



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

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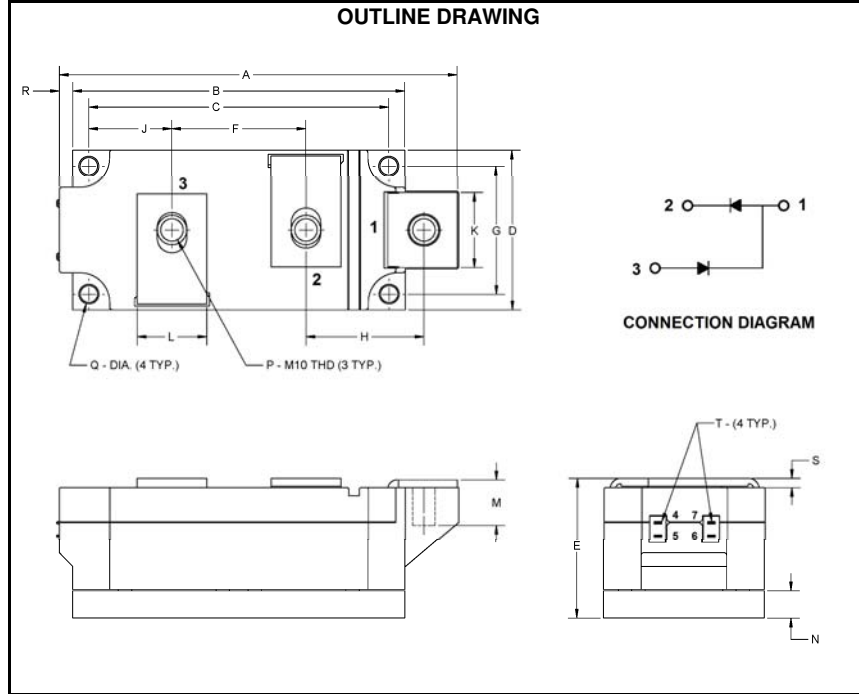
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POW-R-BLOK™
Dual Diode Isolated Module
660 Amperes / Up to 1800 Volts



LDR1__66
Dual Diode
POW-R-BLOK™ Module
660 Amperes / 800-1800 Volts

Description:

Powerex Dual Diode Modules are designed for use in applications requiring rectification and isolated packaging. The modules are isolated for easy mounting with other components on a common heatsink. *POW-R-BLOK™* has been tested and recognized by the Underwriters Laboratories.

Features:

- Electrically Isolated Heatsinking
- Compression Bonded Elements
- Metal Baseplate
- Low Thermal Impedance for Improved Current Capability
- UL Recognized (E78240)
- RoHS Compliant

Benefits:

- No Additional Insulation Components Required
- Easy Installation
- No Clamping Components Required
- Reduce Engineering Time

Applications:

- Bridge Circuits
- AC & DC Motor Drives
- Battery Supplies
- Power Supplies
- Large IGBT Circuit Front Ends

Ordering Information:

Select the complete eight-digit module part number from the table below.

Example: LDR11666 is a 1600V, 660 Ampere Dual SCR Isolated *POW-R-BLOK™* Module.

Type	Voltage Volts (x100)	Current Amperes (x10)
LDR1	08	66
	10	
	12	
	14	
	16	
	18	

LDR1 Outline Dimensions

Dimension	Inches	Millimeters
A	5.87	149
B	4.88	124
C	4.41	112
D	2.36	60
E	2.05	52
F	1.97	50
G	1.89	48
H	1.73	44
J	1.22	31
K	1.10	28
L	1.02	26
M	0.67	17
N	0.39	10
P	M10 Metric	M10
Q	0.26 Dia.	6.5 Dia.
R	0.20	5
S	0.12	3
T	.110 x .032	2.8 x 0.8

Note: Dimensions are for reference only.

Absolute Maximum Ratings

Characteristics	Conditions	Symbol		Units
Repetitive Peak Forward and Reverse Blocking Voltage		V_{DRM} & V_{RRM}	up to 1800	V
Non-Repetitive Peak Blocking Voltage ($t < 5$ msec)		V_{RSM}	$V_{RRM} + 100$	V
RMS Forward Current	180° Conduction, $T_c=100^\circ\text{C}$, 50 Hz	$I_{T(RMS)}$	1036	A
Average Forward Current	180° Conduction, $T_c=100^\circ\text{C}$, 50 Hz	$I_{T(AV)}$	660	A
Peak One Cycle Surge Current, Non-Repetitive	60 Hz, 0V reapplied, $T_j = T_{j\max}$	I_{TSM}	20,000	A
	60 Hz, 0V reapplied, $T_j = 25^\circ\text{C}$	I_{TSM}	23,000	A
	50 Hz, 0V reapplied $T_j = T_{j\max}$	I_{TSM}	19,500	A
	50 Hz, 0V reapplied, $T_j = 25^\circ\text{C}$	I_{TSM}	22,000	A
I^2t for Fusing for One Cycle	60 Hz, 0V reapplied, $T_j = T_{j\max}$	I^2t	1.66×10^6	$\text{A}^2 \text{sec}$
	60 Hz, 0V reapplied, $T_j = 25^\circ\text{C}$	I^2t	2.19×10^6	$\text{A}^2 \text{sec}$
	50 Hz, 0V reapplied $T_j = T_{j\max}$	I^2t	1.80×10^6	$\text{A}^2 \text{sec}$
	50 Hz, 0V reapplied, $T_j = 25^\circ\text{C}$	I^2t	2.42×10^6	$\text{A}^2 \text{sec}$
Operating Temperature		T_j	-40 to +150	$^\circ\text{C}$
Storage Temperature		T_{stg}	-40 to +125	$^\circ\text{C}$
Max. Mounting Torque, M6 Mounting Screw			55	in. – Lb.
			6	Nm
Max. Mounting Torque, M10 Terminal Screw			110	in. – Lb.
			12	Nm
Module Weight, Typical			1.5	kg
			3.30	lb
V Isolation @ 25C	$t = 1$ minute, 50 Hz	V_{rms}	3000	V

Information presented is based upon manufacturers testing and projected capabilities.
 This information is subject to change without notice.
 The manufacturer makes no claim as to the suitability of use, reliability, capability,
 or future availability of this product.

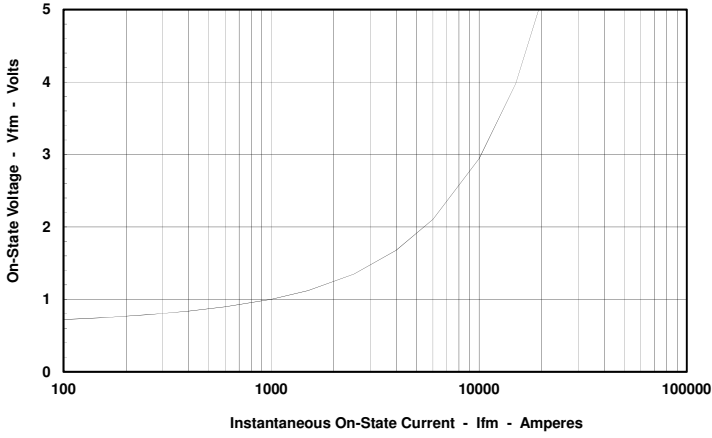
Electrical Characteristics, T_J=25°C unless otherwise specified

Characteristics	Symbol	Test Conditions	Min.	Max.	Units
Repetitive Peak Forward Leakage Current	I _{DRM}	V _D = V _{DRM} , T _J = 130°C		50	mA
Peak On-State Voltage	V _{FM}	I _{TM} = 1978A		1.40	V
Threshold Voltage, Low-level	V _{(TO)1}	T _J = 130°C, I = 0.5 I _{TM(AV)} to 1.5 I _{TM(AV)}		0.78	V
Slope Resistance, Low-level	r _{T1}			0.23	mΩ
V _{TM} Coefficients, Full Range		T _J = 130°C, I = 0.5 I _{TM(AV)} to 1.5 I _{TM(AV)}	A =	-3.37224	
			B =	0.943239	
		V _{TM} = A + B·Ln(I) + C·I + D·Sqrt(I)	C =	0.00079	
			D =	-0.09266	

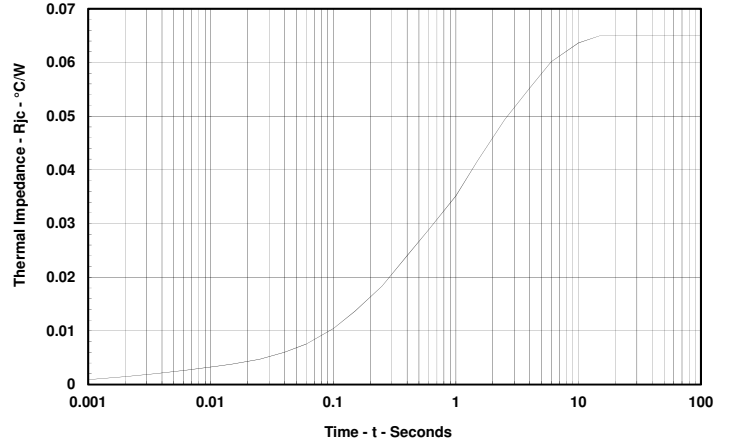
Thermal Characteristics

Characteristics	Symbol		Max.	Units
Thermal Resistance, Junction to Case	R _{θJ-C}	Per Module, both conducting	0.0325	°C/W
		Per Junction, both conducting	0.0650	°C/W
Thermal Impedance Coefficients	Z _{θJ-C}	Z _{θJ-C} = K ₁ (1-exp(-t/τ ₁))	K ₁ = 7.42E-04	τ ₁ = 3.33E-04
		+ K ₂ (1-exp(-t/τ ₂))	K ₂ = 9.52E-04	τ ₂ = 4.74E-03
		+ K ₃ (1-exp(-t/τ ₃))	K ₃ = 1.02E-02	τ ₃ = 9.60E-02
		+ K ₄ (1-exp(-t/τ ₄))	K ₄ = 5.23E-02	τ ₄ = 1.719
Thermal Resistance, Case to Sink Lubricated	R _{θC-S}	Per Module	0.01	°C/W

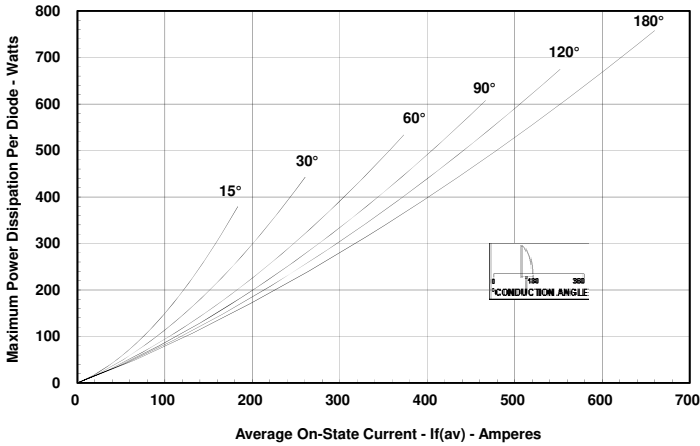
Maximum On-State Forward Voltage Drop
($T_j = 150^\circ\text{C}$)



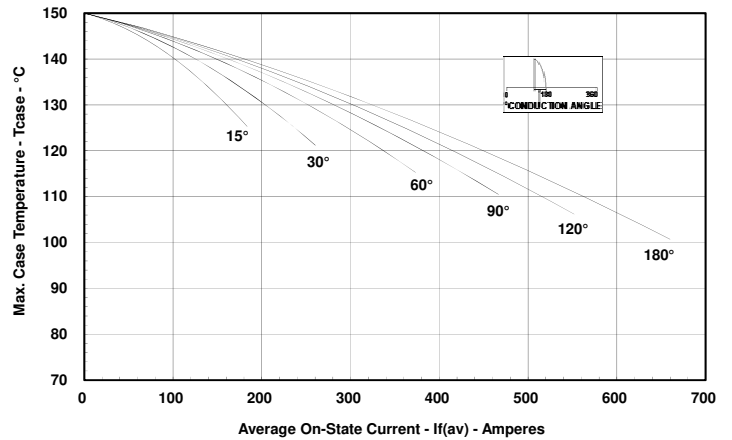
Maximum Transient Thermal Impedance
(Junction to Case)



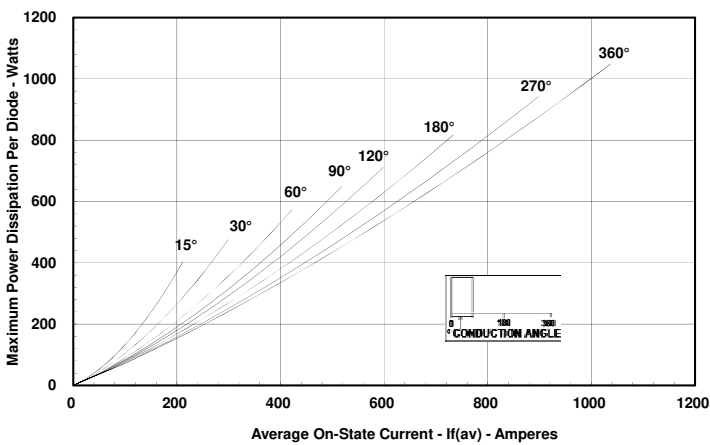
Maximum On-State Power Dissipation
(Sinusoidal Waveform)



Maximum Allowable Case Temperature
(Sinusoidal Waveform)



Maximum On-State Power Dissipation
(Rectangular Waveform)



Maximum Allowable Case Temperature
(Rectangular Waveform)

