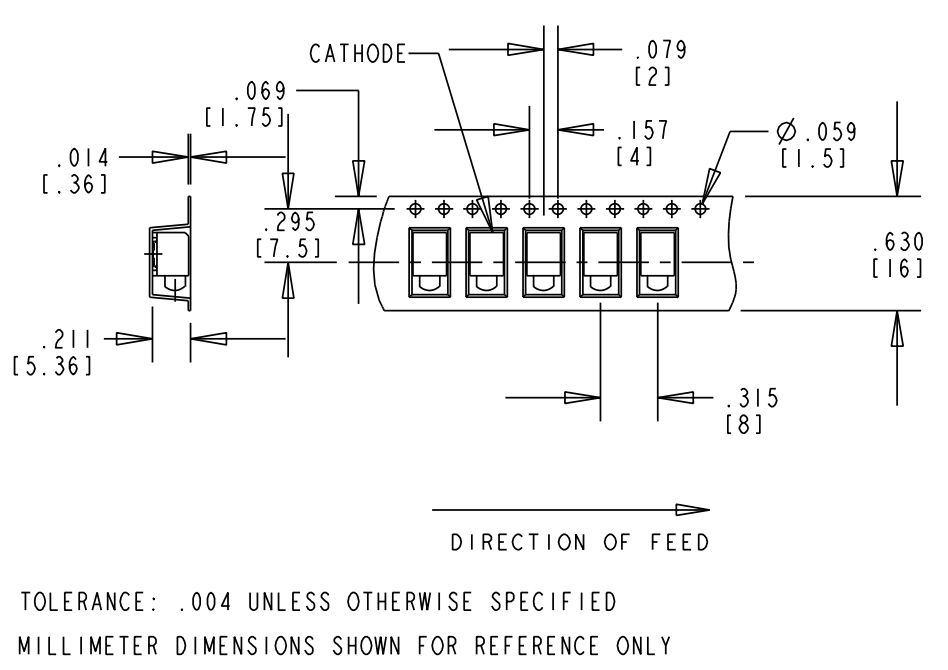
LED COLOR = RED (AlGaAs) GREEN (HI. INT.) YELLOW (AlInGaP)						
OPERATING CHARACTERISTICS AT 25°C AMBIENT						
CHARACTERISTICS		MIN	TYP	MAX	UNITS	TEST CONDITIONS
LUMINOUS INTENSITY	AlGaAs RED	12	23.9	49	mcd	I F = 10 mA
	HI. INT. GREEN	5.0	9.1	14		
	AlInGaP YELLOW	19	33.6	48		
FORWARD VOLTAGE	AlGaAs 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		

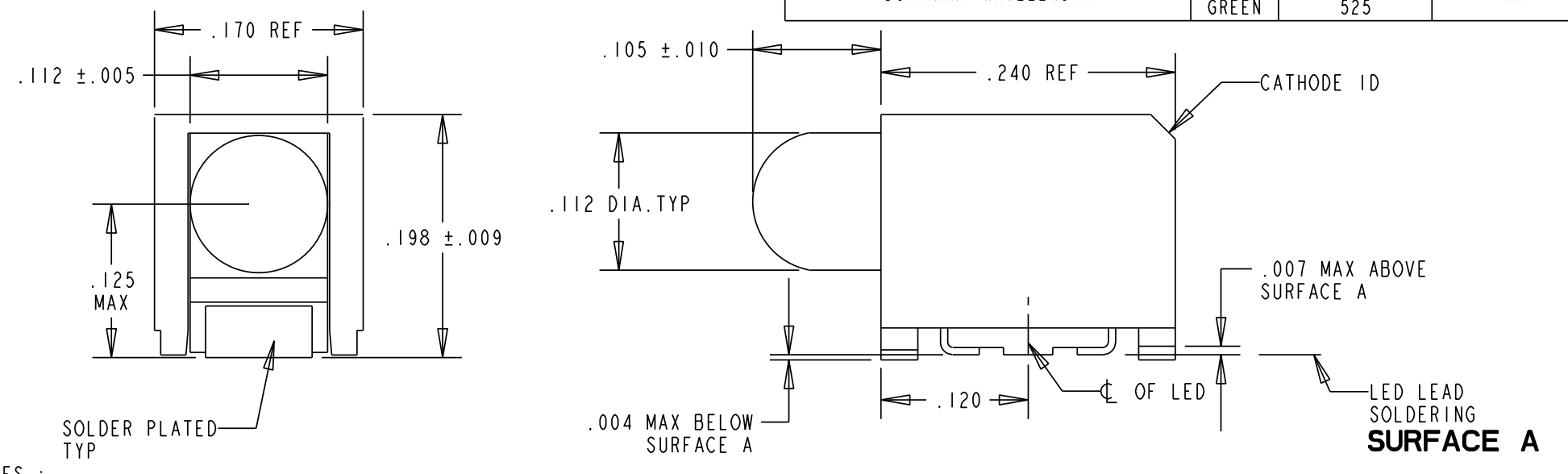
LED COLOR = RED (AlGaAs) GREEN (HI. INT.) YELLOW (AlInGaP)			
ABSOLUTE MAXIMUM RATING AT 25°C AMBIENT			
CHARACTERISTICS		UNITS	
POWER DISSIPATION	R-G-Y	100	mW
	AlGaAs RED	0.8	
	AlInGaP YELLOW	0.6	
DERATE LINEARLY FROM 25°C	AlGaAs RED	0.6	mA/°C
	HI. INT. GREEN	0.6	
	AlInGaP YELLOW	0.6	
CONTINUOUS FORWARD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

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: 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	