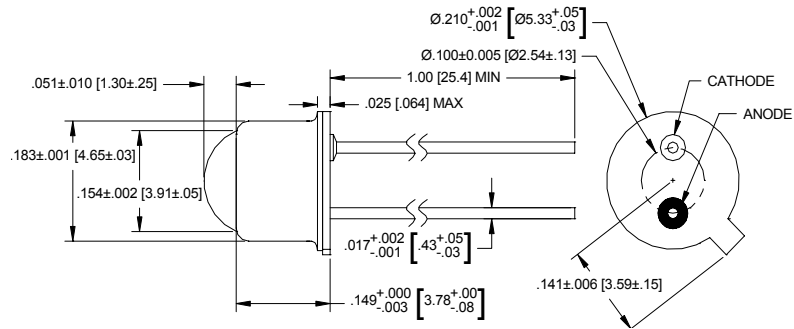


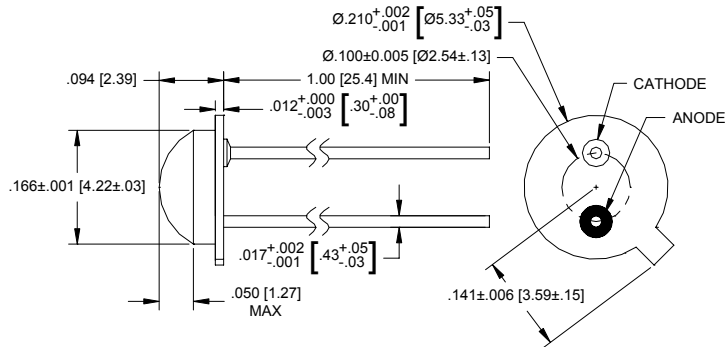


MCDE-335, MCDE-330E, MCDE-330W

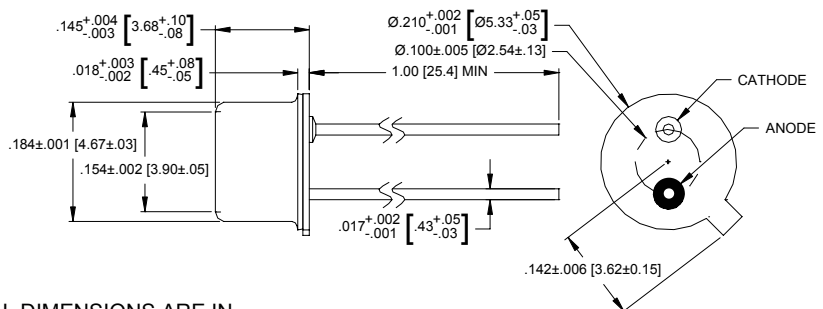
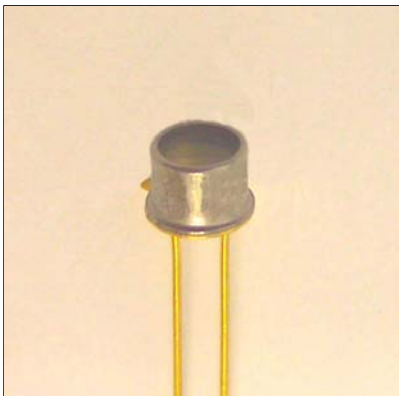
850nm Super Efficient AlGaAs IREDS



MCDE-335



MCDE-330E



ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)

MCDE-330W

MCD Electronics Inc. reserves the right to make changes at any time to improve design and to provide the best possible product.

MCDE-335, MCDE-330E, MCDE-330W

850nm Super Efficient AlGaAs IREDS

features

- TO-46 header with three lens options
- cathode connected to case
- exceptionally high power output
- different package styles provide flexible design options
- RoHS compliant

Description

The MCDE-335 series of products are high efficiency, high speed AlGaAs infrared emitting diodes. Output power typically exceeds standard AlGaAs emitters by 50%. The chip backside is N type material resulting in the case being common to the cathode. Three different lensing options are offered which satisfy the majority of application requirements.

absolute maximum ratings ($T_A = 25^\circ\text{C}$ unless otherwise stated)

storage temperature	MCDE335 and MCDE330W	-65°C to +150°C
	MCDE330E	-65°C to +100°C
operating temperature	MCDE335 and MCDE330W	-65°C to +150°C
	MCDE330E	-65°C to +100°C
lead soldering temperature ⁽¹⁾		260°C
continuous forward current ⁽²⁾		100mA
peak forward current (1.0ms pulse width, 10% duty cycle)		1A
reverse voltage		5V
continuous power dissipation ⁽³⁾		200mW

notes:

1. 0.06" (1.5mm) from the header for 5 seconds maximum
2. Derate linearly 0.64mA/°C from 25°C free air temperature to $T_A = +150^\circ\text{C}$ or 1.06mA/°C to $T_A = +100^\circ\text{C}$ (CLE330E).
3. Derate linearly 1.28mW/°C from 25°C free air temperature to $T_A = +150^\circ\text{C}$ or 2.13mW/°C to $T_A = +100^\circ\text{C}$ (CLE330E).

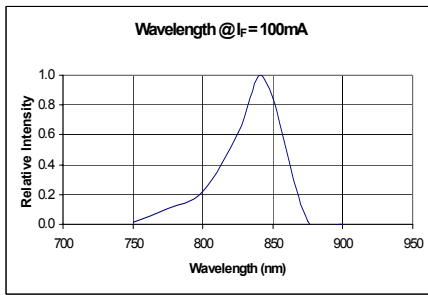
electrical characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
symbol	parameter	min	typ	max	units	test conditions
MCDE-335 Series						
V_F	Forward voltage	-	1.7	1.9	V	$I_F = 100\text{mA}$
I_R	Reverse current	-	-	10	μA	$V_R = 5\text{V}$
λ_p	Peak wavelength	-	850	-	nm	$I_F = 100\text{mA}$
BW	Spectral bandwidth	-	50	-	nm	$I_F = 20\text{mA}$
t_r	Output rise time	-	11	-	ns	$I_F = 100\text{mA}$, $f = 1\text{kHz}$, D.C.=50%
t_f	Output fall time	-	7.0	-	ns	$I_F = 100\text{mA}$, $f = 1\text{kHz}$, D.C.=50%
MCDE-330E						
P_O	Total output power	11	25	-	mW	$I_F = 100\text{mA}$
P_O	Total output power	2.0	3.0	-	mW	$I_F = 20\text{mA}$
θ_{HP}	Emission angle at half power points	-	80	-	deg.	$I_F = 20\text{mA}$
MCDE-330W						
P_O	Total output power	10	20	-	mW	$I_F = 100\text{mA}$
P_O	Total output power	2.0	3.0	-	mW	$I_F = 20\text{mA}$
θ_{HP}	Emission angle at half power points	-	70	-	deg.	$I_F = 20\text{mA}$
MCDE-335						
P_O	Total output power	10	20	-	mW	$I_F = 100\text{mA}$
E_e	Irradiance ⁽⁴⁾	2.5	3.5	-	mW/cm^2	$I_F = 100\text{mA}$
θ_{HP}	Emission angle at half power points	-	22	-	deg.	$I_F = 20\text{mA}$

note: 4. E_e is a measure of irradiance (power/unit area) within a 0.444" (1.128cm) diameter area, centered on the mechanical axis of the device and spaced 2.54" (6.45cm) from the lens side of the tab. This is geometrically equivalent to a 10° cone.

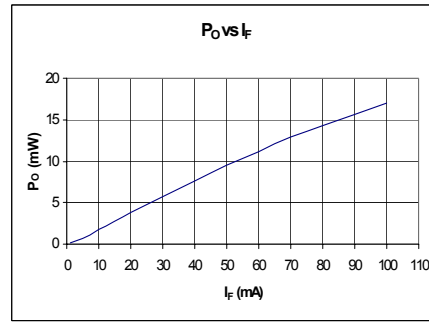
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MCDE-335, MCDE-330E, MCDE-330W

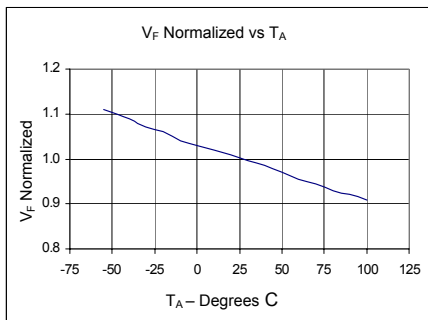
850nm Super Efficient AlGaAs IREDS



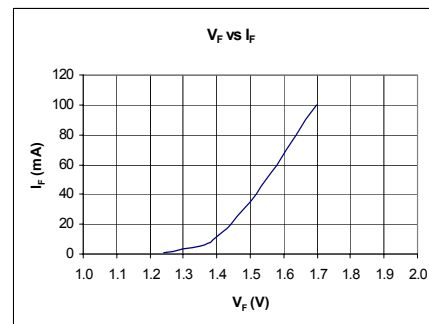
All Products



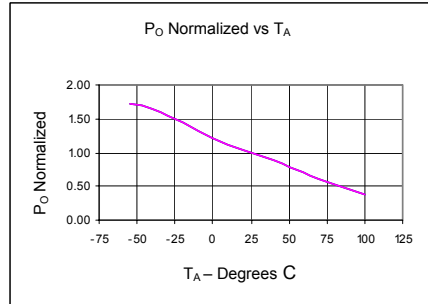
All Products



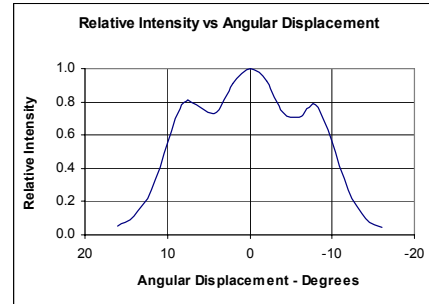
All Products



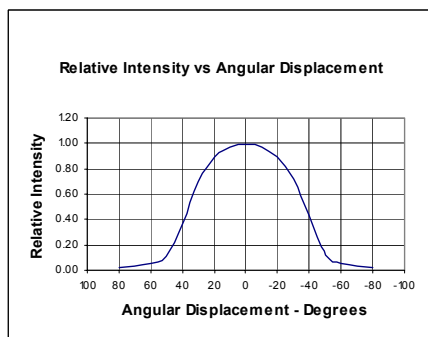
All Products



All Products



MCDE335



MCDE330E & MCDE330W