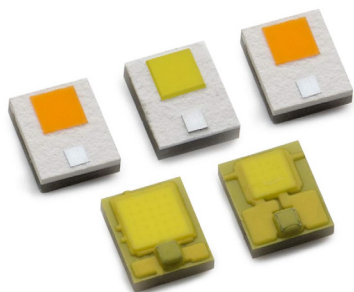




LUXEON F Family

Micro footprint package for design flexibility and high light output



LUXEON F are high-power, 1.9mm x 2.3mm LEDs that are specifically designed to support automotive functional intelligence systems, including advanced forward lighting systems, light guide, and matrix applications. LUXEON F are tested and binned at application conditions – 85°C for reliability, performance and lifetime in all exterior lighting applications. LUXEON F meets both SAE and ECE color specifications and provides finer granularity than existing systems.

FEATURES AND BENEFITS

- Small form factor for dense packing ability and design flexibility
- Undomed package allows for precise optical control
- Low V_f and industry's lowest thermal resistance enables smaller heatsinks or smaller designs
- HIEC/PAS 62707-1 white LED color binning

PRIMARY APPLICATIONS

- Adaptive Lighting
- Daytime Running Lights
- Front Fog
- Headlight
 - High/Low Beam
 - Cornering
 - Position

Turn

LUXEON F Absolute Ratings.

PARAMETER	PC AMBER	COOL WHITE
Minimum DC Forward Current	50mA	50mA
Maximum DC Forward Current	700mA	700mA
Maximum Junction Temperature ^[1]	135°C	150°C
Operating Case Temperature at Test Current ^[1]	-40 to 110°C	-40 to 120°C
Operating Case Temperature at Maximum Current ^[1]	-40 to 120°C	-40 to 120°C
Storage Temperature	-40 to 130°C	-40 to 130°C
Soldering Temperature	240°C	240°C
Allowable Reflow Cycles	3	
ESD Sensitivity ^[2]	8kV HBM, 400V MM	
Reverse Voltage (Vr)	LUXEON LEDs are not designed to be driven in reverse bias	
Autoclave Conditions	121°C at 2 ATM 100% Relative Humidity for 96 Hours Maximum	

LUXEON F ES Absolute Ratings.

PARAMETER	COOL WHITE
Minimum DC Forward Current	50mA
Maximum DC Forward Current	1000mA
Maximum Junction Temperature ^[1]	150°C
Operating Case Temperature at Test Current ^[1]	-40 to 120°C
Operating Case Temperature at Maximum Current ^[1]	-40 to 120°C
Storage Temperature	-40 to 130°C
Soldering Temperature	240°C
Allowable Reflow Cycles	3
ESD Sensitivity ^[2]	8kV HBM, 400V MM
Reverse Voltage (Vr)	LUXEON LEDs are not designed to be driven in reverse bias
Autoclave Conditions	121°C at 2 ATM 100% Relative Humidity for 96 Hours Maximum

LUXEON F PLUS Absolute Ratings.

PARAMETER	PC AMBER	COOL WHITE
Minimum DC Forward Current	50mA	50mA
Maximum DC Forward Current	1000mA	1000mA
Maximum Junction Temperature ^[1]	135°C	150°C
Operating Case Temperature at Test Current ^[1]	-40 to 110°C	-40 to 120°C
Operating Case Temperature at Maximum Current ^[1]	-40 to 120°C	-40 to 120°C
Storage Temperature	-40 to 130°C	-40 to 130°C
Soldering Temperature	240°C	240°C
Allowable Reflow Cycles	3	
ESD Sensitivity ^[2]	8kV HBM, 400V MM	
Reverse Voltage (Vr)	LUXEON LEDs are not designed to be driven in reverse bias	
Autoclave Conditions	121°C at 2 ATM 100% Relative Humidity for 96 Hours Maximum	

LUXEON F PREMIUM Absolute Ratings.

PARAMETER	COOL WHITE
Minimum DC Forward Current	50mA
Maximum DC Forward Current	1500mA
Maximum Junction Temperature ^[1]	150°C
Operating Case Temperature at Test Current ^[1]	-40 to 130°C
Operating Case Temperature at Maximum Current ^[1]	-40 to 110°C
Storage Temperature	-40 to 130°C
Soldering Temperature	240°C
Allowable Reflow Cycles	3
ESD Sensitivity ^[2]	8kV HBM, 400V MM
Reverse Voltage (Vr)	LUXEON LEDs are not designed to be driven in reverse bias
Autoclave Conditions	121°C at 2 ATM 100% Relative Humidity for 96 Hours Maximum

Notes:

1. Proper current derating must be observed to maintain junction temperature below the maximum, so that the LED is maintained below the maximum rated operating case temperature.
LUXEON F Family LEDs driven at or above the maximum rated operating case temperature may have shorter lifetime.
2. Measured using human body model and machine model (per AEC-Q101C).