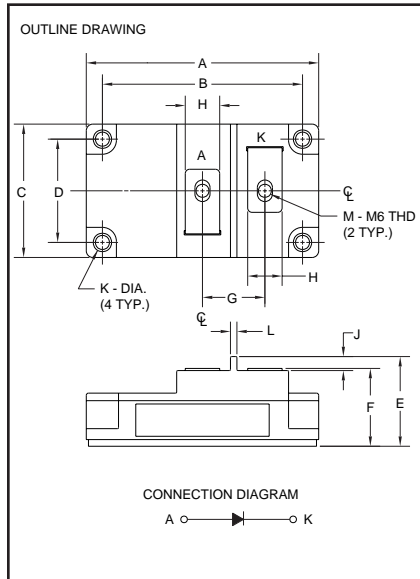
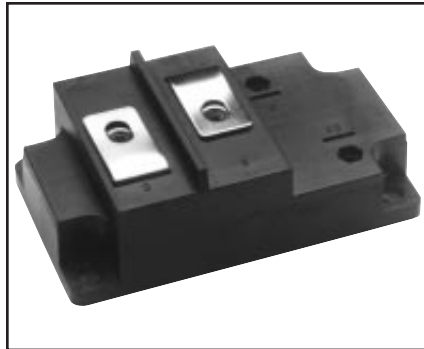


### Super Fast Recovery Single Diode Module 400 Amperes/1200 Volts



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



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

**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, $T_C = 90^{\circ}C$	$I_{F(DC)}$	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 <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 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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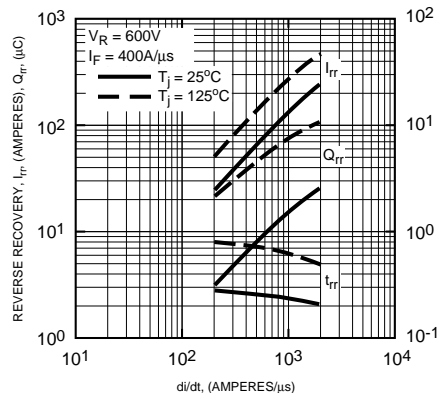
**RM400HA-24S**  
**Super Fast Recovery**  
**Single Diode Module**  
400 Amperes/1200 Volts

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

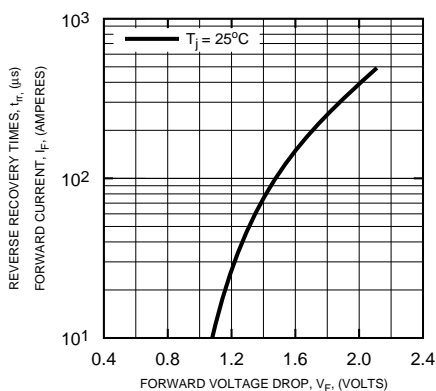
Characteristics	Symbol	Test Conditions	RM400HA-24S	Units
<b>Blocking State Maximums</b>				
Reverse Leakage Current, Peak	$I_{RRM}$	$T_j = 150^\circ\text{C}$ , $V_{RRM} = \text{Rated}$	30	mA
<b>Conducting State Maximums</b>				
Peak On-State Voltage	$V_{FM}$	$T_j = 25^\circ\text{C}$ , $I_{FM} = 400\text{A}$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

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

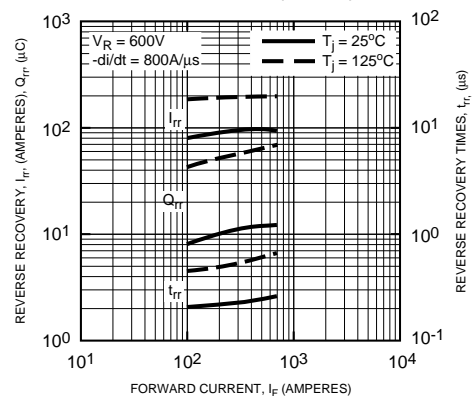
**REVERSE RECOVERY VS  $di/dt$  CHARACTERISTICS (TYPICAL)**



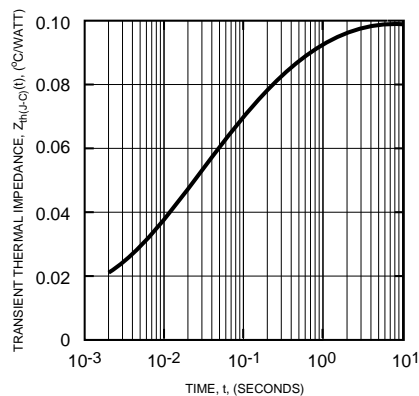
**FORWARD VOLTAGE DROP CHARACTERISTICS (TYPICAL)**



**REVERSE RECOVERY VS FORWARD CURRENT CHARACTERISTICS (TYPICAL)**



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



**MAXIMUM ALLOWABLE PEAK SURGE (NON-REPETITIVE) CURRENT**

