



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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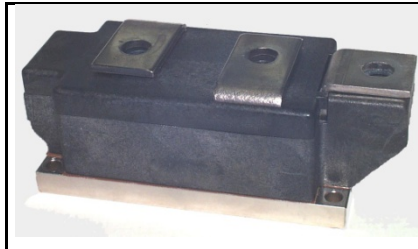
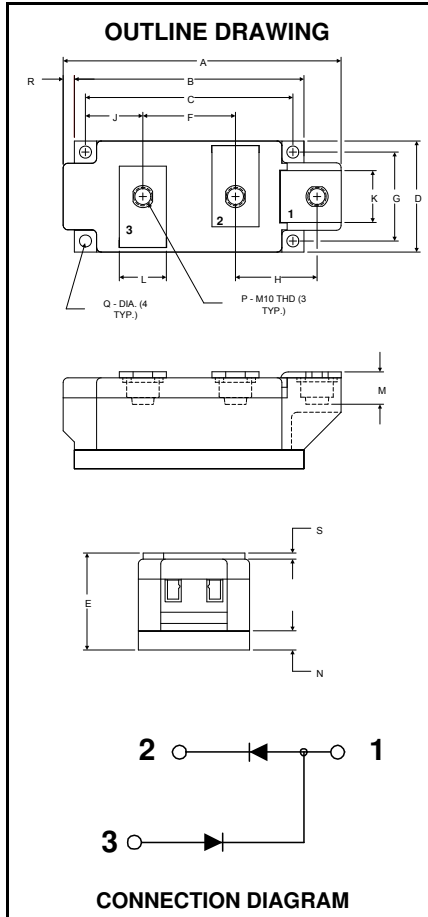
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POW-R-BLOK™
Dual Diode Isolated Module
600 Amperes / Up to 2600 Volts



LD41__60
Dual Diode
POW-R-BLOK™ Module
600 Amperes / 800-2600 Volts

LD41 Outline Dimensions

Dimension	Inches	Millimeters
A	5.91	150.0
B	4.88	124.0
C	4.41	112.0
D	2.36	60.0
E	2.05	52.0
F	1.97	50.0
G	1.89	48.0
H	1.73	44.0
J	1.22	31.0
K	1.10	28.0
L	1.00	25.4
M	0.69	17.5
N	0.39	10.0
P	M10 Metric	M10
Q	0.26 Dia.	6.5 Dia.
R	0.24	6.0
S	0.12	3.0
T	.110 x .032	2.5 x 0.8

Note: Dimensions are for reference only.

Ordering Information:

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

Example: LD412460 is a 2400V, 600 Ampere Dual Diode Isolated POW-R-BLOK™ Module.

Type	Voltage Volts (x100)	Current Amperes (x10)
LD41	08 10 12 to 26	60

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
- Aluminum Nitride Isolator
- Compression Bonded Elements
- Metal Baseplate
- Low Thermal Impedance for Improved Current Capability
- UL Recognized

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

Absolute Maximum Ratings

Characteristics	Conditions	Symbol		Units
Repetitive Peak Reverse Blocking Voltage		V_{RRM}	up to 2600	V
Non-Repetitive Peak Reverse Blocking Voltage ($t < 5$ msec)		V_{RSM}	$V_{RRM} + 100$	V
RMS Forward Current		$I_{F(RMS)}$	950	A
Average Forward Current	180° Conduction, $T_C=106^\circ\text{C}$	$I_{F(AV)}$	600	A
Peak One Cycle Surge Current, Non-Repetitive	60 Hz, 100% V_{RRM} reapplied	I_{FSM}	21000	A
	50 Hz, 100% V_{RRM} reapplied	I_{FSM}	19000	A
Peak Three Cycle Surge Current, Non-Repetitive	60 Hz, 100% V_{RRM} reapplied	I_{FSM}	15,500	A
Peak Ten Cycle Surge Current, Non-Repetitive	60 Hz, 100% V_{RRM} reapplied	I_{FSM}	13,000	A
I^2t for Fusing for One Cycle	8.3 milliseconds	I^2t	1,840,000	$\text{A}^2 \text{sec}$
	10 milliseconds	I^2t	1,810,000	$\text{A}^2 \text{sec}$
Operating Temperature		T_J	-40 to +150	$^\circ\text{C}$
Storage Temperature		T_{stg}	-40 to +150	$^\circ\text{C}$
Max. Mounting Torque, M6 Mounting Screw			55 6	in. – Lb. Nm
Max. Mounting Torque, M10 Terminal Screw			110 12	in. – Lb. Nm
Module Weight, Typical			1500 3.30	g lb
V Isolation @ 25C		V_{rms}	3000	V

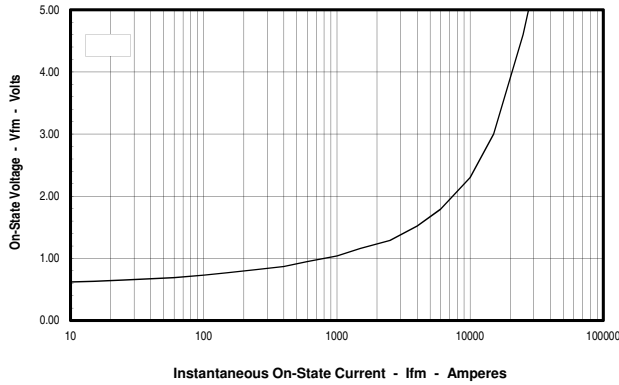
Electrical Characteristics, $T_J=25^\circ\text{C}$ unless otherwise specified

Characteristics	Symbol	Test Conditions	Min.	Max.	Units
Repetitive Peak Reverse Leakage Current	I_{RRM}	Up to 2600V, $T_J=150^\circ\text{C}$		40	mA
Peak On-State Voltage	V_{FM}	$T_J=25^\circ\text{C}$, $I_{FM}=1500\text{A}$		1.18	V
Threshold Voltage, Low-level	$V_{(TO)1}$	$T_J = 150^\circ\text{C}$, $I = 15\%I_{F(AV)}$ to $11I_{F(AV)}$		0.747	V
Slope Resistance, Low-level	r_{T1}			0.243	$\text{m}\Omega$
Threshold Voltage, High-level	$V_{(TO)2}$	$T_J = 150^\circ\text{C}$, $I = 11I_{F(AV)}$ to I_{FSM}		0.914	V
Slope Resistance, High-level	r_{T2}			0.145	$\text{m}\Omega$
V_{TM} Coefficients, Full Range		$T_J = 150^\circ\text{C}$, $I = 15\%I_{F(AV)}$ to I_{FSM}	A =	5.05E-01	
			B =	3.44E-02	
			C =	8.13E-05	
			D =	6.57E-03	
		$V_{TM} = A + B \ln I + C I + D \text{Sqrt } I$			

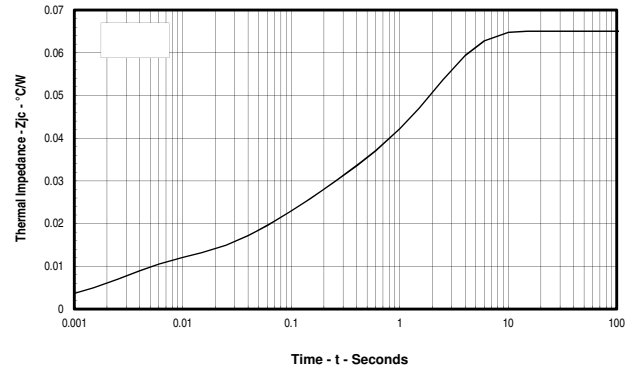
Thermal Characteristics

Characteristics	Symbol		Max.	Units
Thermal Resistance, Junction to Case	$R_{\theta J-C}$	Per Module, both conducting	0.0325	$^\circ\text{C}/\text{W}$
		Per Junction, both conducting	0.0650	$^\circ\text{C}/\text{W}$
Thermal Impedance Coefficients	$Z_{\theta J-C}$	$Z_{\theta J-C} = K_1 (1 - \exp(-t/\tau_1))$ $+ K_2 (1 - \exp(-t/\tau_2))$ $+ K_3 (1 - \exp(-t/\tau_3))$ $+ K_4 (1 - \exp(-t/\tau_4))$	$K_1 = 8.03\text{E-}04$ $K_2 = 1.03\text{E-}02$ $K_3 = 1.64\text{E-}02$ $K_4 = 3.75\text{E-}02$	$\tau_1 = 3.39\text{E-}04$ $\tau_2 = 3.15\text{E-}03$ $\tau_3 = 1.06\text{E-}01$ $\tau_4 = 2.066$
Thermal Resistance, Case to Sink Lubricated	$R_{\theta C-S}$	Per Module	0.01	$^\circ\text{C}/\text{W}$

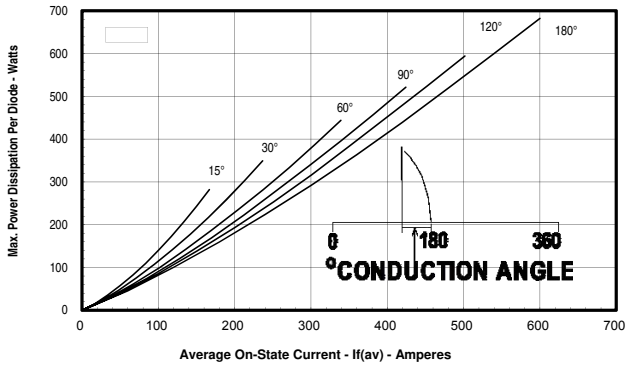
**Maximum On-State Forward Voltage Drop
($T_j = 150\text{ }^\circ\text{C}$)**



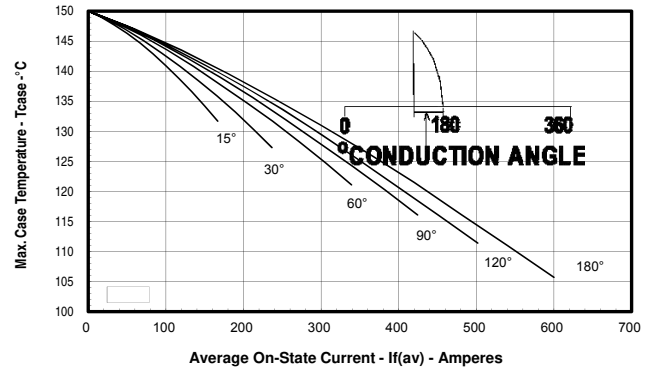
**Maximum Transient Thermal Impedance
(Junction to Case)**



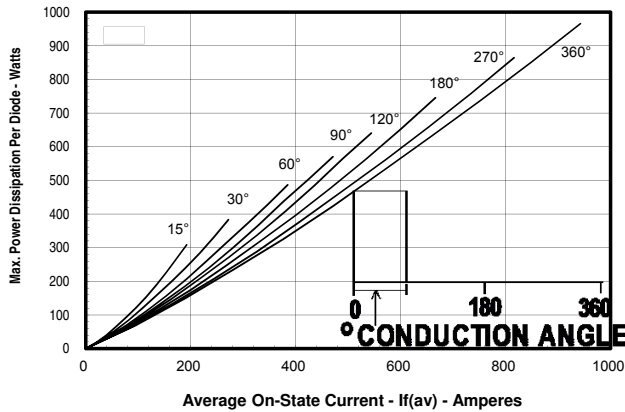
**Maximum On-State Power Dissipation
(Sinusoidal Waveform)**



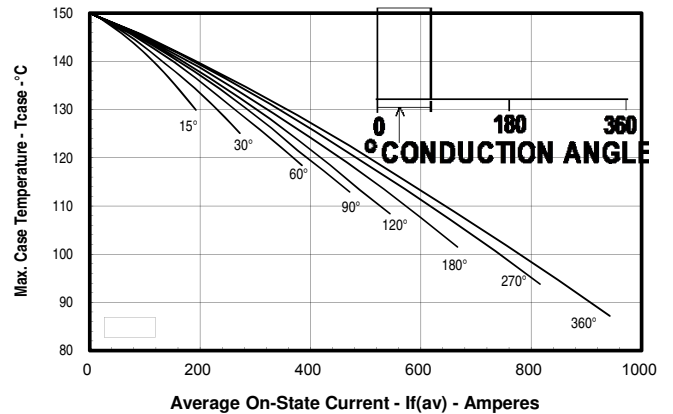
**Maximum Allowable Case Temperature
(Sinusoidal Waveform)**



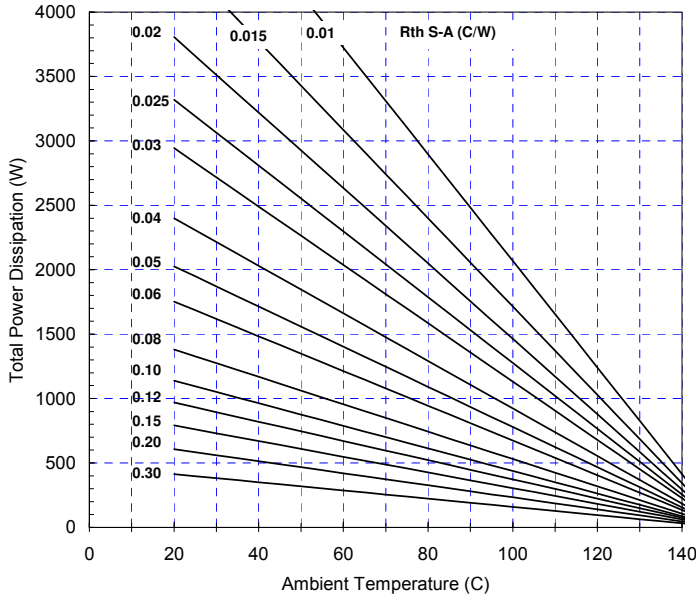
**Maximum On-State Power Dissipation
(Rectangular Waveform)**



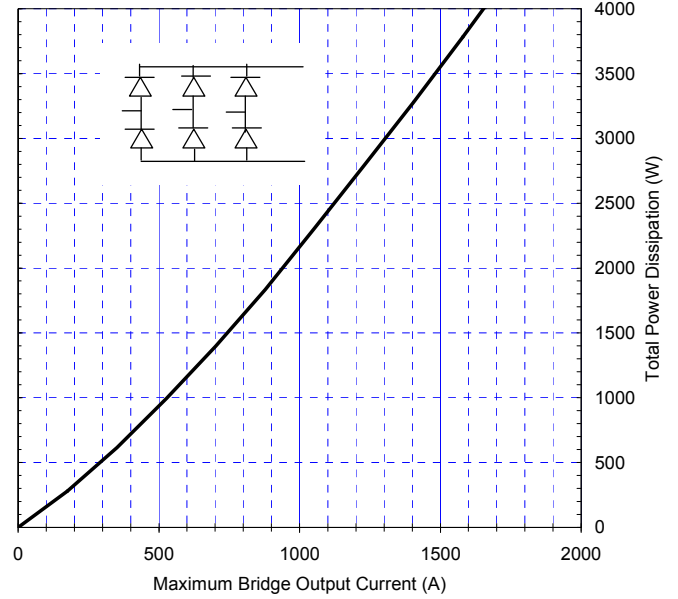
**Maximum Allowable Case Temperature
(Rectangular Waveform)**



Powerex LD41--60 Pow-R-Blok 6-Pulse Bridge



Total Power Dissipation vs Maximum Rated Output Current



Six-Pulse Bridge Circuit Total Power Dissipation & Maximum Rated Output Current With Sink to Ambient Resistance of Heatsink as a Parameter.