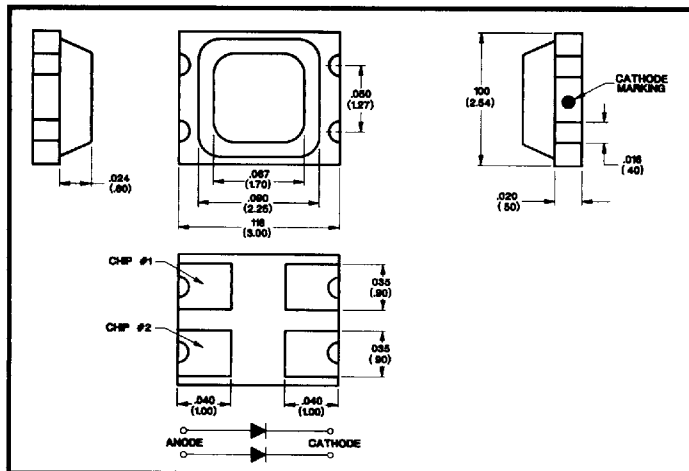




### Surface Mount LED Lamps — Dual Chip (Size: 1210)

## DESCRIPTION AND FEATURES



Chicago Miniature Lamp's Surface Mount LED lamps are designed to be compatible with today's state of the art surface mount technology. These LED lamps are manufactured on a ceramic substrate making them significantly more resistant to processing temperatures. This design allows the user to process these units alongside other surface mount components through any of today's surface mount techniques. These LED lamps are packaged on 8mm tape, allowing for easy automated placement. LED lamps are available in Red, Green, Yellow, Amber and Ultra Red in unique bi-color and dual chip extra bright configurations.

## 4 Solid State Products

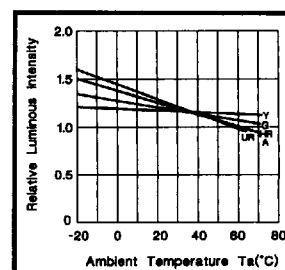
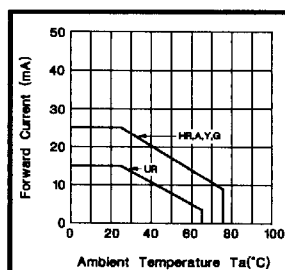
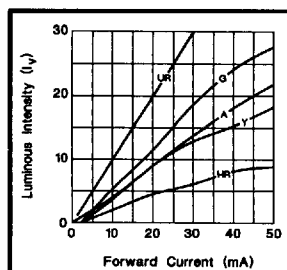
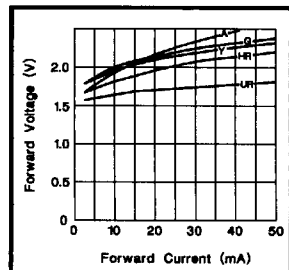
## ELECTRO-OPTICAL CHARACTERISTICS

| Part Number | Emitted Color | Lens Color | Package Type | Luminous Intensity |             |    | Forward Voltage |      |    | Capacitance<br>pF<br>Vr=0, f=1MHz | Peak Wavelength<br>(nm) | View Angle<br>(Degrees) |
|-------------|---------------|------------|--------------|--------------------|-------------|----|-----------------|------|----|-----------------------------------|-------------------------|-------------------------|
|             |               |            |              | Min.<br>mcd        | Typ.<br>mcd | mA | Typ.            | Max. | mA |                                   |                         |                         |
| CMD11304HR  | H.E. Red      | Clear      | Dual         | 2.6                | 7.0         | 20 | 2.0             | 2.6  | 20 | —                                 | 630                     | 100                     |
| CMD11304Y   | Yellow        | Clear      | Dual         | 5.0                | 14.0        | 20 | 2.1             | 2.8  | 20 | —                                 | 585                     | 100                     |
| CMD11304A   | Amber         | Clear      | Dual         | 5.0                | 14.0        | 20 | 2.1             | 2.8  | 20 | —                                 | 610                     | 100                     |
| CMD11304G   | H.E. Green    | Clear      | Dual         | 11.0               | 22.0        | 20 | 2.0             | 2.6  | 20 | —                                 | 565                     | 100                     |
| CMD11304UR  | Ultra Red     | Clear      | Dual         | 8.0                | 14.0        | 10 | 1.7             | 2.6  | 10 | —                                 | 660                     | 100                     |
| CMD11354HRG | H.E. Red      | Clear      | Dual         | 1.6                | 4.0         | 20 | 2.0             | 2.6  | 20 | —                                 | 630                     | 100                     |
|             | H.E. Green    | Clear      |              | 6.0                | 12.0        | 20 | 2.0             | 2.6  | 20 | —                                 | 565                     | 100                     |
| CMD11354AG  | Amber         | Clear      | Dual         | 3.0                | 8.0         | 20 | 2.1             | 2.8  | 20 | —                                 | 610                     | 100                     |
|             | H.E. Green    | Clear      |              | 6.0                | 12.0        | 20 | 2.0             | 2.6  | 20 | —                                 | 565                     | 100                     |
| CMD11354URG | Ultra Red     | Clear      | Dual         | 4.0                | 8.0         | 10 | 1.7             | 2.6  | 10 | —                                 | 660                     | 100                     |
|             | H.E. Green    | Clear      |              | 6.0                | 12.0        | 20 | 2.0             | 2.6  | 20 | —                                 | 565                     | 100                     |

## ABSOLUTE MAXIMUM RATINGS

|                                                              | H.E. Red   | Yellow     | Amber      | H.E. Green | Ultra Red  | Units   |
|--------------------------------------------------------------|------------|------------|------------|------------|------------|---------|
| Power Dissipation .....                                      | 65         | 70         | 80         | 65         | 45         | mW      |
| Storage/Operating Temperature .....                          | -25 to +75 | -25 to +75 | -25 to +75 | -25 to +75 | -25 to +75 | °C      |
| Lead Solder Time at 260°C .....                              | 10         | 10         | 10         | 10         | 10         | Seconds |
| Peak Forward Current (1 micro second @ 10% duty cycle) ..... | 100        | 100        | 100        | 100        | 60         | mA      |
| Reverse Voltage (IR = 100µA) .....                           | 4.0        | 4.0        | 4.0        | 4.0        | 3.0        | V       |
| Average Forward Current .....                                | 25         | 25         | 25         | 25         | 15         | mA      |

## TYPICAL CHARACTERISTIC CURVES



*Chicago Miniature Lamp reserves the right to make specification revisions that enhance the design and/or performance of the product.*