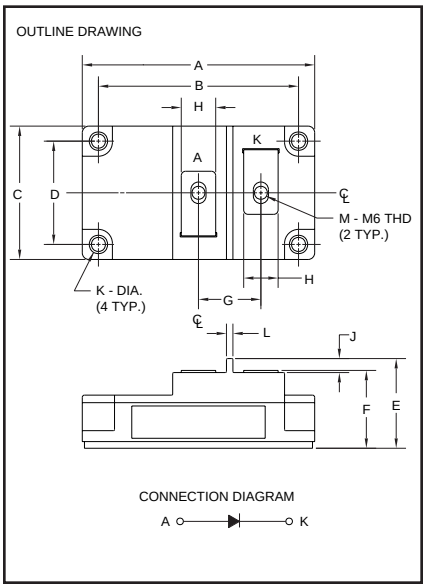
Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (724) 925-7272

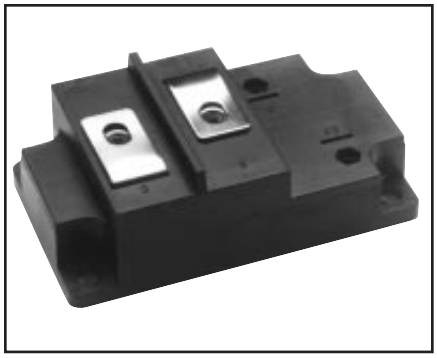
Super Fast Recovery Single Diode Module

400 Amperes/1200 Volts



Outline Drawing

Dimension	Inches	Millimeters
A	4.25	108
B	3.661±0.012	93.0±0.3
C	2.44 Max.	62.0 Max.
D	1.890±0.012	48.0±0.3
E	1.63 Max.	41.5 Max.
F	1.42 Max.	36.0 Max.
G	1.14	29.0
H	0.63	16.0
J	0.26	6.5
K	0.256 Dia.	Dia. 6.5
L	0.12	3.0
M	M6 Metric	M6



RM400HA-24S
Super Fast Recovery
Single Diode Module
400 Amperes/1200 Volts

Description:
Powerex Super-Fast Recovery Single 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:

- ☐ Inverters
- ☐ Choppers
- ☐ Switching Power Supplies
- ☐ Free Wheeling

Ordering Information:
Select the complete ten digit module part number you desire from the table below.
Example: RM400HA-24S is a 1200 Volt, 400 Ampere, Super Fast Recovery Single Diode Module.

Type	Current Rating Amperes	Voltage Volts (x50)
RM	400	24

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RM400HA-24S
Super Fast Recovery
Single Diode Module
400 Amperes/1200 Volts

Absolute Maximum Ratings

Characteristics	Symbol	RM400HA-24S	Units
Peak Reverse Blocking Voltage	V_{RRM}	1200	Volts
Transient Peak Reverse Blocking Voltage (Non-Repetitive), t < 5ms	V_{RSM}	1350	Volts
DC Reverse Blocking Voltage	$V_{R(DC)}$	960	Volts
DC Current, T_C = 90°C	$I_{F(DC)}$	400	Amperes
Peak Half-Cycle Surge (Non-Repetitive) On-State Current (60Hz)	I_{FSM}	8000	Amperes
I^2t (for Fusing), 8.3 milliseconds	I^2t	260,000	A^2sec
Junction Temperature	T_j	-40 to 150	°C
Storage Temperature	T_{STG}	-40 to 125	°C
Maximum Mounting Torque M6 Mounting Screw	—	26	kg.-cm.
Maximum Mounting Torque M6 Terminal Screw	—	26	kg.-cm.
Module Weight (Typical)	—	460	Grams
V Isolation	V_{RMS}	2500	Volts

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RM400HA-24S
Super Fast Recovery
Single Diode Module
400 Amperes/1200 Volts

Electrical and Thermal Characteristics, T_j = 25°C unless otherwise specified

Characteristics	Symbol	Test Conditions	RM400HA-24S	Units
Blocking State Maximums				
Reverse Leakage Current, Peak	I_{RRM}	T_j = 150°C, V_{RRM} = Rated	30	mA
Conducting State Maximums				
Peak On-State Voltage	V_{FM}	T_j = 25°C, I_{FM} = 400A	2.0	Volts
Switching Minimums				
Reverse Recovery Time	t_{rr}	I_{FM} = 400A, T_j = 150°C di/dt = -400A/μs, V_R = 500V	0.4	μs
Reverse Recovery Charge	Q_{rr}	I_{FM} = 400A, T_j = 150°C di/dt = -400A/μs, V_R = 500V	80	μC
Thermal Maximums				
Thermal Resistance, Junction-to-Case	$R_{\theta(J-C)}$	Per Module	0.1	°C/Watt
Thermal Resistance, Case-to-Sink	$R_{\theta(C-S)}$	Per Module	0.04	°C/Watt

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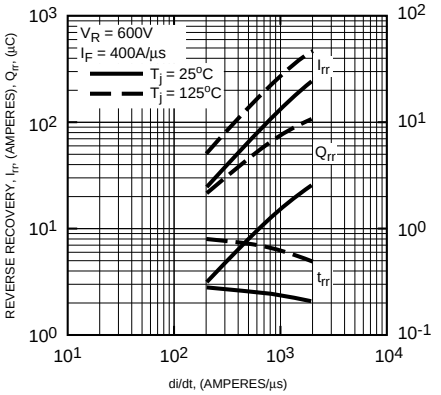
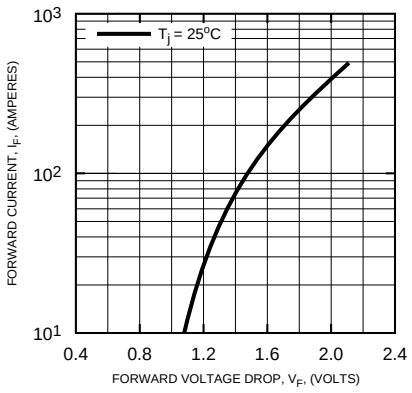
RM400HA-24S
Super Fast Recovery
Single Diode Module
400 Amperes/1200 Volts

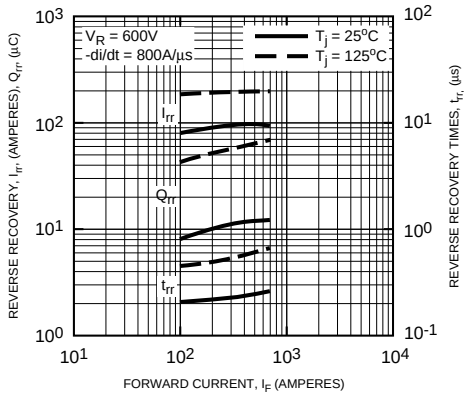
REVERSE RECOVERY VS di/dt CHARACTERISTICS (TYPICAL)



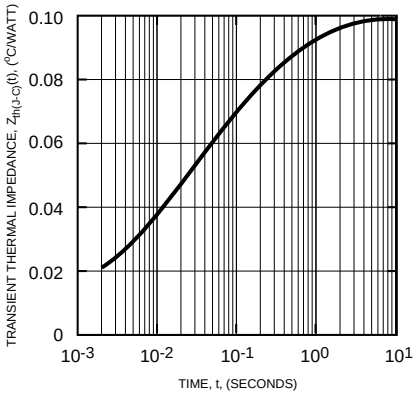
FORWARD VOLTAGE DROP CHARACTERISTICS (TYPICAL)



REVERSE RECOVERY VS FORWARD CURRENT CHARACTERISTICS (TYPICAL)



TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS (JUNCTION-TO-CASE)



MAXIMUM ALLOWABLE PEAK SURGE (NON-REPETITIVE) CURRENT