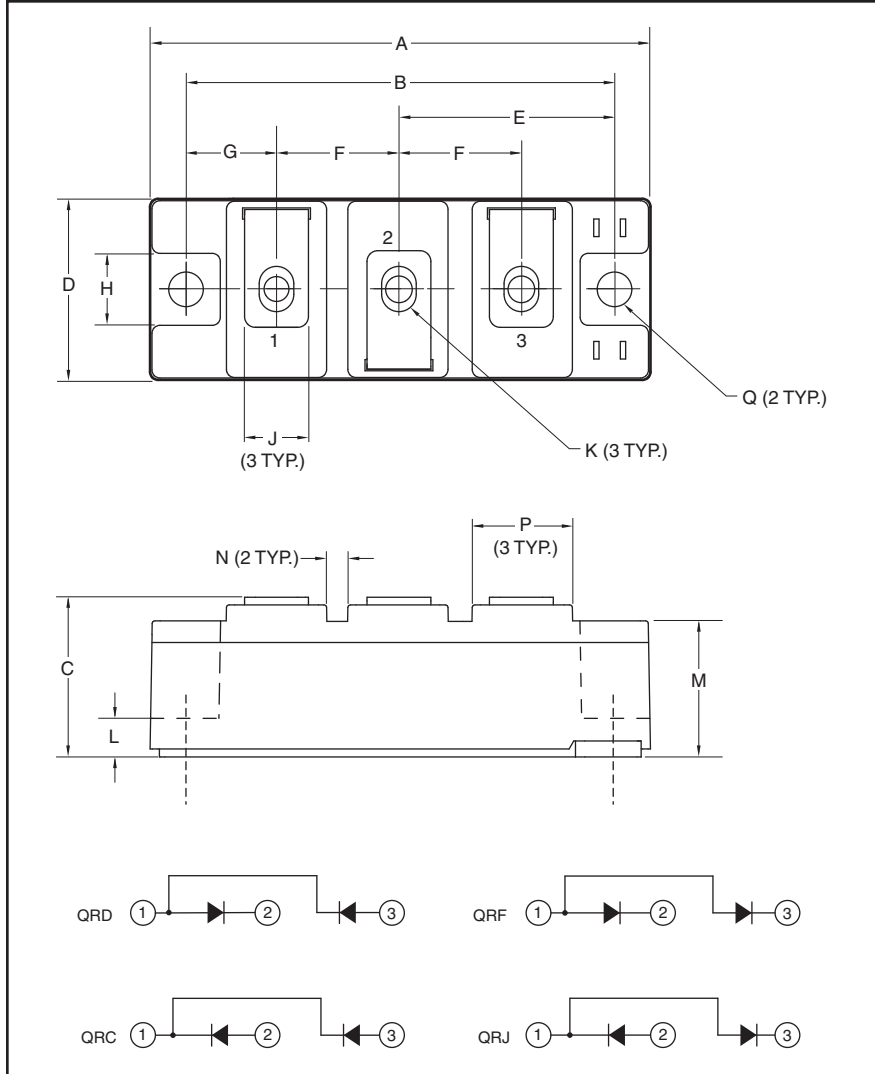


## Super Fast Recovery Diode Modules

### 210 Amperes/600 Volts


**Description:**

Powerex Super Fast Recovery Dual 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:**

- Super Fast Recovery Time
- RoHS Compliant
- Isolated Mounting
- Metal Baseplate
- Low Thermal Impedance
- 2500V Isolating Voltage

**Applications:**

- Free Wheeling
- Welding and Plasma Cutting Machine

**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	M6
L	7.5
M	25.4
N	4
P	19
Q	6.5 Dia.

**QR\_0630R30**  
**Super Fast Recovery Dual Diode Modules**  
 210 Amperes/600 Volts

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

Ratings	Symbol	QRD0630R30 QRC0630R30 QRF0630R30 QRJ0630R30	Units
Repetitive Peak Reverse Blocking Voltage	$V_{RRM}$	600	Volts
Non-Repetitive Peak Reverse Blocking Voltage	$V_{RSM}$	$V_{RRM} + 100$	Volts
DC Current, $T_C = 80^\circ\text{C}$ (Resistive Load)	$I_{F(DC)}$	210	Amperes
Peak Half Cycle Non-repetitive Surge Current ( $t = 8.3\text{mS}$ , 100% $V_{RRM}$ Reapplied)	$I_{FSM}$	TBD	Amperes
$I^2t$ for Fusing for One Cycle ( $t = 8.3\text{mS}$ , 100% $V_{RRM}$ Reapplied)	$I^2t$	TBD	$\text{A}^2\text{sec}$
Operating Junction Temperature	$T_j$	-40 to 150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-40 to 150	$^\circ\text{C}$
Maximum Mounting Torque, M6 Mounting Screw	—	26	in-lb
Maximum Mounting Torque, M6 Terminal Screw	—	26	in-lb
Module Weight (Typical)	—	180	Grams
V Isolation (60 Hz, Circuit to Base, All Terminals Shorted, $t = 60\text{ sec}$ )	$V_{RMS}$	2500	Volts

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

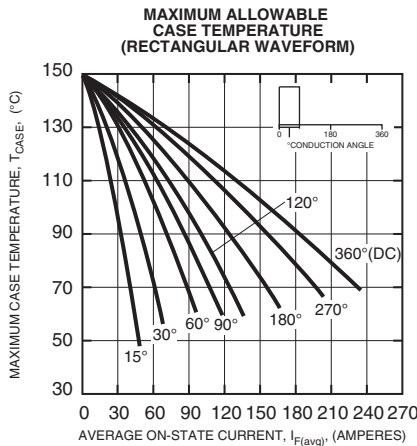
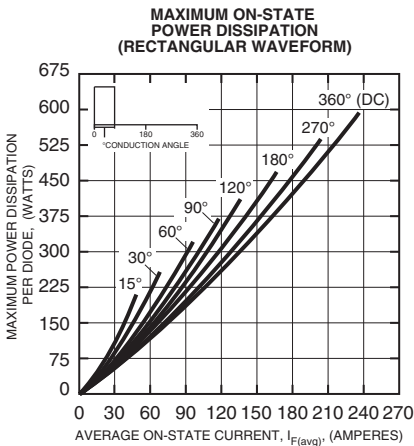
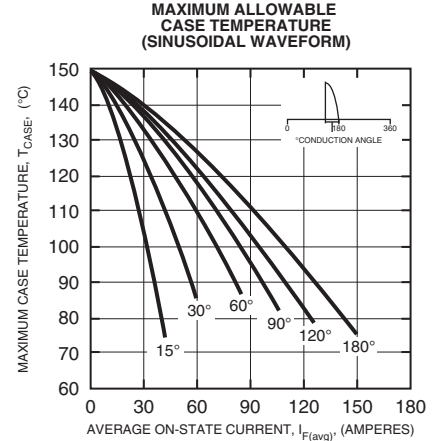
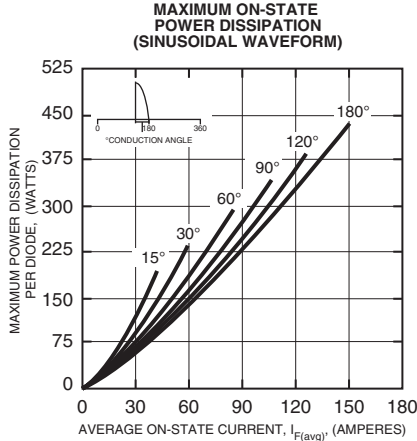
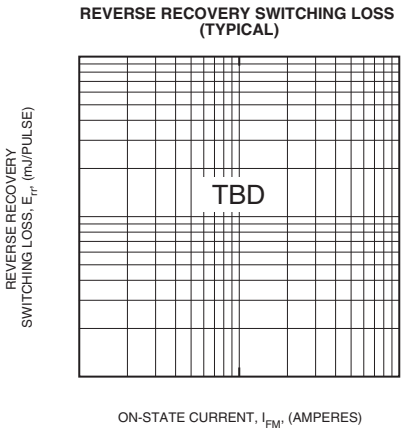
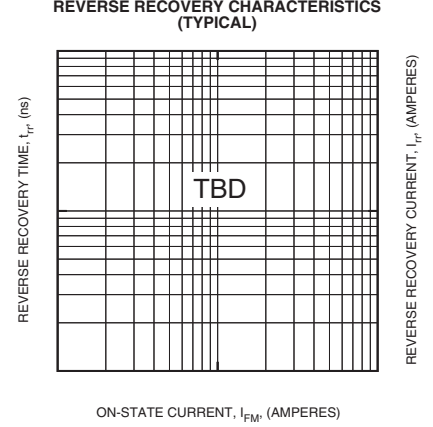
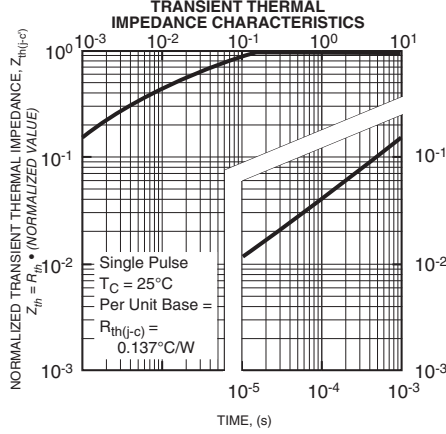
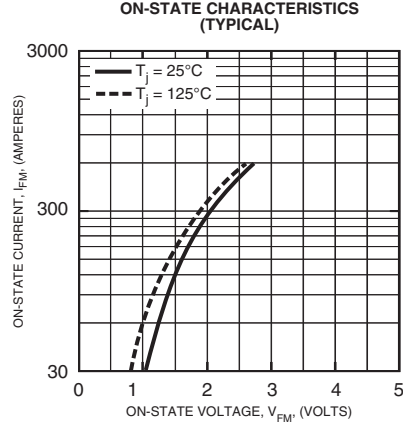
Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Reverse Leakage Current	$I_{RRM}$	Rated $V_{RRM}$	—	—	1.0	mA
On-State Voltage	$V_{FM}$	$I_F = 150\text{A}$	—	1.5	2.2	Volts
		$I_F = 210\text{A}$	—	1.8	2.5	Volts
Threshold Voltage	$V_{TO}$	$T_j = 125^\circ\text{C}$	—	1.68	—	Volts
Slope Resistance	$r_T$	$T_j = 125^\circ\text{C}$	—	3.50	—	$\text{m}\Omega$
Reverse Recovery Time	$t_{rr}$	$I_f = 150\text{A}$ , $di/dt = \text{TBD}$	—	—	120	ns
Reverse Recovery Charge	$Q_{rr}$	$I_f = 150\text{A}$ , $di/dt = \text{TBD}$	—	6.3	—	$\mu\text{C}$

**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	—	—	0.137	$^\circ\text{C/W}$
Contact Thermal Resistance, Case to Sink (Lubricated)*	$R_{th(c-s)}$	Per Module	—	—	0.05	$^\circ\text{C/W}$

\* $T_C$ ,  $T_f$  measured point is just under the chip.

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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.