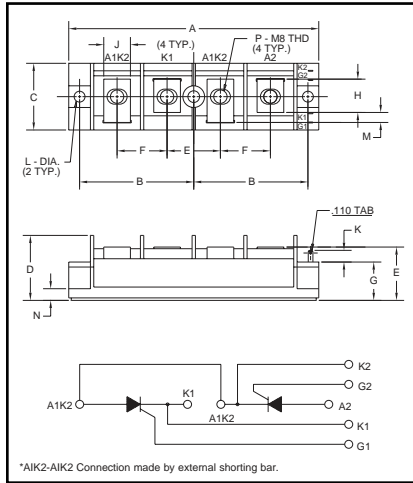


### Dual SCR POW-R-BLOK™ Modules 200 Amperes/800 Volts



#### 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



**CM530820**  
**Dual SCR POW-R-BLOK™ Modules**  
200 Amperes/800 Volts

#### Description:

Powerex Dual SCR POW-R-BLOK™ Modules are designed for use in applications requiring phase control and isolated packaging. The modules are isolated for easy mounting with other components on common heatsinks.

#### Features:

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

#### Applications:

- Battery Supplies
- Bridge Circuits
- AC and DC Motor Control
- Tap Changers
- Lighting Control

#### Ordering Information:

Select the complete eight digit module part number you desire from the table below.  
Example: CM530820 is a 800 Volt, 200 Ampere Dual SCR POW-R-BLOK™ Module.

Type	Voltage Volts (x100)	Current Rating Amperes (x10)
CM53	08	20



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

**CM530820**  
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**Absolute Maximum Ratings**

Characteristics	Symbol	CM530820	Units
Peak Forward Blocking Voltage	$V_{DRM}$	800	Volts
Transient Peak Forward Blocking Voltage (Non-Repetitive), $t < 5ms$	$V_{DSM}$	960	Volts
DC Forward Blocking Voltage	$V_{D(DC)}$	640	Volts
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	$I_T(RMS)$	310	Amperes
Average On-State Current, $T_C = 65^\circ C$	$I_T(AV)$	200	Amperes
Peak One-Cycle Surge (Non-Repetitive) On-State Current (60Hz)	$I_{TSM}$	4000	Amperes
Peak One-Cycle Surge (Non-Repetitive) On-State Current (50Hz)	$I_{TSM}$	3600	Amperes
$I^2t$ (for Fusing), 8.3 milliseconds	$I^2t$	67000	A <sup>2</sup> sec
Critical Rate-of-Rise of On-State Current*	$di/dt$	100	Amperes/ $\mu s$
Peak Gate Power Dissipation	$P_{GM}$	10	Watts
Average Gate Power Dissipation	$P_{G(AV)}$	3.0	Watts
Peak Forward Gate Voltage	$V_{GFM}$	10	Volts
Peak Reverse Gate Voltage	$V_{GRM}$	5.0	Volts
Peak Forward Gate Current	$I_{GFM}$	4.0	Amperes
Storage Temperature	$T_{STG}$	-40 to 125	$^\circ C$
Operating Temperature	$T_j$	-40 to 125	$^\circ C$
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	$V_{RMS}$	2000	Volts

\* $T_j = 125^\circ C$ ,  $I_G = 1.0A$ ,  $V_D = 1/2 V_{DRM}$

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

Characteristics	Symbol	Test Conditions	CM530820	Units
<b>Blocking State Maximums</b>				
Forward Leakage Current, Peak	$I_{\text{DRM}}$	$T_j = 125^\circ\text{C}$ , $V_{\text{DRM}} = \text{Rated}$	30	mA
Reverse Leakage Current, Peak	$I_{\text{RRM}}$	$T_j = 125^\circ\text{C}$ , $V_{\text{RRM}} = \text{Rated}$	30	mA
<b>Conducting State Maximums</b>				
Peak On-State Voltage	$V_{\text{TM}}$	$I_{\text{TM}} = 600\text{A}$	1.3	Volts
<b>Switching Minimums</b>				
Critical Rate-of-Rise of Off-State Voltage	dv/dt	$T_j = 125^\circ\text{C}$ , $V_{\text{D}} = 2/3 V_{\text{DRM}}$	500	Volts/ $\mu\text{s}$
<b>Thermal Maximums</b>				
Thermal Resistance, Junction-to-Case	$R_{\theta(\text{J-C})}$	Per Module	0.2	$^\circ\text{C/Watt}$
Thermal Resistance, Case-to-Sink (Lubricated)	$R_{\theta(\text{C-S})}$	Per Module	0.05	$^\circ\text{C/Watt}$
<b>Gate Parameters Maximums</b>				
Gate Current-to-Trigger	$I_{\text{GT}}$	$V_{\text{D}} = 6\text{V}$ , $R_{\text{L}} = 2\Omega$	100	mA
Gate Voltage-to-Trigger	$V_{\text{GT}}$	$V_{\text{D}} = 6\text{V}$ , $R_{\text{L}} = 2\Omega$	3.0	Volts
Non-Triggering Gate Voltage	$V_{\text{GDM}}$	$T_j = 125^\circ\text{C}$ , $V_{\text{D}} = 1/2 V_{\text{DRM}}$	0.25	Volts

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