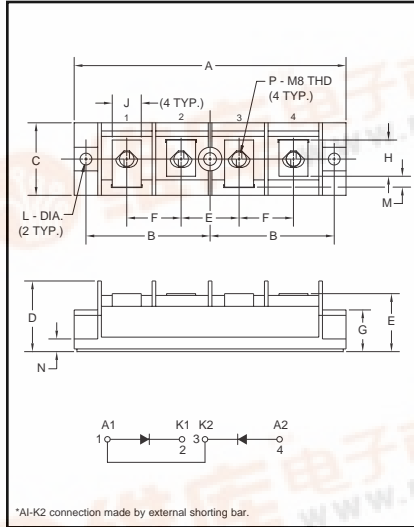


CD510825

Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (724) 925-7272

Dual Diode
POW-R-BLOK™ Modules
 250 Amperes/800 Volts



*A1-K2 connection made by external shorting bar.



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Outline Drawing

Dimension	Inches	Millimeters
A	5.906	150
B	2.697±0.02	68.5±0.2
C	1.575	40
D	1.535	39
E	1.260	32
F	1.181	30
G	0.906	23
H	0.787	20
J	0.630	16
K	0.276	7
L	0.256±0.008 Dia.	Dia. 6.5±0.2
M	0.236	6
N	0.197	5
P	M8 Metric	M8

Description:

Powerex Dual Diode POW-R-BLOK™ Modules are designed for use in applications requiring AC to DC rectification in isolated packaging. The modules are isolated for easy mounting with other components on common heatsinks. The CD510825 has been tested and recognized by Underwriters Laboratories (QQQX2 Power Switching Semiconductors).

Features:

- Isolated Mounting
- Glass Passivated Chips
- Metal Baseplate
- Low Thermal Impedance
- UL Recognized

Applications:

- Battery Supplies
- AC and DC Motor Power Supplies

Ordering Information:

Select the complete eight digit module part number you desire from the table below.
 Example: CD510825 is an 800 Volt, 250 Ampere Dual Diode POW-R-BLOK™ Module.

Type	Voltage Volts (x100)	Current Rating Amperes (x10)
CD51	08	25



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Absolute Maximum Ratings

Characteristics	Symbol	CD510825	Units
Peak Reverse Blocking Voltage	V_{RRM}	800	Volts
Transient Peak Reverse Blocking Voltage (Non-Repetitive), $t < 5ms$	V_{RSM}	960	Volts
DC Reverse Blocking Voltage	$V_{R(DC)}$	640	Volts
RMS On-State Current	$I_{F(RMS)}$	390	Amperes
Average On-State Current, $T_C = 64^\circ C$	$I_{F(AV)}$	250	Amperes
Peak One-Cycle Surge (Non-Repetitive) On-State Current (60Hz)	I_{FSM}	5000	Amperes
Peak One-Cycle Surge (Non-Repetitive) On-State Current (50Hz)	I_{FSM}	4500	Amperes
I^2t (for Fusing), 8.3 milliseconds	I^2t	100,000	A ² sec
Storage Temperature	T_{STG}	-40 to 125	°C
Operating Temperature	T_j	-40 to 125	°C
Maximum Mounting Torque M6 Mounting Screw	—	26	in.-lb.
Maximum Mounting Torque M8 Terminal Screw	—	72	in.-lb.
Module Weight (Typical)	—	300	Grams
V Isolation	V_{RMS}	2500	Volts



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

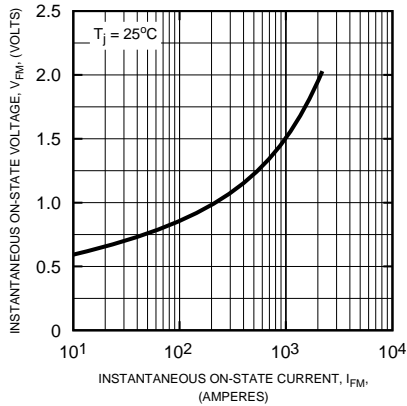
Characteristics	Symbol	Test Conditions	CD510825	Units
Blocking State Maximums				
Reverse Leakage Current, Peak	I_{RRM}	$T_j = 125^\circ\text{C}$, $V_{RRM} = \text{Rated}$	30	mA
Conducting State Maximums				
Peak On-State Voltage	V_{FM}	$I_{FM} = 750\text{A}$	1.3	Volts
Thermal Maximums				
Thermal Resistance, Junction-to-Case	$R_{\theta(J-C)}$	Per Module	0.2	$^\circ\text{C/Watt}$
Thermal Resistance, Case-to-Sink (Lubricated)	$R_{\theta(C-S)}$	Per Module	0.05	$^\circ\text{C/Watt}$



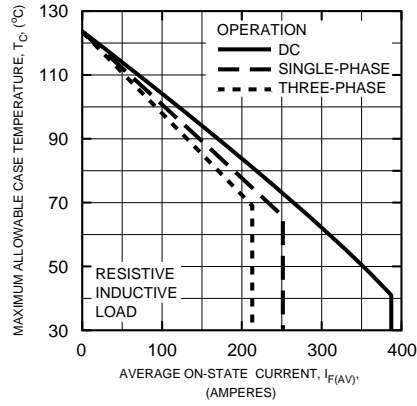
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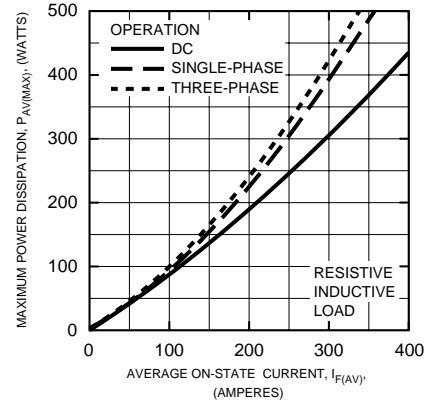
MAXIMUM ON-STATE CHARACTERISTICS



MAXIMUM ALLOWABLE CASE TEMPERATURE



MAXIMUM ON-STATE POWER DISSIPATION



TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS (JUNCTION-TO-CASE)

