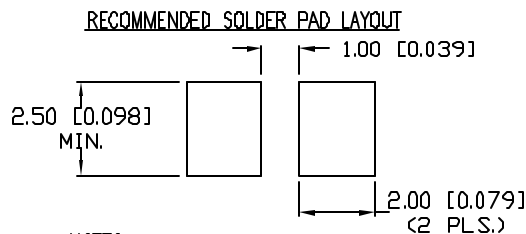
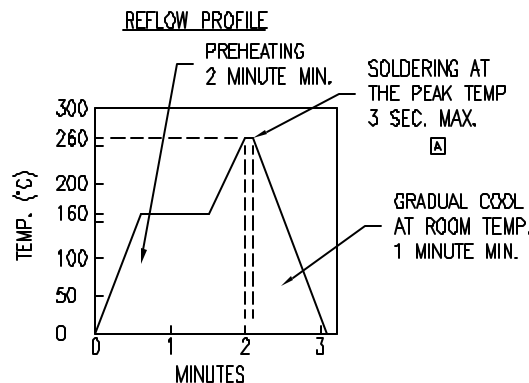
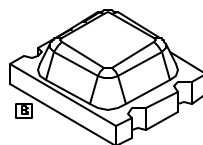
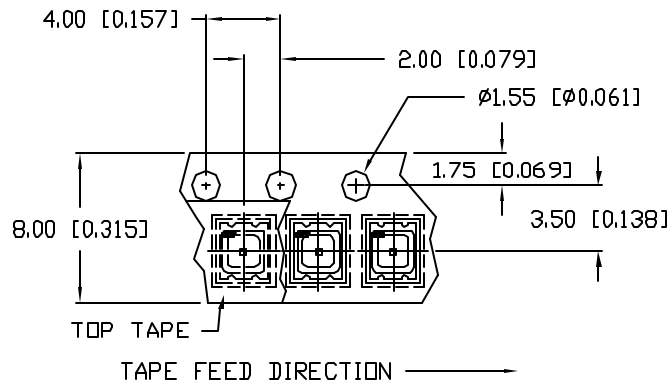
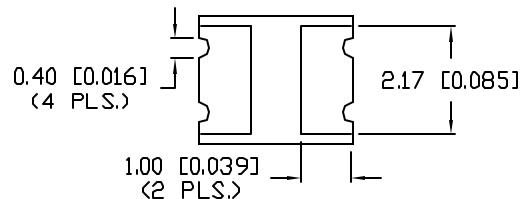
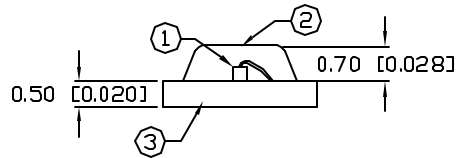
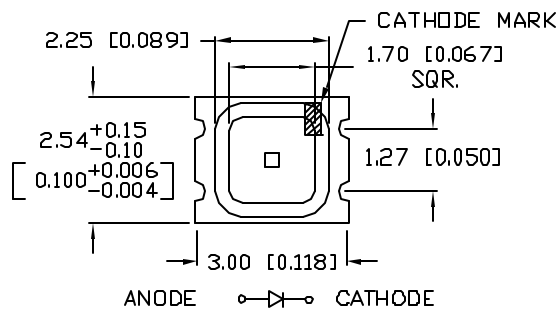


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## NOTES:

- PART SUPPLIED ON SUPER 8 TAPE AND REEL, 3,000 PIECES PER REEL.
- THE CATHODE IS ORIENTED TOWARD THE TAPE SPROCKET HOLE.
- WHITE CERAMIC CARRIER.

## CAUTION: MOISTURE SENSITIVE DEVICE

- SHELF LIFE IN SEALED BAG: 12 MONTHS AT <40°C AND <90% RELATIVE HUMIDITY (RH).
- AFTER THIS BAG IS OPENED, DEVICES HAVE TO BE MOUNTED WITHIN 48 HOURS OR STORED AT <30% RH.

\*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), X.X=±0.5 (±0.020), X.XX=±0.25 (±0.010), X.XXX=±0.127 (±0.005).

LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030), MIN.=<sup>+DECIMAL PRECISION</sup><sub>-0.00</sub> MAX.=<sup>+0.00</sup><sub>-DECIMAL PRECISION</sub>PART NUMBER  
CCL-CRS10RREV.  
D

REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	REDRAWN.	4.27.93
B	E.C.N. #10390. & #10BRDR & REDRAWN.	10.2.98
C	E.C.N. #10484. ADDED SOLDER SPECS.	12.11.98
D	E.C.N. #10695. & REDRAWN IN 3D.	1.12.01

ELECTRO-OPTICAL CHARACTERISTICS  $T_A=25^\circ\text{C}$   $I_f=20\text{mA}$ 

PARAMETER	MIN	TYP	MAX	UNITS	TEST COND
PEAK WAVELENGTH		635		nm	
FORWARD VOLTAGE		2.0	2.6	V <sub>f</sub>	
REVERSE VOLTAGE	4.0			V <sub>r</sub>	I <sub>r</sub> =100μA
AXIAL INTENSITY		4		mcd	I <sub>f</sub> =20mA
VIEWING ANGLE		180		2x theta	
EMITTED COLOR:	RED				
EPOXY LENS FINISH:	WATER CLEAR				

LIMITS OF SAFE OPERATION AT 25°C PER CHIP

PARAMETER	MAX	UNITS
PEAK FORWARD CURRENT*	100	mA
STEADY CURRENT	25	mA
POWER DISSIPATION	65	mW
DERATE FROM 25°C	-.33	mW/°C
OPERATING TEMP.	-30 TO +75	°C
STORAGE TEMP.	-40 TO +85	°C

\*  $t < 10\mu\text{s}$ 

SOLDER HEAT PROOF TEST:	DIPPING FOR 5 SEC. AT 250°C, 2 TIMES.
THERMAL SHOCK TEST:	15 MIN. AT +90°C, AND 15 MIN. AT -30°C, 25 CYCLES.
VIBRATION TEST:	50Hz, FULL AMPLITUDE WIDTH; 1.5mm, 2 HOURS VERTICALLY AND HORIZONTALLY, RESPECTIVELY.
MOISTURE TEST:	Ta=60°C, Rh=90%, 1,000 HOURS.
IRON SOLDERING:	20W IRON (SHARP TIP), 280-320°C, 5 SEC. MAX.,
SOLDER DIP METHOD:	TEMP. IS 240-260°C AND TIME IS WITHIN 10 SEC.
RE-FLOW SOLDERING:	SEE CHART.

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REV.  
DPART NUMBER  
CCL-CRS10R3.0mm x 2.5mm CERAMIC SURFACE MOUNT LED,  
635nm RED LED, WATER CLEAR LENS.

CONFIDENTIAL INFORMATION  
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## RELIABILITY NOTE

OUR MANY YEARS OF EXPERIENCE DATA ACCUMULATION INDICATE THAT SOLDER HEAT IS A MAJOR CAUSE OF EARLY AND FUTURE FAILURE. PLEASE PAY ATTENTION TO YOUR SOLDERING PROCESS.



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