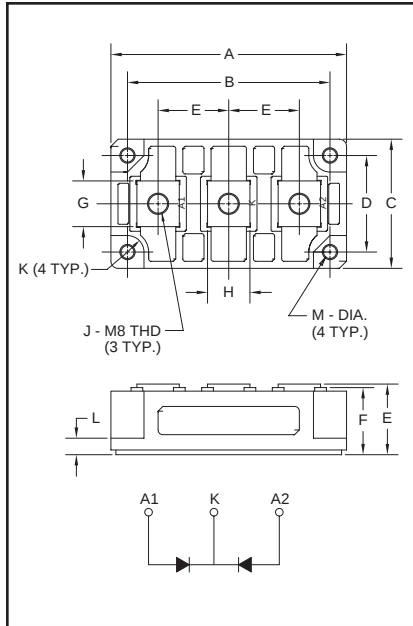


Fast Recovery Welder Diode Module 300 Amperes/450 Volts



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), $t < 5\text{ms}$	V_{RSM}	540	Volts
DC Reverse Blocking Voltage	$V_{R(DC)}$	360	Volts
DC Current, $T_C = 114^\circ\text{C}$	$I_{F(DC)}$	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^2sec
Junction Temperature	T_J	-40 to 150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 to 125	$^\circ\text{C}$
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, $T_J = 25^\circ\text{C}$ unless otherwise specified

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

