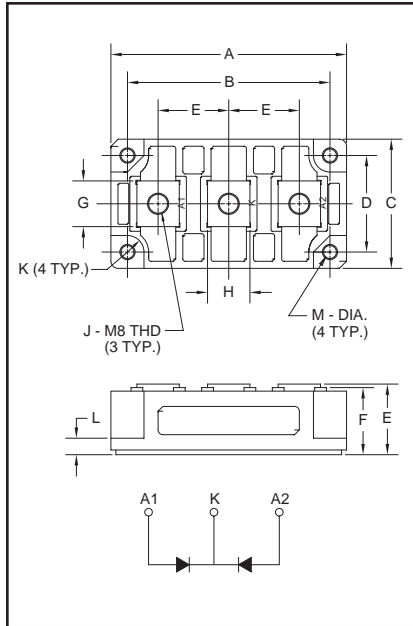


### Fast Recovery Welder Diode Module 300 Amperes/450 Volts



#### Outline Drawing

Dimension	Inches	Millimeters
A	3.94	100.0
B	3.38±0.01	86.0±0.25
C	2.16	55.0
D	1.61±0.01	41.0±0.25
E	1.18	30.0
F	1.12	28.5
G	0.76	19.4
H	0.71	18.0
J	M8 Metric	M8
K	0.28 R	R7.0
L	0.28	7.0
M	0.22 Dia.	Dia. 5.5



**RM300CA-9W**  
Fast Recovery Welder Diode Module  
300 Amperes/450 Volts

#### Description:

Powerex Fast Recovery Welder Diode Modules are designed for use in applications requiring fast switching. The modules are isolated for easy mounting with other components on common heatsinks.

#### Features:

- Isolated Mounting
- Planar Chips

#### Applications:

- Welding Power Supplies
- Free Wheeling Diodes
- Center Tap Circuits

#### Ordering Information:

Select the complete ten digit module part number you desire from the table below.  
Example: RM300CA-9W is a 450V ( $V_{CES}$ ), 300 Ampere, Fast Recovery Common Cathode Diode Module.

Type	Current Rating Amperes	Voltage Volts (x50)
RM	300	9W

## RM300CA-9W

Fast Recovery Welder Diode Module  
300 Amperes/450 Volts

### Absolute Maximum Ratings

Characteristics	Symbol	RM300CA-9W	Units
Peak Reverse Blocking Voltage	$V_{RRM}$	450	Volts
Transient Peak Reverse Blocking Voltage (Non-Repetitive), $t < 5ms$	$V_{RSM}$	540	Volts
DC Reverse Blocking Voltage	$V_{R(DC)}$	360	Volts
DC Current, $T_C = 114^\circ C$	$I_{F(DC)}$	300	Amperes
Peak Half-Cycle Surge (Non-Repetitive) On-State Current (60Hz)	$I_{FSM}$	6000	Amperes
$I^2t$ (for Fusing), 8.3 milliseconds	$I^2t$	37500	A <sup>2</sup> sec
Junction Temperature	$T_j$	-40 to 150	$^\circ C$
Storage Temperature	$T_{STG}$	-40 to 125	$^\circ C$
Maximum Mounting Torque M8 Mounting Screw	—	110	kg.-cm.
Maximum Mounting Torque M5 Terminal Screw	—	20	kg.-cm.
Module Weight (Typical)	—	460	Grams
V Isolation	$V_{RMS}$	2500	Volts

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

Characteristics	Symbol	Test Conditions	RM300CA-9W	Units
<b>Blocking State Maximums</b>				
Reverse Leakage Current, Peak	$I_{RRM}$	$T_j = 150^\circ C, V_{RRM} = \text{Rated}$	40	mA
<b>Conducting State Maximums</b>				
Peak On-State Voltage	$V_{FM}$	$I_{FM} = 300A$	1.2	Volts
<b>Switching Minimums</b>				
Reverse Recovery Time	$t_{rr}$	$I_{FM} = 300A, T_j = 25^\circ C$ $-di/dt = 600 A/\mu s, V_R = 300V$	0.5	$\mu s$
Reverse Recovery Charge	$Q_{rr}$	$I_{FM} = 300A, T_j = 25^\circ C$ $-di/dt = 600 A/\mu s, V_R = 300V$	50	$\mu C$
<b>Thermal Maximums</b>				
Thermal Resistance, Junction-to-Case	$R_{\theta(J-C)}$	Per Module	0.068	$^\circ C/Watt$
Thermal Resistance, Case-to-Sink (Lubricated)	$R_{\theta(C-S)}$	Per Module	0.08	$^\circ C/Watt$

