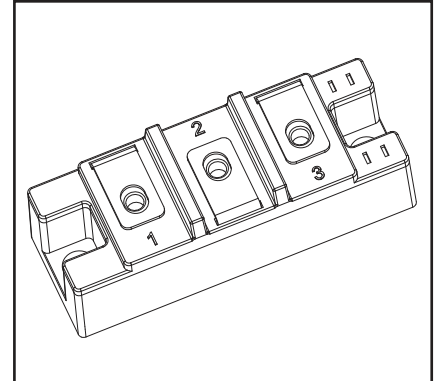
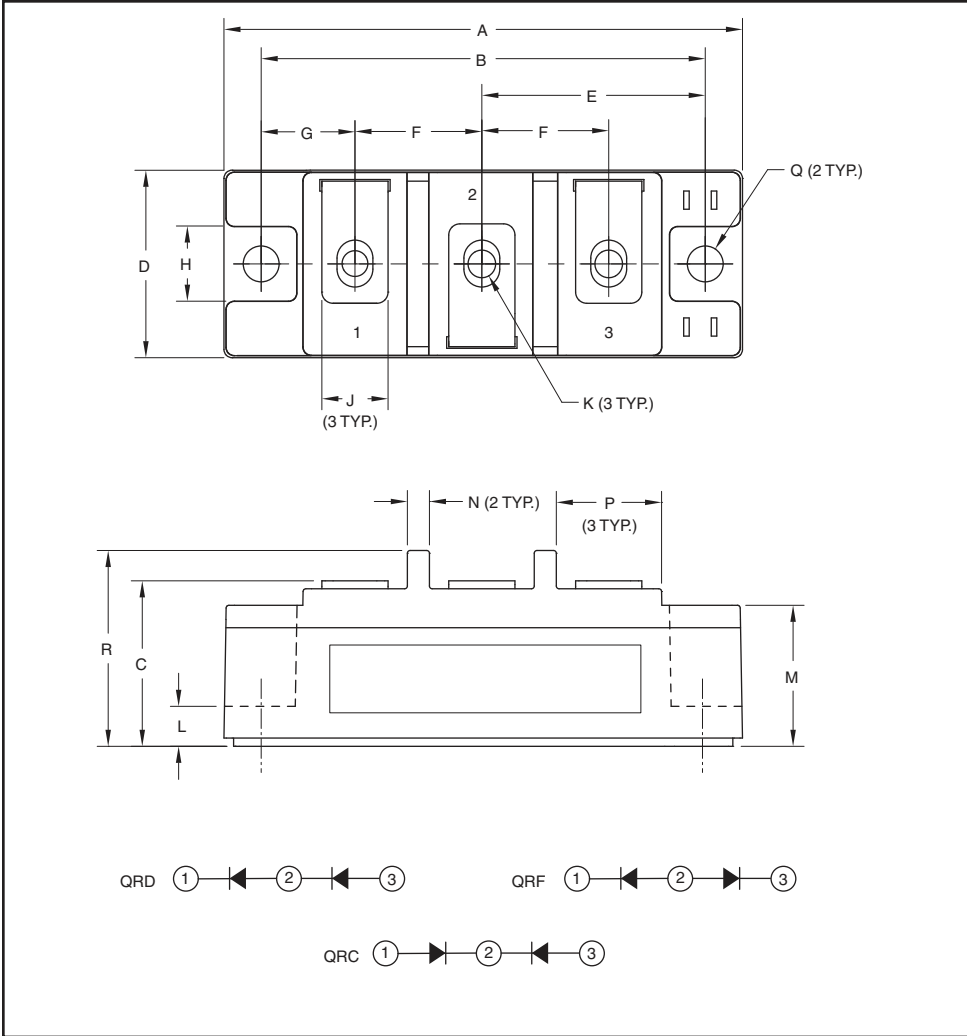


Fast Recovery Diode Module 100 Amperes/3300 Volts



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

Applications:

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

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

QR_3310007
Fast Recovery Diode Module
 100 Amperes/3300 Volts

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

Ratings	Symbol	QRC3310007 QRD3310007 QRF3310007	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, $T_C = 80^\circ\text{C}$	$I_{F(AV)}$	86 Amperes
	180°C Conduction, $T_C = 63^\circ\text{C}$	$I_{F(AV)}$	100 Amperes
	180°C Conduction, $T_C = 25^\circ\text{C}$	$I_{F(AV)}$	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^2t for Fusing for One Cycle (t = 8.3mS, 100% V_{RRM} Reapplied)	I^2t	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

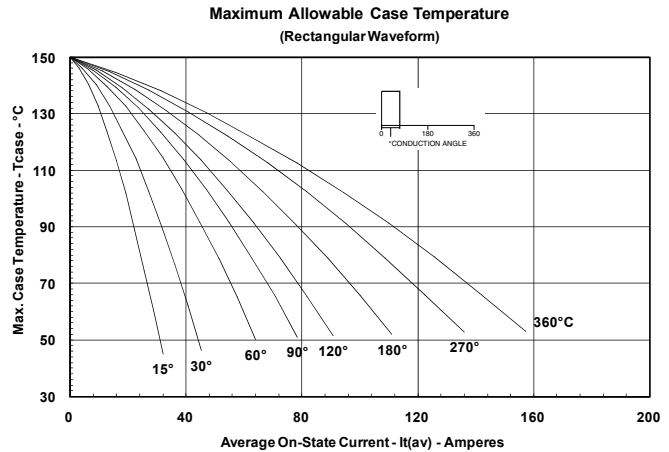
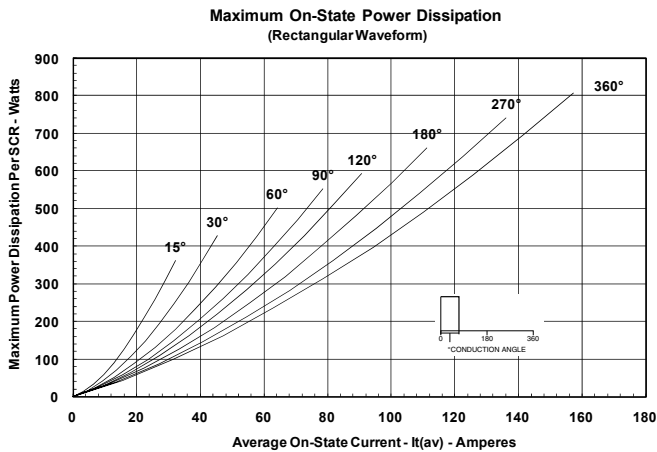
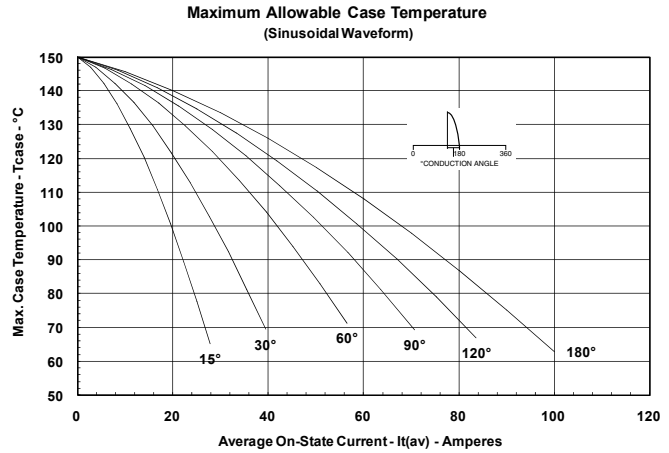
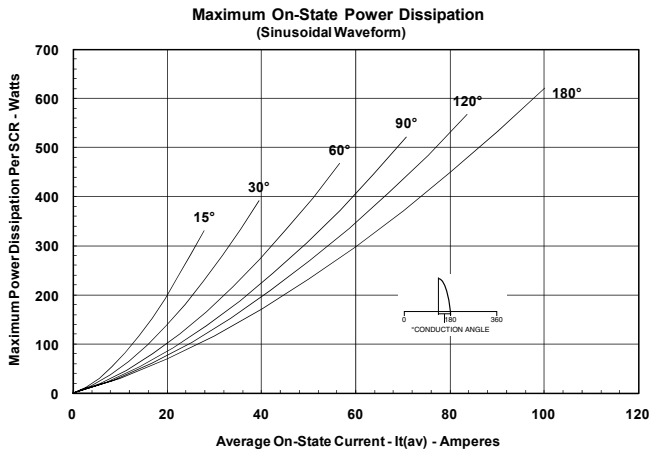
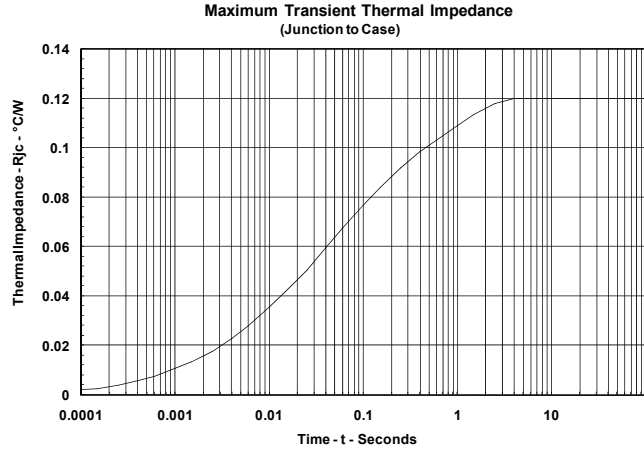
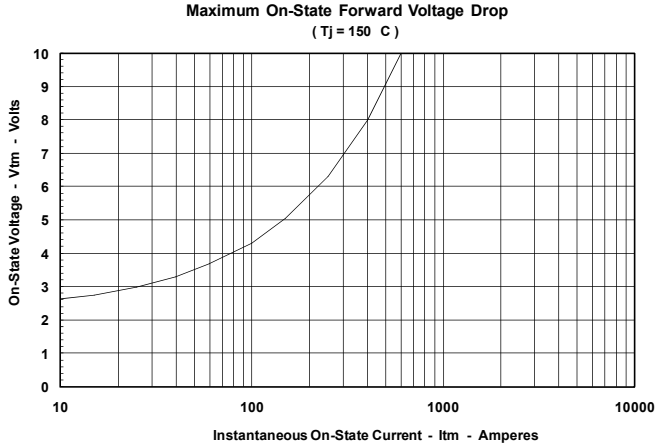
Electrical Characteristics, $T_j = 25\text{ }^\circ\text{C}$ unless otherwise specified

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

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

QR_3310007
Fast Recovery Diode Module
 100 Amperes/3300 Volts



Information presented is based upon manufacturers testing and projected capabilities. This information is subject to change without notice. The manufacturer makes no claim as to the suitability of use, reliability, capability, or future availability of this product.