



We Tame Photons to Work for You!



Products > LEDs > Surface Mount > Ceramic > 1210 Package, Dual Color

Features / Options

Applications / Uses



- ▶ State-of-the-Art, High Brightness Chip Technology
- ▶ Choice of Colors and Lens Finishes
- ▶ Lead Frame / Lens Casting Reliability
- ▶ Easy-to-Solder Leads, Tin Finish
- ▶ Available Bulk or on Tape and Reel
- ▶ Lead Trimming and Forming Available
- ▶ Custom Shapes, Easily Tooled, Low Minimum

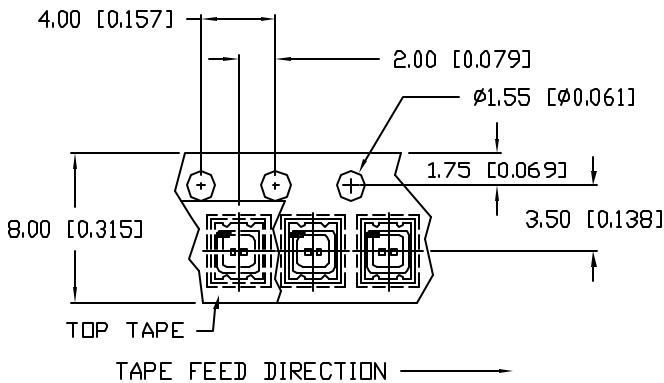
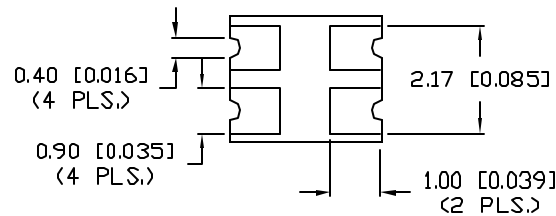
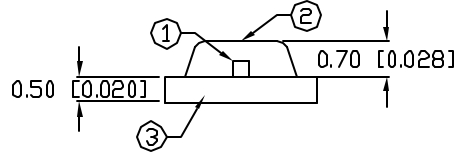
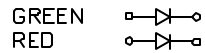
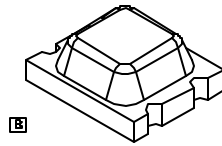
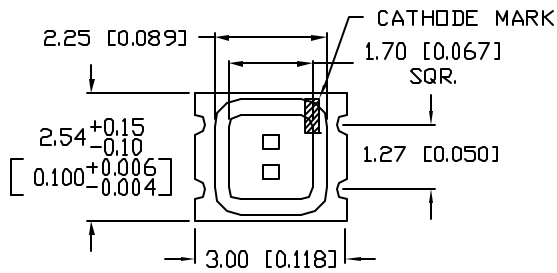
- ▶ Board or Panel Indication or Illumination
- ▶ Annunciator and Control Panels
- ▶ Telecom Switches and Central Station Equipment
- ▶ Large Panel Indicators

Part Number:	Brightness	Dice Material	Emitted Color	Peak Wavelength	Epoxy Lens	Operating Typ Vf (V)	Intensity Typ, mcd @ 20 mA	View Angle 2x Theta		
CCL-CRS10R/G		GaAsP/GaP	Red/Green	635/565	Clear	2.0	4/12	180		—
CCL-CRS10R/Y		GaAsP/GaAsP	Red/Yellow	635/585	Clear	2.0/2.1	4/8	180		—
CCL-CRS10Y/G		GaAsP/GaP	Yellow/Green	585/565	Clear	2.1/2.2	8/12	180		—

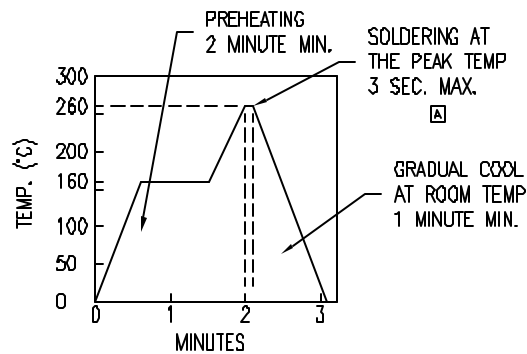
PART NUMBER
CCL-CRS10R/G

REV.

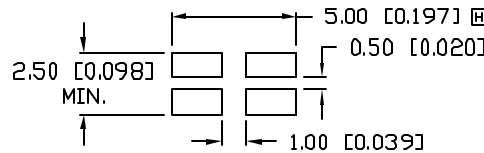
REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	REDRAWN.	4.27.93
B	CORRECTED WAVELENGTH.	1.14.94
C	UPDATED SOLDER SPECS.	9.27.94
D	E.C.N. #10390 & #10BRDR & REDRAWN.	10.2.98
E	E.C.N. 10484. ADDED SOLDER PROFILE	12.11.98
F	E.C.N. #10695. & REDRAWN IN 3D.	1.12.01
G	E.C.N. #10967.	3.14.03
H	E.C.N. #11271.	9.15.05
I	E.C.N. #11148.	01.19.07



REFLOW PROFILE



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



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

PARAMETER	MIN	TYP	MAX	UNITS	TEST COND
PEAK WAVELENGTH		635 (RED)		nm	
		565 (GREEN)		nm	
FORWARD VOLTAGE (R/G)		2.0/2.2	2.5/2.6	V_f	
REVERSE VOLTAGE	4.0			V_r	$I_r=100\mu\text{A}$
AXIAL INTENSITY (R/G)		4/12		mcd	$I_f=20\text{mA}$
VIEWING ANGLE		180		$2x$ theta	

EMITTED COLOR: RED/GREEN
EPOXY LENS FINISH: WATER CLEAR

LIMITS OF SAFE OPERATION AT 25°C PER CHIP

PARAMETER	COLORS	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 METHOD:	TEMP. IS 240-260°C AND TIME IS WITHIN 10 SEC.
RE-FLOW SOLDERING:	SEE CHART.

*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.038), 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.=^{+DECIMAL PRECISION}-0.00 MAX.=^{+0.00}-DECIMAL PRECISION

REV.

PART NUMBER

CCL-CRS10R/G

3.0mm X 2.5mm CERAMIC SURFACE MOUNT LED,
RED & GREEN LEDS, WATER CLEAR LENS.

CONFIDENTIAL INFORMATION

THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE PROPERTY OF LUMEX INC. EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY LUMEX INC., THE HOLDER OF THIS DOCUMENT SHALL KEEP ALL INFORMATION CONTAINED HEREIN CONFIDENTIAL AND SHALL PROTECT SAME IN WHOLE OR IN PART FROM DISCLOSURE AND DISSEMINATION TO ALL THIRD PARTIES.

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.



DRAWN BY: JC	CHECKED BY:	APPROVED BY:	DATE: 4.11.92 PAGE: 1 OF 1 SCALE: N/A
-----------------	-------------	--------------	---