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

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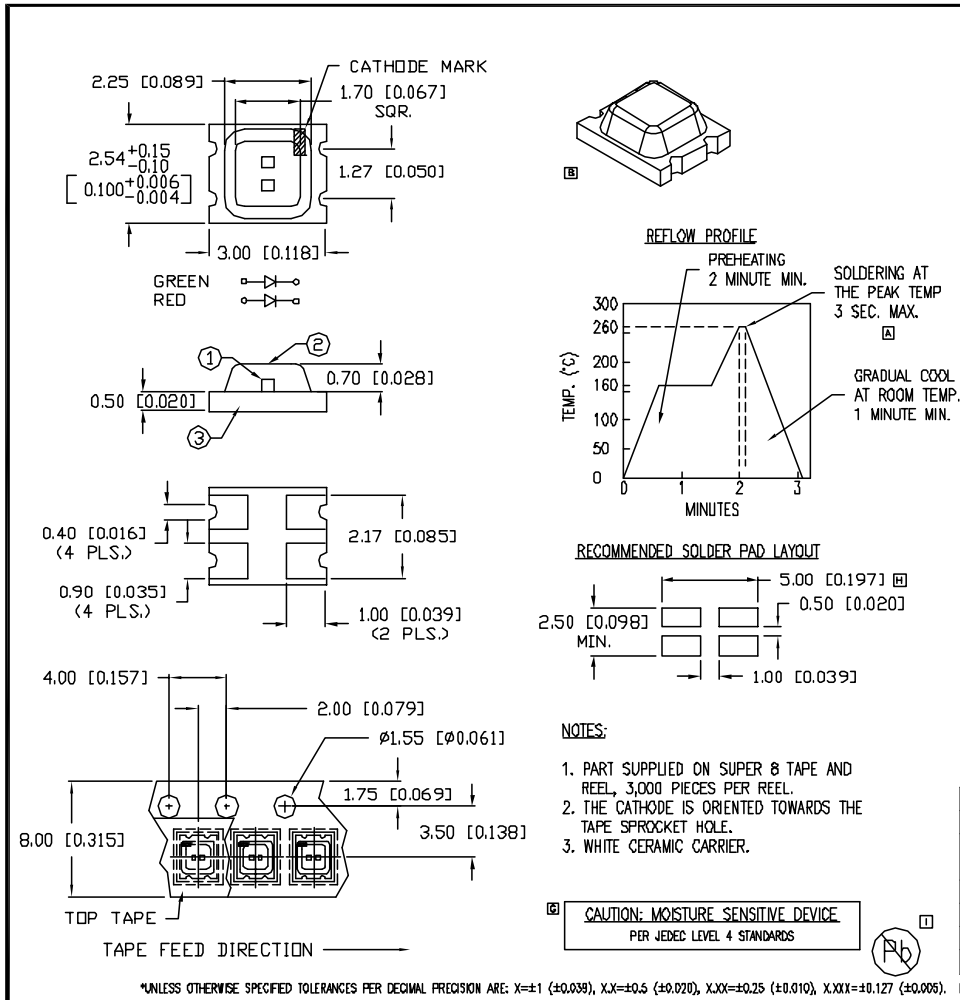
► State-of-the-Art, High Brightness Chip Technology
► Choice of Colors and Lens Finishes
► Lead Frame / Lens Casting Reliability
► Easy-to-Solder Leads, Tin Finish
► Available Bulk or on Tape and Reel
► Lead Trimming and Forming Available
► Custom Shapes, Easily Tooled, Low Minimum

Applications / Uses

► 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		—

Mechanical Drawings

CATHODE MARK

2.25 [0.089]
1.70 [0.067] SQR.
2.54 +0.15 / -0.10 [0.100 +0.006 / -0.004]
1.27 [0.050]
3.00 [0.118]

GREEN →|◁→
RED ○◁─○

① ②
0.70 [0.028]
0.50 [0.020]
③

0.40 [0.016] (4 PLS.)
2.17 [0.085]
0.90 [0.035] (4 PLS.)
1.00 [0.039] (2 PLS.)

4.00 [0.157]
2.00 [0.079]
Ø1.55 [Ø0.061]
1.75 [0.069]
3.50 [0.138]
8.00 [0.315]

TOP TAPE
TAPE FEED DIRECTION →

Part Number / Revision Table

PART NUMBER		REV.
CCL-CRS10R/G		

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

PREHEATING 2 MINUTE MIN.
SOLDERING AT THE PEAK TEMP 3 SEC. MAX.
GRADUAL COOL AT ROOM TEMP. 1 MINUTE MIN.
TEMP. (°C): 300, 260, 200, 160, 100, 50, 0
MINUTES: 0, 1, 2, 3

RECOMMENDED SOLDER PAD LAYOUT

5.00 [0.197]
0.50 [0.020]
2.50 [0.098] MIN.
1.00 [0.039]

NOTES:

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

CAUTION: MOISTURE SENSITIVE DEVICE
PER JEDEC LEVEL 4 STANDARDS

ELECTRO-OPTICAL CHARACTERISTICS $T_A=25°C$ $I_f=20mA$

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	$I_r=100\mu A$
AXIAL INTENSITY (R/G)		4/12		mcd	$I_f=20mA$
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

* $t<10\mu S$

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 METHODE:	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 (±0.039), 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= +DECIMAL PRECISION / -0.00   MAX.= +0.00 / -DECIMAL PRECISION

Title Block

REV.	PART NUMBER				
	CCL-CRS10R/G				

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

LUMEX

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