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ELECTRONICS

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Jameco Part Number 1717812

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

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			

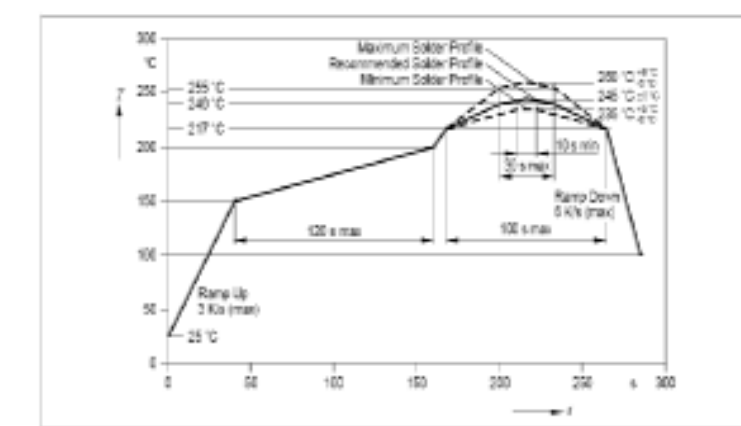
LED COLOR = HI.EFF. / RED - GREEN - YELLOW			
ABSOLUTE MAXIMUM RATING AT 25°C AMBIENT			
CHARACTERISTICS		UNITS	
POWER DISSIPATION	RED	95	mW
	GREEN	95	
	YELLOW	95	
CONTINUOUS FORWARD CURRENT	RED	30	mA
	GREEN	30	
	YELLOW	30	
OPERATING TEMPERATURE	R-G-Y	-40 TO 100	°C
STORAGE TEMPERATURE	R-G-Y	-40 TO 100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

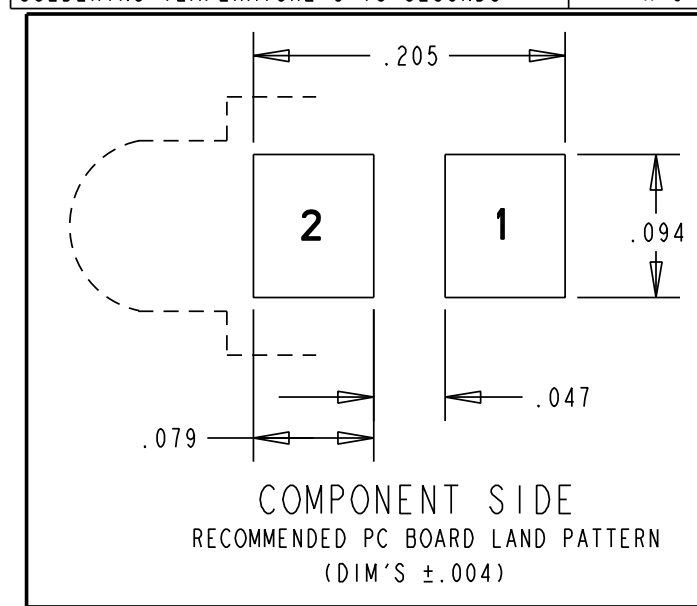
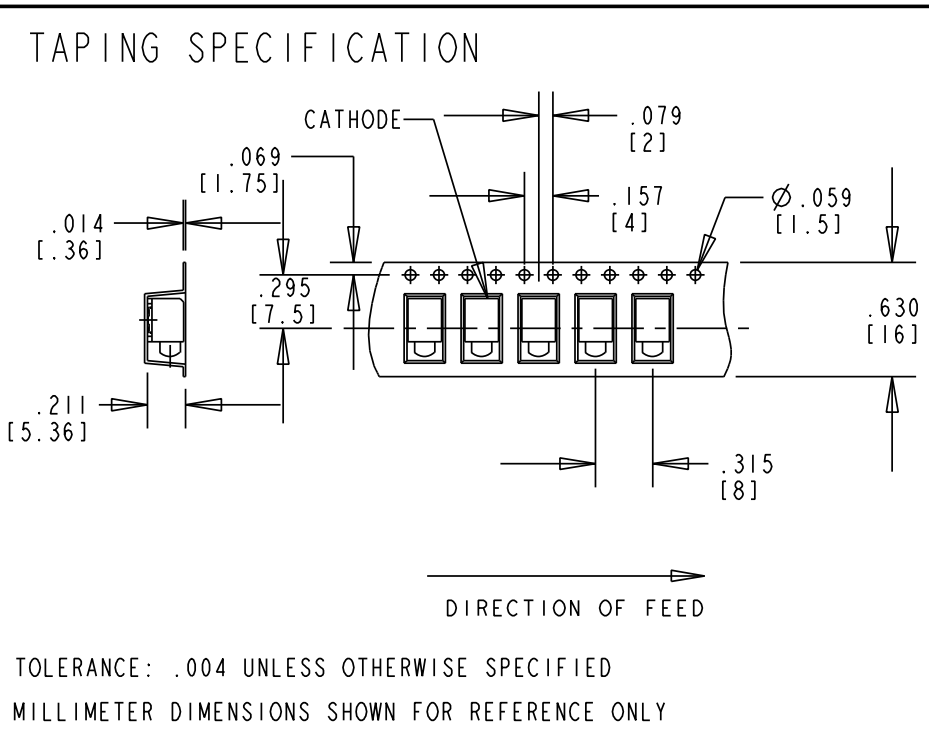
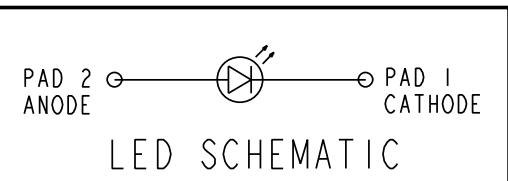
LED COLOR = RED (AlGaAs) GREEN (HI. INT.) YELLOW (AlInGaP)			
ABSOLUTE MAXIMUM RATING AT 25°C AMBIENT			
CHARACTERISTICS		UNITS	
POWER DISSIPATION	R-G-Y	100	mW
	AlGaAs RED	0.8	
	HI. INT. GREEN	0.6	
DERATE LINEARLY FROM 25°C	AlInGaP YELLOW	0.6	mA/°C
	AlGaAs RED	40	
	HI. INT. GREEN	30	
CONTINUOUS FORWARD 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		
	HI. INT. GREEN		
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

REV	ECN NO	REVISIONS	DRN	CKD	APP	DATE
A		NEW RELEASE	TWC			

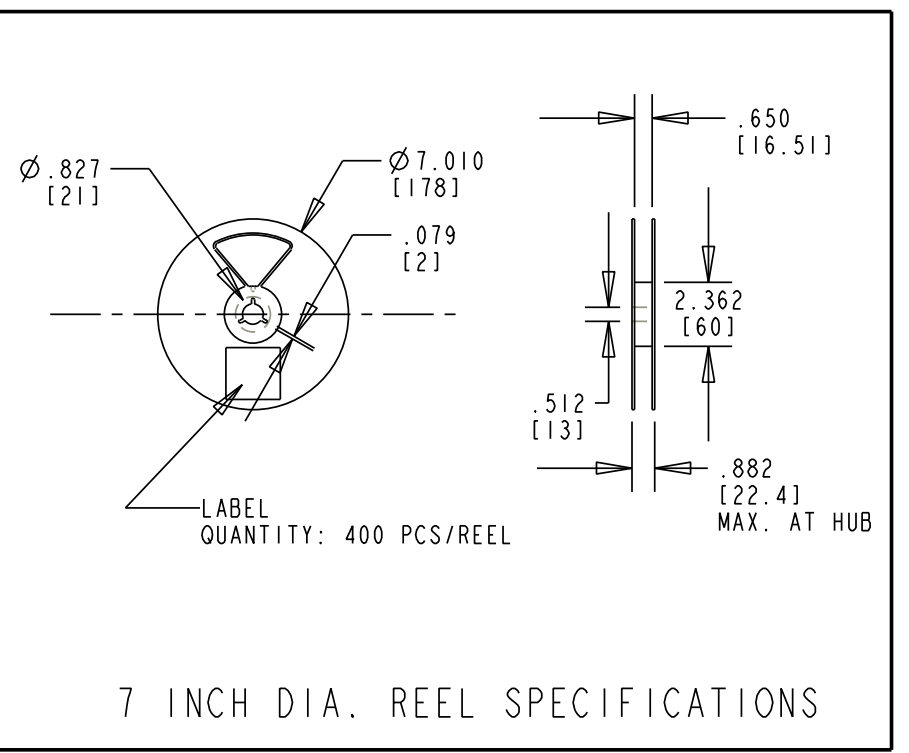
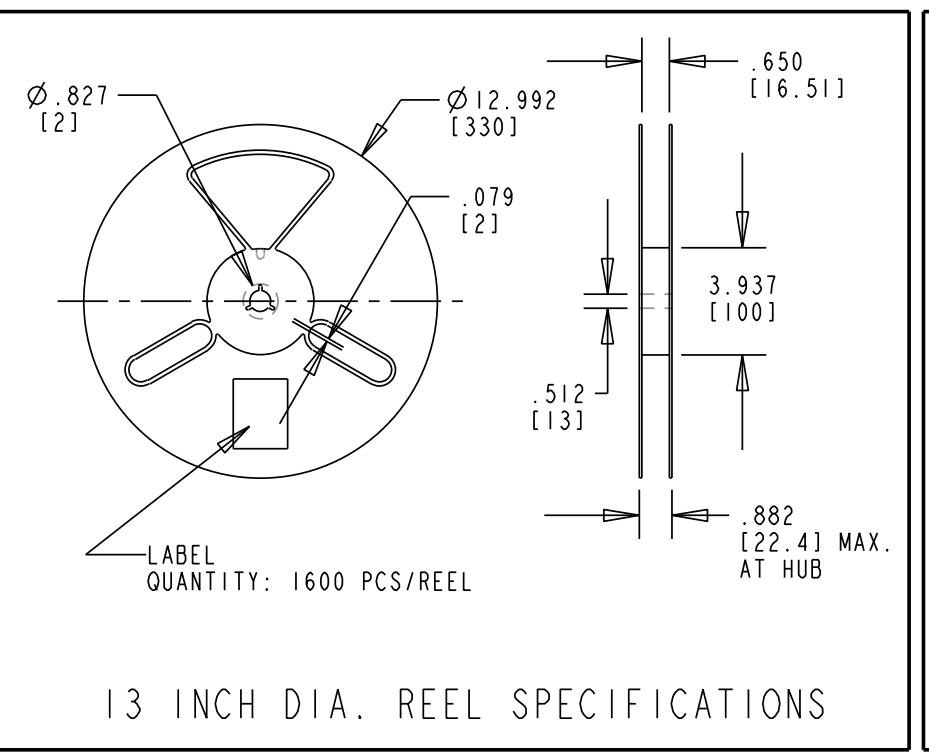
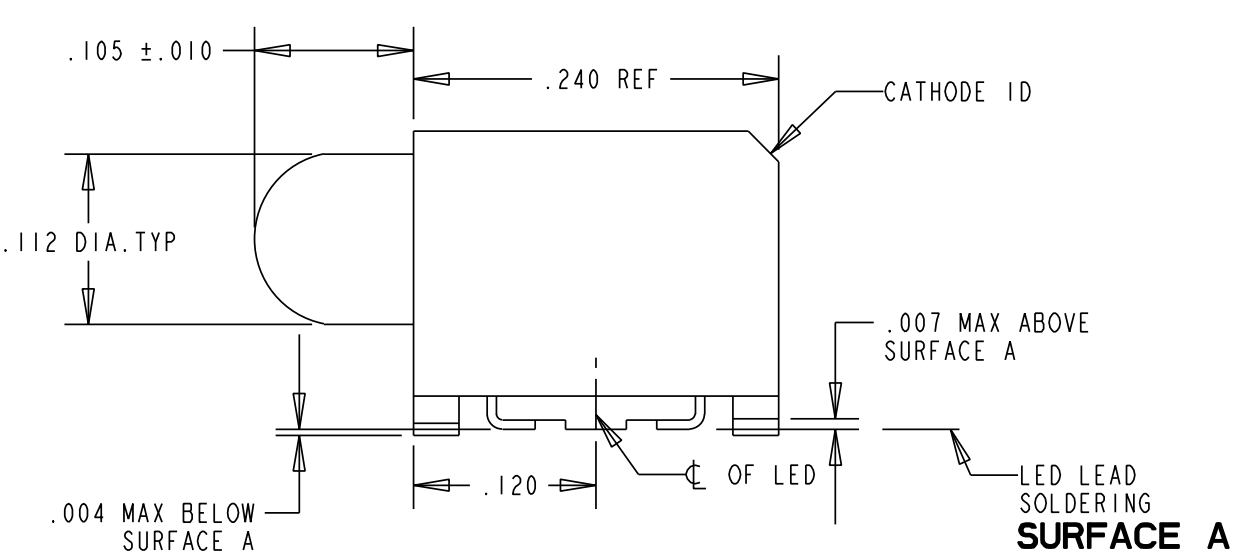
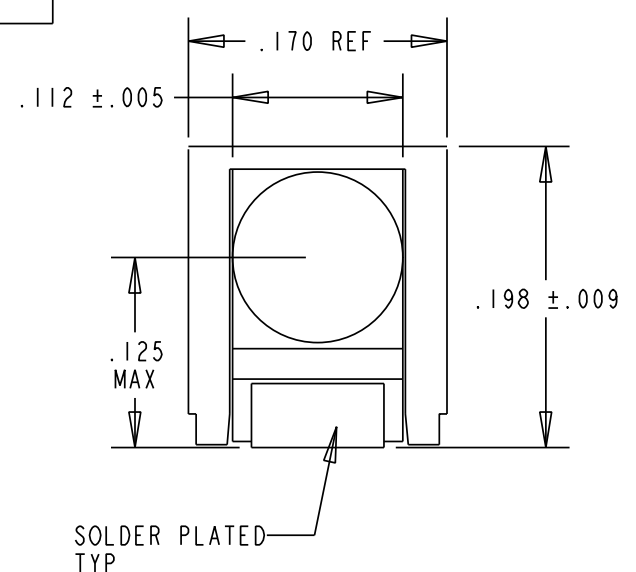


RoHS COMPLIANT REFLOW PROFILE

LED COLOR = InGaN BLUE LED		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	mW/°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	



**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
  - ...-002F SUFFIX MEANS PARTS ARE PACKED ON A 20 pc SAMPLE STRIP
  - ...-007F SUFFIX MEANS PARTS ARE PACKED ON A 7 INCH REEL, 400 pcs/REEL
  - ...-013F 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
  - DIALIGHT PART NUMBERS =
    - 591-2x01-002F 591-2x01-007F 591-2x01-013F
  - 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.

**RoHS Compliant 5XX-XXXXF**  
Part Numbers with the "F" suffix ending are RoHS Compliant.  
Example: 591-2701-007F  
Packaging is marked with "RoHS Compliant" label or equivalent markings. The LED lead finish is 8.0 μm Tin (Sn), 0.5 μm Nickel (Ni), 2.0 μm Copper (Cu) base.  
Parts can be reflow soldered per RoHS reflow profile, wave soldered, dip soldered or hand soldered using typical lead-free soldering process with max 260°C temp. for 5 sec.

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SCALE: DRAWING SCALE	DRAWING NUMBER
ALL DIM'S IN: INCHES (MM)	C-17354
TOLERANCES: UNLESS OTHERWISE SPECIFIED	REV
FRACTIONS: ±1/64	A
DECIMALS (.XX): ±.020	TITLE SURFACE MOUNT CBI - ROUND LENS
DECIMALS (.XXX): ±.005	RoHS COMPLIANT
DECIMALS (.XXXX): ±.0005	MATERIAL
ANGLES: ±3°	
FINISH:	
FSCM 83330	Dialight 1501 ROUTE 34 SOUTH FARMINGDALE, NJ 07727
SHEET 1 OF 1	FAMILY TABLE: