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.

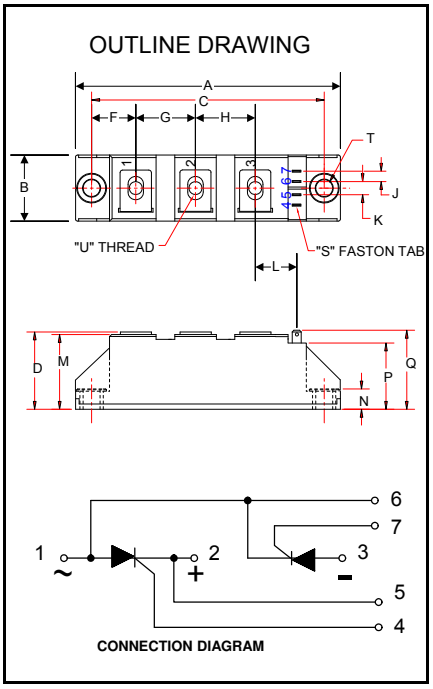
We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (724) 925-7272

POW-R-BLOK™
Dual SCR Isolated Module
90 Amperes / Up to 1800 Volts



CD43__90B
Dual SCR Isolated
POW-R-BLOK™ Module
90 Amperes / Up to 1800 Volts

Description:

Powerex Dual SCR Modules are designed for use in applications requiring phase control 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
- DBC Alumina (Al_2O_3) Insulator
- Copper Baseplate
- Low Thermal Impedance for Improved Current Capability
- UL Recognized (E78240)

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
- Lighting Control
- Heat & Temperature Control
- Welders

CD43 Outline Dimensions

Dimension	Inches	Millimeters
A	3.66	93
B	0.79	20
C	3.15	80
D	1.18	30
F	0.61	15.5
G	0.79	20
H	0.79	20
J	0.16	4
K	0.22	5.7
L	0.59	15
M	1.10	28
N	0.31	8
P	0.94	24
Q	1.16	29.4
S	0.11 x .03	2.8 x 0.8
T	0.25	6.4
U	M5	M5

Note: Dimensions are for reference only.

Ordering Information:

Select the complete nine digit module part number from the table below. Example: CD431690B is a 1600Volt, 90 Ampere Dual SCR Isolated *POW-R-BLOK™* Module

Type	Voltage Volts (x100)	Current Amperes	Version
CD43	08 12 14 16 18	90	B

Revision Date: 04/28/2009

Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (724) 925-7272

POW-R-BLOK™
Dual SCR Isolated Module
90 Amperes / Up to 1800 Volts

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 Reverse Blocking Voltage (t < 5 msec)		V_{RSM}	V_{RRM} + 100	V
RMS Forward Current	180° Conduction, T_C=84°C	$I_{T(RMS)}$	150	A
Average Forward Current	180° Conduction, T_C=84°C	$I_{T(AV)}$	95	A
Peak One Cycle Surge Current, Non-Repetitive	60 Hz, 100% V_{RRM} reapplied, T_j=125°C	I_{TSM}	1570	A
	60 Hz, No V_{RRM} reapplied, T_j=125°C	I_{TSM}	1870	A
	60 Hz, No V_{RRM} reapplied, T_j=25°C	I_{TSM}	2100	A
	50 Hz, 100% V_{RRM} reapplied, T_j=125°C	I_{TSM}	1500	A
	50 Hz, No V_{RRM} reapplied, T_j=125°C	I_{TSM}	1785	A
	50 Hz, No V_{RRM} reapplied, T_j=25°C	I_{TSM}	2000	A
I^2t for Fusing for One Cycle, 8.3 milliseconds	8.3 ms, 100% V_{RRM} reapplied, T_j=125°C	I^2t	10,270	A^2 sec
	8.3 ms, No V_{RRM} reapplied, T_j=125°C	I^2t	14,520	A^2 sec
	8.3 ms, No V_{RRM} reapplied, T_j=25°C	I^2t	18,300	A^2 sec
	10 ms, 100% V_{RRM} reapplied, T_j=125°C	I^2t	11,250	A^2 sec
	10 ms, No V_{RRM} reapplied, T_j=125°C	I^2t	15,910	A^2 sec
	10 ms, No V_{RRM} reapplied, T_j=25°C	I^2t	20,000	A^2 sec
Maximum Rate-of-Rise of On-State Current, (Non-Repetitive)	T_j=125°C	di/dt	150	A/µs
Operating Temperature		T_J	-40 to +125	°C
Storage Temperature		T_{stg}	-40 to +125	°C
Max. Mounting Torque, M5 Mounting Screw on Terminals			25 3	in.-Lb. Nm
Max. Mounting Torque, Module to Heatsink			44 5	in.-Lb. Nm
Module Weight, Typical			95 3.35	g oz.
V Isolation @ 25C	50 – 60 Hz, 1 minute	V_{rms}	3000	V
Circuit to base, all terminals shorted together	50 – 60 Hz, 1 second	V_{rms}	3500	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.

Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (724) 925-7272

POW-R-BLOK™
Dual SCR Isolated Module
90 Amperes / Up to 1800 Volts

Electrical Characteristics, T_J=25°C unless otherwise specified

Characteristics	Symbol	Test Conditions	Min.	Max.	Units
Repetitive Peak Forward Leakage Current	I_{DRM}	Up to 1800V, T_J=125°C		20	mA
Repetitive Peak Reverse Leakage Current	I_{RRM}	Up to 1800V, T_J=125°C		20	mA
Peak On-State Voltage	V_{TM} / V_{FM}	I_{TM} / I_{FM} =300A		1.65	V
Threshold Voltage, Low-level Slope Resistance, Low-level	$V_{(TO)1}$ r_{T1}	T_J = 125°C, I = 16.7% x $\pi I_{T(AV)}$ to $\pi I_{T(AV)}$		0.9 2.0	V mΩ
Minimum dV/dt	dV/dt	T_j=125°C, Up to 800V T_j=125°C, 1200 - 1800V	500 1000		V/µs V/µs
Turn-Off Time (Typical)	t_{off}	T_J = 25°C	40 - 100	(Typical)	µs
Gate Trigger Current	I_{GT}	T_j= 25°C, V_D=6V, Resistive Load		150	mA
Gate Trigger Voltage	V_{GT}	T_j= 25°C, V_D=6V, Resistive Load		3.0	Volts
Non-Triggering Gate Voltage	V_{GDM}	T_j=125°C, V_D=V_{DRM}		0.25	Volts
Non-Triggering Gate Current	I_{GDM}	T_j=125°C, V_D=V_{DRM}		6	mA
Holding Current	I_H	T_J = 25°C		250	mA
Latching Current	I_L	T_J = 25°C		600	mA

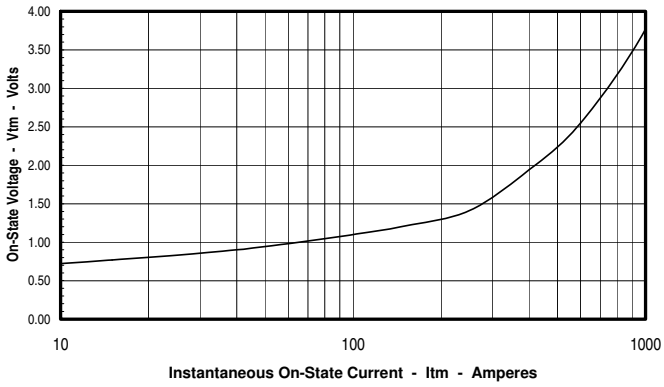
Thermal Characteristics

Characteristics	Symbol		Max.	Units
Thermal Resistance, Junction to Case DC Operation	$R_{ΘJ-C}$	Per Module, both conducting Per Junction, both conducting	0.14 0.28	°C/W °C/W
Thermal Resistance, Case to Sink Lubricated	$R_{ΘC-S}$	Per Module	0.1	°C/W

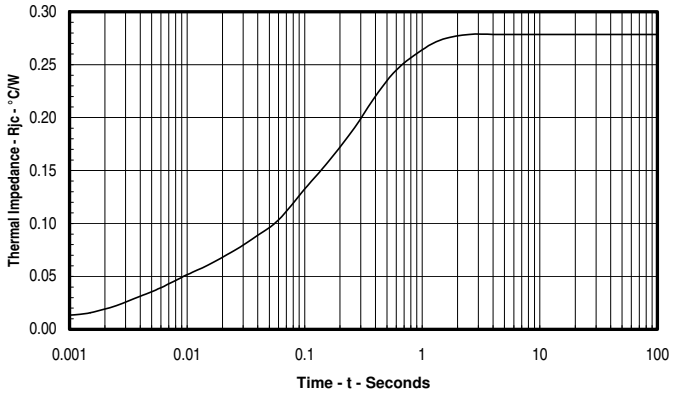
Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (724) 925-7272

POW-R-BLOK™
Dual SCR Isolated Module
90 Amperes / Up to 1800 Volts

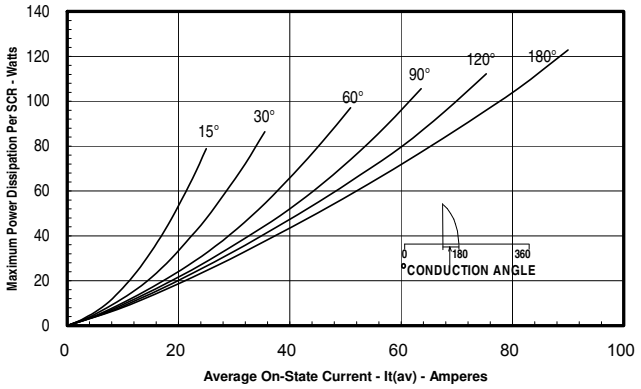
Maximum On-State Forward Voltage Drop
(Tj = 125 °C)



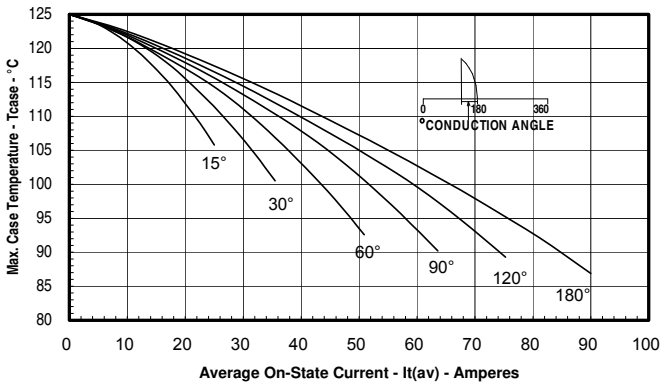
Maximum Transient Thermal Impedance
(Junction to Case)



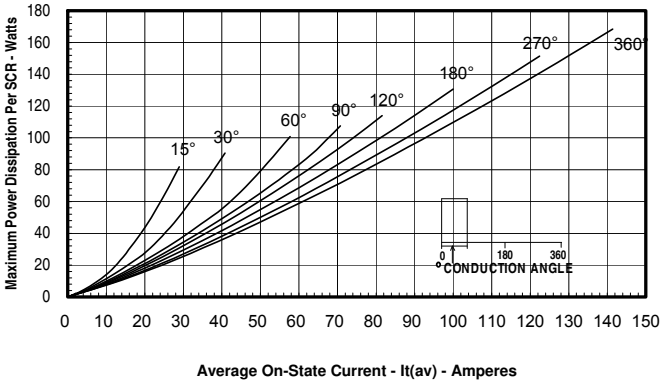
Maximum On-State Power Dissipation
(Sinusoidal Waveform)



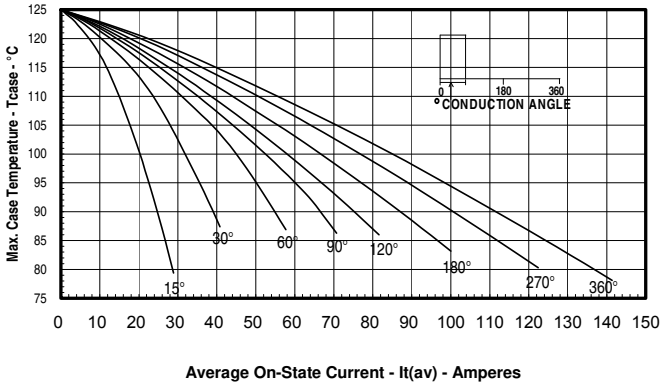
Maximum Allowable Case Temperature
(Sinusoidal Waveform)



Maximum On-State Power Dissipation
(Rectangular Waveform)



Maximum Allowable Case Temperature
(Rectangular Waveform)



Revision Date: 04/28/2009