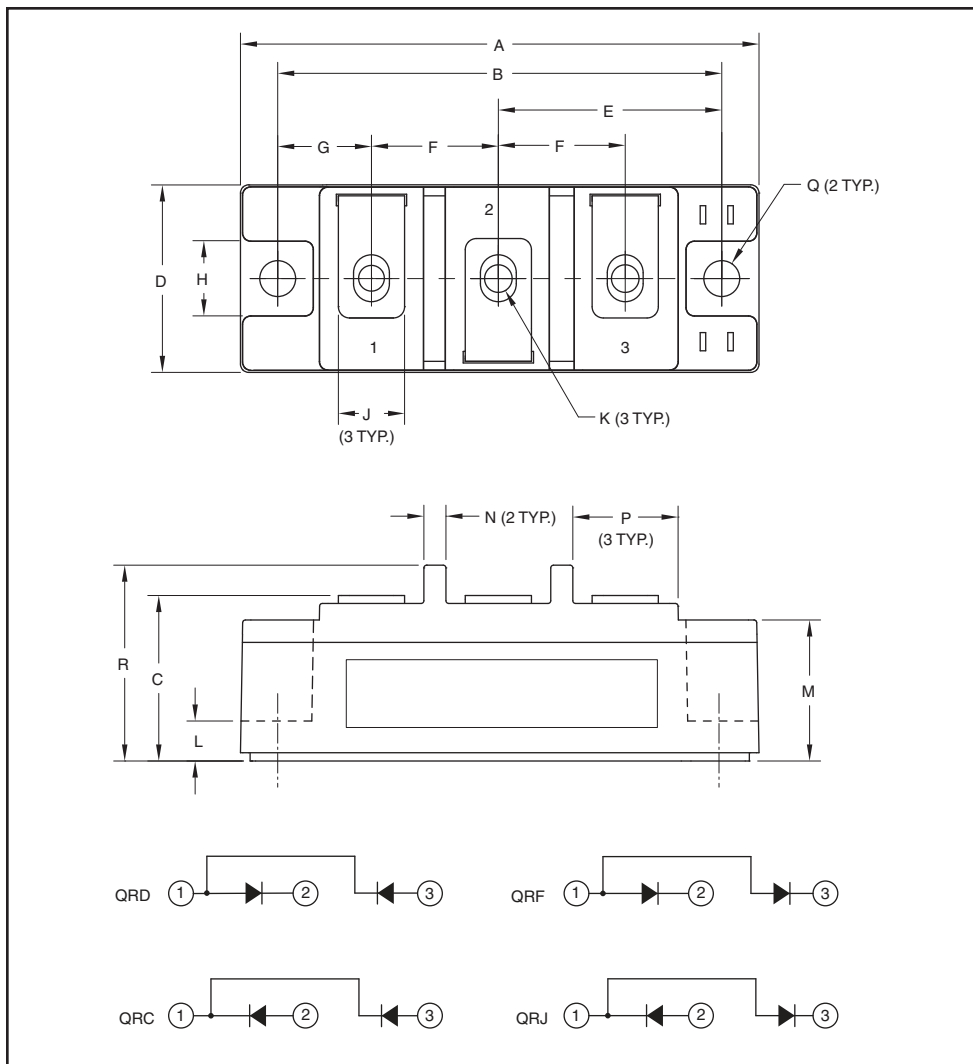


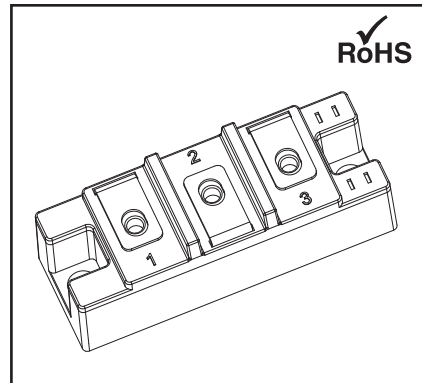
Fast Recovery Diode Module 100 Amperes/3300 Volts



Outline Drawing and Circuit Diagram

Dimensions	Millimeters
A	94
B	80
C	30
D	34
E	40
F	23
G	17
H	13

Dimensions	Millimeters
J	12
K	#10-32
L	7.5
M	25.4
N	4
P	19
Q	6.5 Dia.
R	35



Description:

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

Features:

- ☐ Fast Recovery Time (1.2 μ s max.)
- ☐ Isolation Material - DBC AlN
- ☐ Copper Baseplate
- ☐ Low Thermal Impedance
- ☐ 6000V Isolated Mounting
- ☐ RoHS Compliant

Applications:

- ☐ Switching Power Supplies
- ☐ Inverters
- ☐ Choppers
- ☐ Welding Power Supplies
- ☐ Free Wheeling Diode
- ☐ High Frequency Rectifiers

QR_3310008**Fast Recovery Diode Module**

100 Amperes/3300 Volts

Maximum Ratings, $T_j = 25^\circ\text{C}$ unless otherwise specified

Ratings	Symbol	QR_3310008	Units	
Repetitive Peak Reverse Blocking Voltage	V _{RRM}	3300	Volts	
Non-Repetitive Peak Reverse Blocking Voltage	V _{RSM}	V _{RRM} + 100	Volts	
Average Forward Current	180°C Conduction, T _C = 80°C	I _{F(AV)}	86	Amperes
	180°C Conduction, T _C = 63°C	I _{F(AV)}	100	Amperes
	180°C Conduction, T _C = 25°C	I _{F(AV)}	127	Amperes
Peak Half Cycle Non-Repetitive Surge Current (t = 8.3mS, 100% V _{RRM} Reapplied)	I _{FSM}	1670	Amperes	
Repetitive Peak Surge Current (Square Wave, 20 kHz)	I _{FRM}	230	Amperes	
I ² t for Fusing for One Cycle (t = 8.3mS, 100% V _{RRM} Reapplied)	I ² t	11620	A ² sec	
Operating Junction Temperature	T _j	-40 to 150	°C	
Storage Temperature	T _{stg}	-40 to 150	°C	
Maximum Mounting Torque, #10-32 Mounting Screw	—	26	in-lb	
Maximum Mounting Torque, #10-32 Terminal Screw	—	26	in-lb	
Module Weight (Typical)	—	180	Grams	
V Isolation (60 Hz, Circuit to Base, All Terminals Shorted, t = 60 sec.)	V _{RMS}	6000	Volts	

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

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Peak Reverse Leakage Current	I_{RRM}	Rated V_{RRM}	—	—	5	mA
Peak On-State Voltage	V_{FM}	$I_F = 100\text{A}$	—	3.3	4.3	Volts
Reverse Recovery Time	t_{rr}	$I_F = 100\text{A}$, $di/dt = -200\text{A}/\mu\text{s}$	—	—	1.2	μs
Reverse Recovery Charge	Q_{rr}	$I_F = 100\text{A}$, $di/dt = -200\text{A}/\mu\text{s}$	—	25	—	μC

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

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Thermal Resistance, Junction to Case	$R_{th(j-c)}$	Per Diode	—	—	0.12	$^\circ\text{C}/\text{W}$
Thermal Resistance, Case to Sink Lubricated	$R_{th(c-s)}$	Per Module	—	—	0.05	$^\circ\text{C}/\text{W}$

QR_3310008

Fast Recovery Diode Module

100 Amperes/3300 Voltst

