

CERLED<sup>®</sup>

## Ceramic Chip SMD

SMD - Wide-Viewing Angle  
CR 10 IRH high-power-infrared



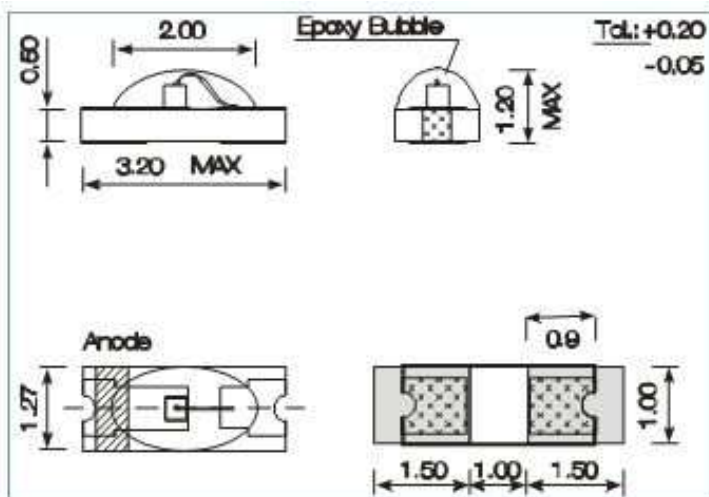
## Description

The solder pads provide an excellent heat sink. For multi-chip arrays just choose 2 or more CERLEDs and mount them side by side or even antiparallel. Small true chip - LED to build custom configurations.

Available on special order in 8 mm blister tape or solid strips of up to 12 pcs with a true pitch of 1.27 mm.

## Features and Benefits

- Solid state ceramic chip
- Surface mounting device
- High thermal conductivity
- Superior light uniformity
- End - to - end and side - to - side stackable down to a pitch of 1.3 mm
- Solder pads conform with Mil-Std 883 B



### Maximum Ratings at 25° C

Power dissipation	$P_{tot}$	130 mW
Derating linear		2.4 mW / ° C
Peak forward current	$I_{FSM}$ (10 $\mu$ s)	800 mA
Continuous forward current	$I_F$	75 mA
Junction temperature	$T_J$	120° C
Storage temperature	$T_{st}$	-25° C to 120° C
Operating temperature	$T_{op}$	-25° C to 80° C
Soldering temperature	$T_{sold}$ (10 s)	240° C

Adequate heat sink is required. Derating must be observed to maintain junction temperature below maximum. Please note our recommended solder profile at [www.excelitas.com](http://www.excelitas.com).

### Optical and Electronic Characteristics at 25° C

$I_F = 20$  mA, ambient temperature = 25° C

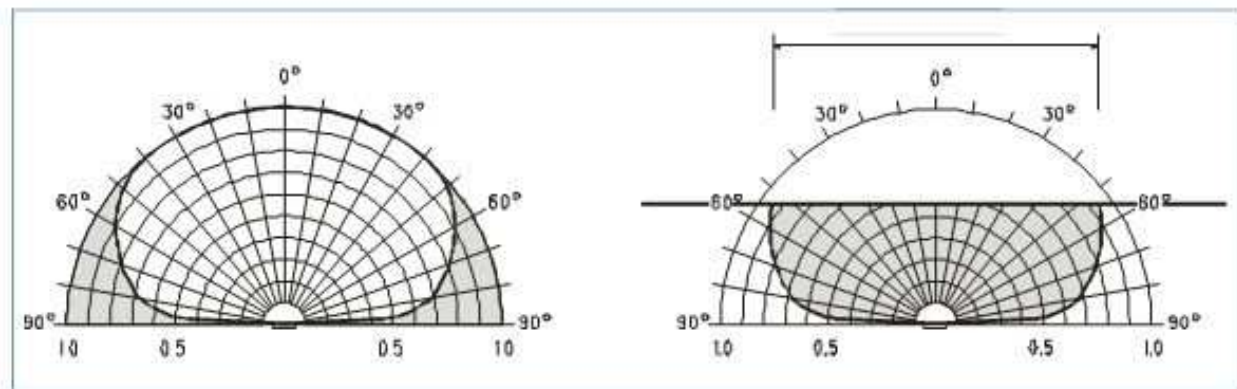
	min	typ	max	unit
Radiant power (50 mA )	5.1	10.6		mW
Radiant power (20 mA )	2.2	4.5		mW
Peak emission wavelength		870		nm
Spectral half bandwidth		50		nm
Forward voltage (20 mA)		1.35	1.7	V
Reverse leakage current			100	$\mu$ A
Reverse voltage	8			V
Rise/fall - time		1500 / 800		ns
Light emission angle		160°		Degree

Note: according IEC 60825-1 (EN60825):

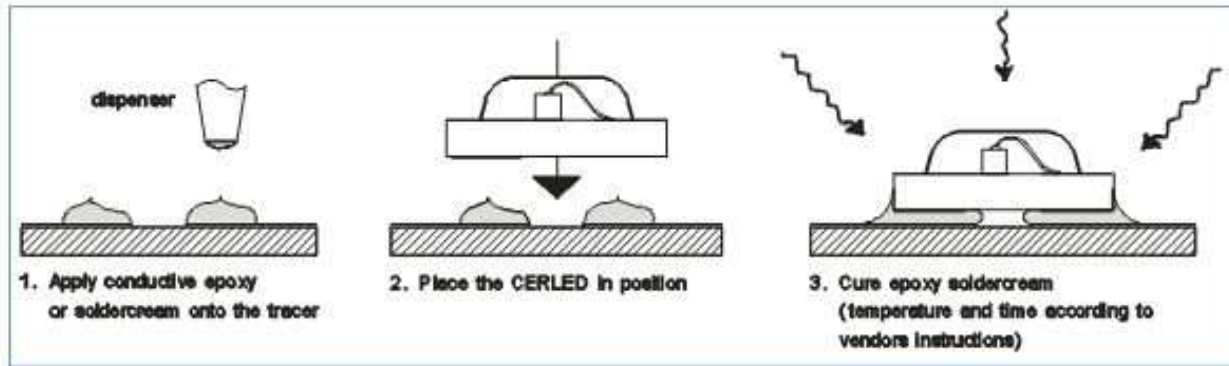
LED Radiation

Do not view directly with optical instruments.

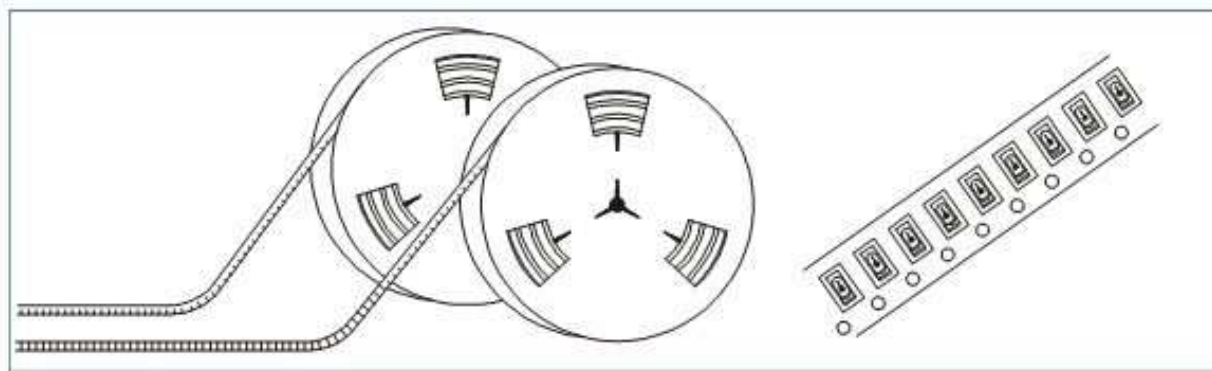
Figure 1



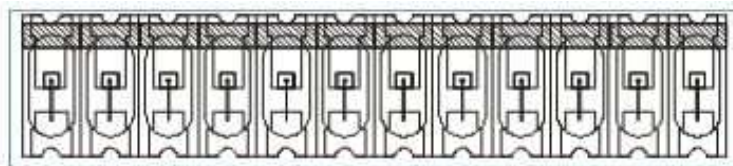
**Figure 2**  
Suggested Mounting Method



**Figure 3**  
Special Packaging Standard 8 mm Blister Tape



**Figure 4**  
Arrays: Available in strips up to 12 CERLEDs with a max. pitch tolerance in spacing and linearity of  $\pm 0.01$  mm between chip centers.



Code to order strips:  
CR 10 irh - XX (no. of LEDs)

**Excelitas Technologies**  
**European Customer**  
**Support for LED Solutions**  
Luitpoldstrasse 6  
85276 Pfaffenhofen, Germany  
Telephone: (+49)8441-8917-0  
Fax: (+49)8441-71910  
generalinquiries@excelitas.com

**European Headquarters**  
Wenzel-Jakob-Strasse 31  
65199 Wiesbaden, Germany  
Telephone: (+49)611-492-247  
Fax: (+49)611-492-170

**North America**  
**Customer Support Hub**  
22001 Dumberry Road  
Vaudreuil-Dorion, Quebec  
Canada J7V 8P7  
Telephone: (+1) 450-424-3300  
(+1) 866-574-6786 (toll-free)  
Fax: (+1) 450-424-3345

**Asia Customer Service Hub**  
47 Ayer Rajah Crescent #06-12  
Singapore 139947  
Telephone: (+65)6775-2022  
(+65)67704-366  
Fax: (+65)6775-1008

**EXCELITAS**  
TECHNOLOGIES

For a complete listing of our global offices, visit [www.excelitas.com](http://www.excelitas.com)

©2011 Excelitas Technologies Corp. All rights reserved. The Excelitas logo and design are registered trademarks of Excelitas Technologies Corp. CERLED® is a trademark of Excelitas Technologies Corp. or its subsidiaries, in the United States and other countries. All other trademarks not owned by Excelitas Technologies, or its subsidiaries that are depicted herein are the property of their respective owners. Excelitas reserves the right to change this document at any time without notice and disclaims liability for editorial, pictorial or typographical errors.  
600067\_01 DTS1005