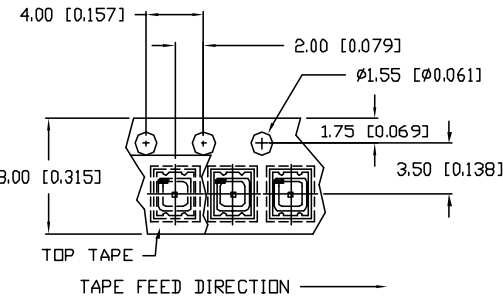
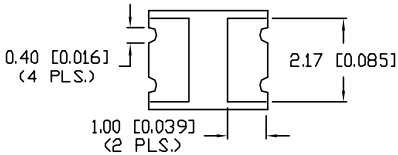
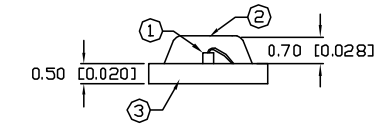
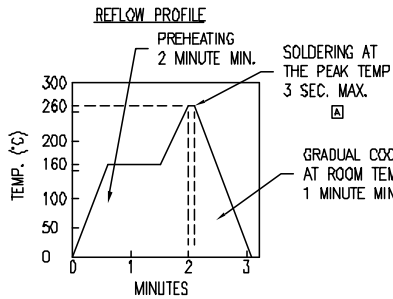
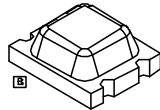
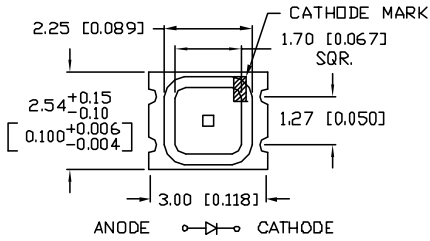
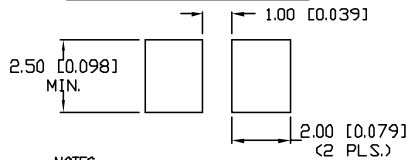


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RECOMMENDED SOLDER PAD LAYOUT



NOTES:

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

CAUTION: MOISTURE SENSITIVE DEVICE
PER JEDEC LEVEL 4 STANDARDS



PART NUMBER
CCL-CRS10R

REV.
F

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
E	E.C.N. #10967.	3.14.03
F	E.C.N. #11148.	12.01.06

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	2.5	V_f	
REVERSE VOLTAGE	4.0			V_r	$I_f=100\mu\text{A}$
AXIAL INTENSITY		12		mcd	$I_f=20\text{mA}$
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	-0.33	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:	$T_a=60^\circ\text{C}$, $R_h=90\%$, 1,000 HOURS.
IRON SOLDERING:	20W IRON (SHARP TIP), 280-320°C, 5 SEC. MAX.,
SOLDER DIP METHODE:	TEMP. IS 240-260°C AND TIME IS WITHIN 10 SEC.
RE-FLOW SOLDERING:	SEE CHART.

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*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), XX=±0.5 (±0.020), XXX=±0.25 (±0.010), XXXX=±0.127 (±0.005). LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030). MIN.=+DECIMAL PRECISION -0.00 MAX.=+0.00 -DECIMAL PRECISION

REV.	PART NUMBER
F	CCL-CRS10R

3.0mm 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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