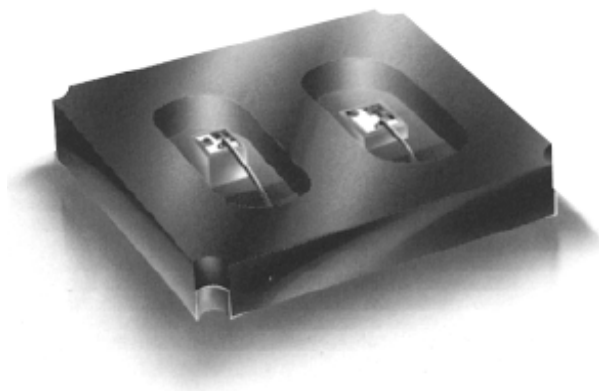


# CERLED<sup>®</sup>

## Ceramic Chip SMD

SMD – Reflective Sensor  
CRS 20



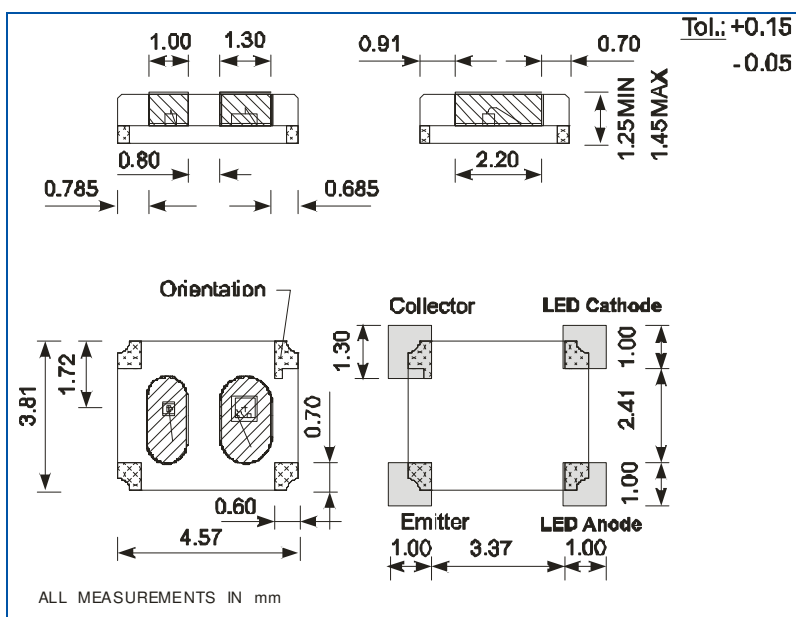
### Description

This opto device is specially designed for all applications where the space is very limited and a highly reliable product is needed. Especially for hybrid and SMT.

The solder pads are a very good heat sink, so that high power dissipation is achievable. Best reflective distance: 0.9 mm (paper).

### Features and Benefits

- Surface mounting device
- Complete ceramic housing
- High temperature range
- Miniature size
- Solder pads conform with Mil-Std. 883 B



## Maximum Ratings at 25 °C

Total power dissipation	$P_V$	200 mW
Storage temperature	$T_{stg}$	-25 °C to 125 °C
Operating temperature	$T_{op}$	-25 °C to 85 °C
Soldering temperature	$T_{sld} (10\text{ s})$	240 °C

Note: During solder process the component must not be held or fixed mechanically on the upper part.

### Emitter

Wavelength	$\lambda$	950 nm
Reverse voltage	$V_R$	5 V
Continuous forward current	$I_F$	60 mA
Pulse current (10µsec)	$I_{Peak\ 10\ \mu sec}$	800 mA
Forward voltage	$V_F$	1.2 ... 1.4 V

### Detector

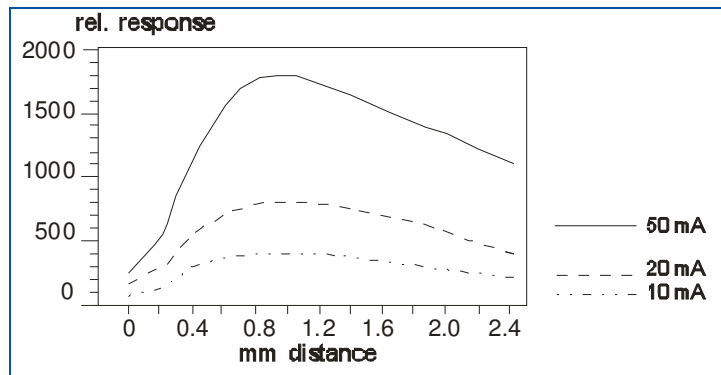
Collector emitter breakdown	$V_{CEO}$	40 V ( $I = 100\ \mu A$ )
Emitter collector breakdown	$V_{ECO}$	4.5 V ( $I = 100\ \mu A$ )
Dark current	$I_{CEO}$	400 nA ( $V = 20\text{ V}$ )
Saturation voltage	$V_{CE\ sat}$	0.3 V ( $I_B = 1\text{ mA}$ ) ( $I_C = 2\text{ mA}$ )
Rise / Fall time ( $f = 1\text{ Mhz}$ )	$t_{on} / t_{off}$	10 µs ( $R = 50\ \Omega$ )

Note: according IEC 60825-1 (EN60825):

LED Radiation

Do not view directly with optical instruments.

Figure 1



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