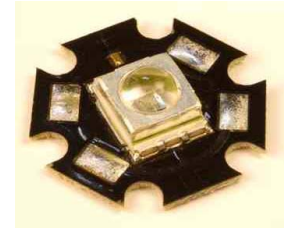




## Features

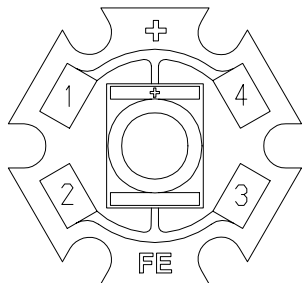
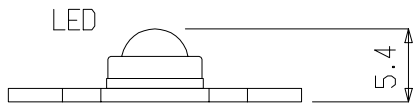
- Drive current range up to 1000 mA
- XRE XLamp mounted on 1.0 mm double-sided FR4 PCB with nickel gold plated 70µm copper and thermal vias (electrically isolated from LED die)
- Connection via solder pads
- Class II ESD Rating (HBM per Mil-Std-883D)
- Water clear Lambertian pattern lens
- RoHS compliant - Lead free



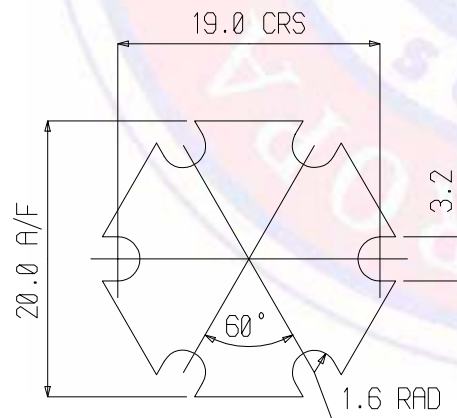
## Electro / Optical Characteristics

Part Number	Die Material	Colour Temperature		Forward Voltage $V_F$ @			Luminous Flux @			Viewing $\angle$ 2θ½
		min	max	350 mA	700 mA	1000 mA	350 mA	700 mA	1000 mA	
FEL-HL1WREWWC	InGaN/SiC	5000	10000	3.30	3.50	3.70	80	136	176	100
Units		°K		VDC typical			lm typical			deg

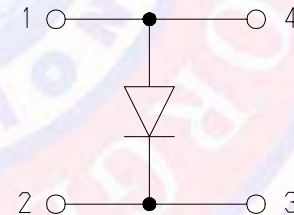
## Package Outline



Dimensions in mm  
Tol ± 0.25 mm unless stated



## Connection Diagram



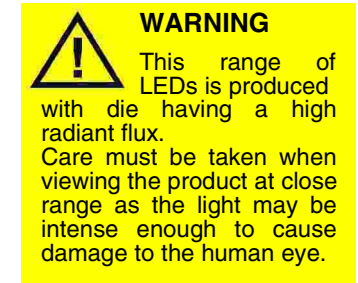
## Note:

Industry standard procedures regarding static must be observed when handling product with InGaN/SiC die.

It is the responsibility of the customer to verify the suitability of the product for the application.

## Maximum Ratings - See below for details

Characteristic	Condition	Symbol	Rating	Units
DC Forward Current		$I_F$	1000	mA
Reverse Voltage	$I_R = 10 \mu A$	$V_R$	5	V
LED Junction Temperature		$T_j$	145	°C
Operating Temperature		$T_{opr}$	- 40 to + 85	°C
Storage Temperature		$T_{stg}$	- 40 to + 100	°C



## Drive Currents

In most cases a secondary heatsink will be required to ensure compliance with Cree's lumen maintenance projections.

A thermally conductive interface material should be used between the product and the heat sink.

Suitable materials include silicone thermal grease, thermally conductive epoxy adhesive and thermally conductive foam pads.

This product has a thermal resistance of 55°/W (LED junction to ambient) when operated without a secondary heatsink in free air. When fixed centrally to a heatsink comprising a 50 x 50 x 1.6 mm plate of mild steel for example, the thermal resistance is 13°C/W. Cree projects XLamp LEDs to maintain an average of 70% lumen maintenance after 50,000 hours, provided the LED junction temperature ( $T_j$ ) is maintained at or below 80°C.

The absolute maximum LED junction temperature is 145°C and the absolute maximum ambient operating temperature is 85°C.

The following tables give an indication of maximum ambient operating temperatures for products in a variety of conditions:

FEL-HL1WREWWC	Heatsink	Current	MAX Ambient Temperature	
			$T_j = 80^\circ C$	$T_j = 145^\circ C$
White	No heatsink	350	17	85
	50 x 50 x 1.6 thick steel plate	700	48	85
		1000	30	85
	Dims in mm	mA	°C	