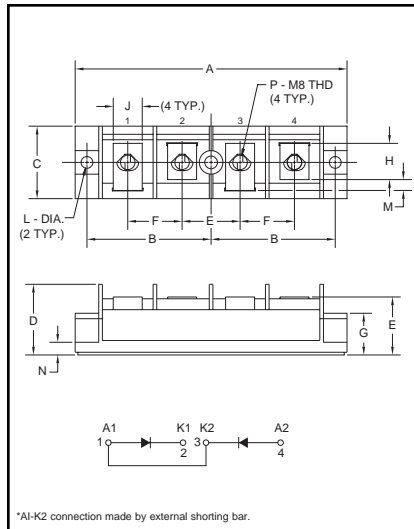
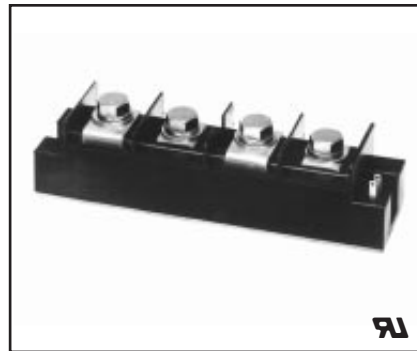


### Dual Diode POW-R-BLOK™ Modules 250 Amperes/800 Volts



#### 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



**CD510825  
Dual Diode  
POW-R-BLOK™ Modules  
250 Amperes/800 Volts**

#### 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



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

**CD510825**

**Dual Diode POW-R-BLOK™ Modules**

250 Amperes/800 Volts

**Absolute Maximum Ratings**

Characteristics	Symbol	CD510825	Units
Peak Reverse Blocking Voltage	$V_{RRM}$	800	Volts
Transient Peak Reverse Blocking Voltage (Non-Repetitive), $t < 5\text{ms}$	$V_{RSM}$	960	Volts
DC Reverse Blocking Voltage	$V_{R(DC)}$	640	Volts
RMS On-State Current	$I_{F(RMS)}$	390	Amperes
Average On-State Current, $T_C = 64^\circ\text{C}$	$I_{F(AV)}$	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	$\text{A}^2\text{sec}$
Storage Temperature	$T_{STG}$	-40 to 125	$^\circ\text{C}$
Operating Temperature	$T_j$	-40 to 125	$^\circ\text{C}$
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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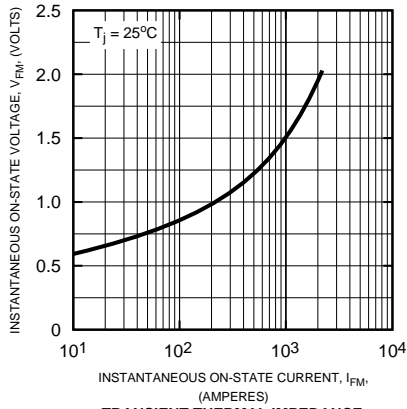
**CD510825**  
**Dual Diode POW-R-BLOK™ Modules**  
250 Amperes/800 Volts

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

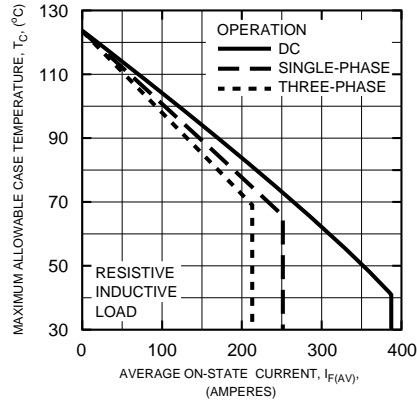
Characteristics	Symbol	Test Conditions	CD510825	Units
<b>Blocking State Maximums</b>				
Reverse Leakage Current, Peak	$I_{RRM}$	$T_j = 125^\circ\text{C}$ , $V_{RRM} = \text{Rated}$	30	mA
<b>Conducting State Maximums</b>				
Peak On-State Voltage	$V_{FM}$	$I_{FM} = 750\text{A}$	1.3	Volts
<b>Thermal Maximums</b>				
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	$^\circ\text{C/Watt}$

**CD510825**  
**Dual Diode POW-R-BLOK™ Modules**  
 250 Amperes/800 Volts

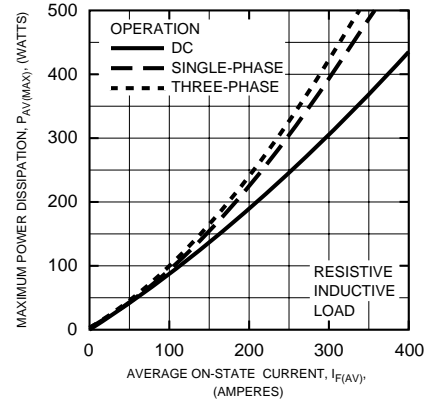
**MAXIMUM ON-STATE CHARACTERISTICS**



**MAXIMUM ALLOWABLE CASE TEMPERATURE**



**MAXIMUM ON-STATE POWER DISSIPATION**



**TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS (JUNCTION-TO-CASE)**

