

REV.	ECN NO.	REVISIONS	DRN.	CKD.	APP.	DATE
A		NEW RELEASE	YY	---	N.O.	5-17-93
B		ADDED NOTES 6-8	YY	---	N.O.	1-12-94
C		CHANGE NOTE 7 - CHANGE WAVELENGTH FROM PEAK TO DOMINANT LED SPEC CHANGE	YY	---	N.O.	3-7-94
D		ADDED HI. GREEN AND AI1ngP YELLOW AND CHANGE TO ANOTHER AI6As RED CHANGE NOTE 8	AV	N.O.	N.O.	3-8-00
E		ADDED P/N 591-2801-102, 591-2801-107, 591-2801-113 AND WHITE LED SPEC ALSO ADDED NOTE 10, 11	YIS	D.C.	N.O.	3-1-02
F		UPDATED LED SPEC FOR HI.EFF.RED, GREEN & YELLOW	YIS	JMC	Y.C.	2-21-03
G		ADDED 591-2801-102, -107, -113 ADDED BLUE LED SPEC TABLE.	YIS			

LED COLOR = HI.EFF. RED GREEN YELLOW						
OPERATING CHARACTERISTICS AT 25°C AMBIENT						
CHARACTERISTICS	MIN	TYP	MAX	UNITS	TEST CONDITIONS	
LUMINOUS INTENSITY	HI.EFF. RED	5.6	9.8	14.0	mcd	I <sub>f</sub> = 10 mA
	GREEN	7.1	10.6	14.0		
	YELLOW	7.1	12.6	18.0		
FORWARD VOLTAGE	HI.EFF. RED	2.0	2.5		V	I <sub>f</sub> = 10 mA
	GREEN	2.0	2.5			
	YELLOW	2.0	2.5			
REVERSE VOLTAGE	HI.EFF. RED	5			V	I <sub>r</sub> = 10 µA
	GREEN	5				
	YELLOW	5				
PEAK WAVELENGTH	HI.EFF. RED	635			nm	I <sub>f</sub> = 10 mA
	GREEN	572				
	YELLOW	586				
DOMINANT WAVELENGTH	HI.EFF. RED	622	628	634	nm	I <sub>f</sub> = 10 mA
	GREEN	564	570	576		
	YELLOW	580	587	595		

LED COLOR = AI6As RED HI.INT.GREEN AI1ngP YELLOW						
OPERATING CHARACTERISTICS AT 25°C AMBIENT						
CHARACTERISTICS	MIN	TYP	MAX	UNITS	TEST CONDITIONS	
LUMINOUS INTENSITY	AI6As RED	23.9			mcd	I <sub>f</sub> = 10 mA
	HI. INT. GREEN	9.1				
	AI1ngP YELLOW	33.6				
FORWARD VOLTAGE	AI6As RED	1.8	2.4		V	I <sub>f</sub> = 20 mA
	HI. INT. GREEN	2.1	2.6			
	AI1ngP YELLOW	2.0	2.4			
REVERSE VOLTAGE	AI6As RED	5			V	I <sub>r</sub> = 10 mA
	HI. INT. GREEN	5				
	AI1ngP YELLOW	5				
DOMINANT WAVELENGTH	AI6As RED	638			nm	I <sub>f</sub> = 10 mA
	HI. INT. GREEN	569				
	AI1ngP YELLOW	595				

LED COLOR = HI.EFF. RED GREEN YELLOW						
ABSOLUTE MAXIMUM RATING AT 25°C AMBIENT						
CHARACTERISTICS	MIN	TYP	MAX	UNITS	TEST CONDITIONS	
POWER DISSIPATION	HI.EFF. RED			95	mW	
	GREEN					
	YELLOW					
CONTINUOUS FORWARD CURRENT	HI.EFF. RED			30	mA	
	GREEN					
	YELLOW					
OPERATING TEMPERATURE	RED, GRN, YEL			-40 TO 100	°C	
	RED, GRN, YEL			-40 TO 100	°C	

LED COLOR = AI6As RED HI.INT.GREEN AI1ngP YELLOW						
ABSOLUTE MAXIMUM RATING AT 25°C AMBIENT						
CHARACTERISTICS	MIN	TYP	MAX	UNITS	TEST CONDITIONS	
POWER DISSIPATION	AI6As RED			100	mW	
DERATE LINEARLY FROM 25°C	AI6As RED			0.8	mW/°C	
	HI. INT. GREEN			0.6	mW/°C	
CONTINUOUS FORWARD CURRENT	AI6As RED			40	mA	
	HI. INT. GREEN			30	mA	
PEAK FORWARD CURRENT (1/10 DUTY CYCLE, 0.1 ms PULSE WIDTH)	AI6As RED			200	mA	
	HI. INT. GREEN			120	mA	
OPERATING TEMPERATURE	RED, GRN, YEL			-55 TO 100	°C	
	RED, GRN, YEL			-55 TO 100	°C	
INFRARED REFLOW SOLDERING	RED, GRN, YEL			260°C FOR 5 SEC		
VAPOR PHASE SOLDERING	RED, GRN, YEL			215°C FOR 3 MIN		

LED COLOR = BLUE						
OPERATING CHARACTERISTICS AT 25°C AMBIENT						
CHARACTERISTICS	MIN	TYP	MAX	UNITS	TEST CONDITIONS	
LUMINOUS INTENSITY		6.0		mcd	I <sub>f</sub> = 10 mA	
FORWARD VOLTAGE		3.5	4.2	V	I <sub>f</sub> = 10 mA	
REVERSE CURRENT		.01	10	µA	V <sub>r</sub> = 5 V	

LED COLOR = WHITE						
OPERATING CHARACTERISTICS AT 25°C AMBIENT						
CHARACTERISTICS	MIN	TYP	MAX	UNITS	TEST CONDITIONS	
LUMINOUS INTENSITY		37.6		mcd	I <sub>f</sub> = 10 mA	
FORWARD VOLTAGE		3.5	4.2	V	I <sub>f</sub> = 20 mA	
REVERSE CURRENT		.01	10	µA	V <sub>r</sub> = 5 V	
COLOR COORDINATES	X	.29	.32	.365	I <sub>f</sub> = 20 mA	
	Y	.22	.31	.42		

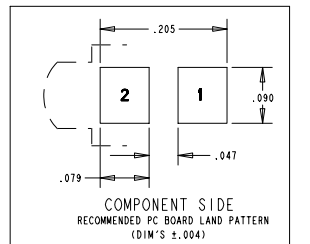
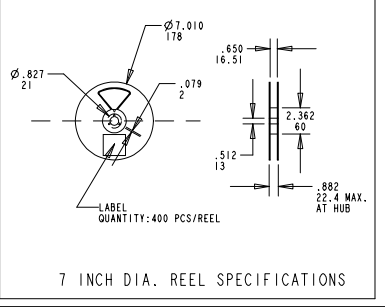
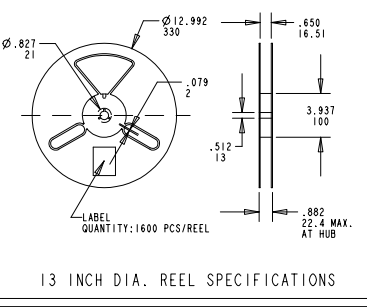
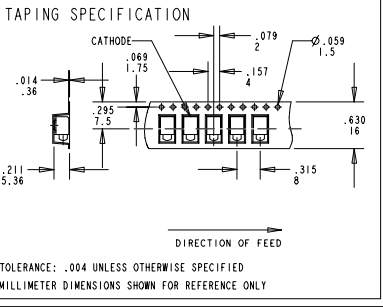
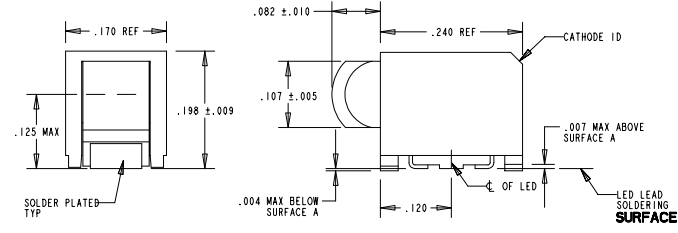
LED COLOR = BLUE						
ABSOLUTE MAXIMUM RATING AT 25°C AMBIENT						
CHARACTERISTICS	MIN	TYP	MAX	UNITS	TEST CONDITIONS	
POWER DISSIPATION				100	mW	
DERATE LINEARLY FROM 55°C				0.44	mW/°C	
CONTINUOUS FORWARD CURRENT				20	mA	
OPERATING TEMPERATURE				-40 TO 100	°C	
STORAGE TEMPERATURE				-40 TO 100	°C	

LED COLOR = WHITE						
ABSOLUTE MAXIMUM RATINGS AT 25°C AMBIENT						
CHARACTERISTICS	MIN	TYP	MAX	UNITS	TEST CONDITIONS	
POWER DISSIPATION				85	mW	
CONTINUOUS FORWARD CURRENT				20	mA	
DERATE LINEARLY FROM 75°C				.6	mA/°C	
PEAK REVERSE VOLTAGE				5V		
SOLDERING PROFILE: IR - 235 °C PEAK - 15 SEC., 185 °C - 90 SEC. MAX.						
OPERATING TEMPERATURE				-40 °C TO +100 °C		
STORAGE TEMPERATURE				-40 °C TO +100 °C		

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
- ...102 SUFFIX MEANS PARTS ARE PACKED ON A 20 pc SAMPLE STRIP  
...107 SUFFIX MEANS PARTS ARE PACKED ON A 7 INCH REEL, 400 pcs/REEL  
...113 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  
-.001" T. I. R. HORIZONTALLY
- FRONT AND REAR TERMINALS OF THE ASSEMBLY TO BE WITHIN .005 COPLANARITY
- LED LEAD FRAME MATERIAL:  
CORE MATERIAL IS COPPER  
1st PLATING = Ag-100V, THICKNESS ABOUT 90 MICRO-INCH  
2nd PLATING = 90% Sn - 10% Pb, THICKNESS RANGE 200 TO 800 MICRO-INCH
- DIALIGHT PART NUMBERS =  
591-2x01-102 591-2x01-107 591-2x01-113
- DRY PACK PACKAGING CONSIST OF A DESICCANT, HUMIDITY INDICATOR CARD IN A VACUUM SEALED MOISTURE BARRIER BAG, MOISTURE SENSITIVITY LABEL LEVEL 2 ON OUTSIDE OF BAG, AS PER JEDEC STD. 033.
- ATTENTION: OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES.

PART NUMBER	LED COLOR
591-2001-102	HI. EFF. RED
591-2001-107	
591-2001-113	
591-2101-102	AI6As RED
591-2101-107	
591-2101-113	
591-2201-107	HI. INTENSITY GREEN
591-2201-113	
591-2301-102	
591-2301-107	
591-2301-113	
591-2401-102	YELLOW
591-2401-107	
591-2401-113	
591-2601-102	BLUE
591-2601-107	
591-2601-113	
591-2701-102	AI1ngP YELLOW
591-2701-107	
591-2701-113	
591-2801-102	WHITE
591-2801-107	
591-2801-113	



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SCALE: DRAWING SCALE	DRAWING NUMBER	REV
ALL DIMS IN INCHES (MM)	C-15785	G
TOLERANCES: UNLESS OTHERWISE SPECIFIED	TITLE	
FRACTIONS: ±.0104	SURFACE MOUNT CBI - SQUARE LENS	
DECIMALS (.XXX): ±.01	MATERIAL	
DECIMALS (.XXXX): ±.005	Dialight	
ANGLES: ±1°	1501 ROUTE 34 SOUTH FARMINGDALE, NJ 07727	
FINISH:	FSCM 83330	SHEET OF FAMILY TABLES: