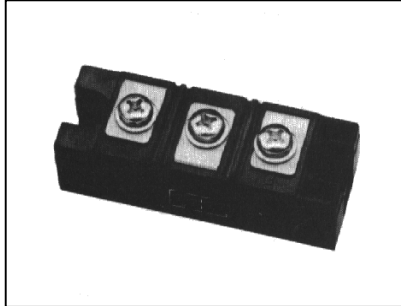
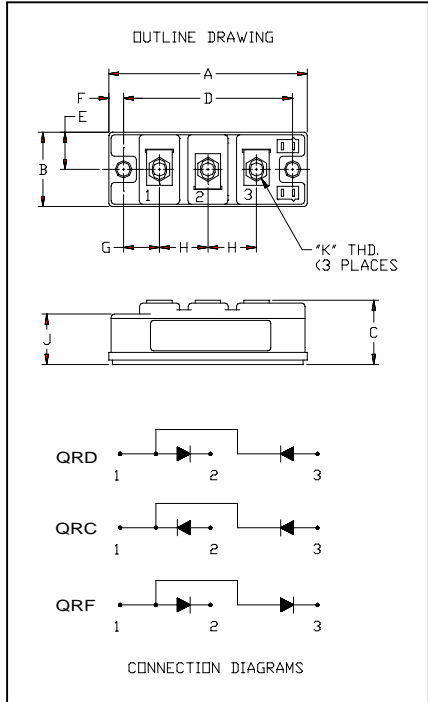


Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (724) 925-7272

**Fast Recovery Diode Module**  
**300 Amp/600 Volts**



**QR\_0630T30**  
**Fast Recovery Diode Module**  
**300 Amperes / 600 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
- Isolated Mounting
- Metal Baseplate
- Low Thermal Impedance
- 3000 V isolating voltage

**Applications:**

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

Dimensions	Inches	Millimeters
A	3.70	94
B	1.34	34
C	1.18	30
D	3.15	80
E	0.67	17
F	0.28	6.99
G	0.67	17.1
H	0.91	23
J	0.91	23
K	M6X1.0	M6X1.0



Preliminary

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**Absolute Maximum Ratings, T<sub>J</sub>=25°C unless otherwise specified**

Characteristics	Conditions	Symbol	QRD0630T30	Units
			QRC0630T30	
Repetitive Peak Reverse Blocking Voltage	-	V <sub>RRM</sub>	600	Volts
Non-Repetitive Peak Reverse Blocking Voltage	-	V <sub>RSM</sub>	V <sub>RRM</sub> + 100	Volts
Average Forward Current	180° Conduction, T <sub>c</sub> =25°C	I <sub>F(AV)</sub>	300	Amperes
Peak Half Cycle Non-Repetitive Surge Current	t = 8.3mS, 100%V <sub>RRM</sub> Reapplied	I <sub>FSM</sub>	1800	Amperes
I <sup>2</sup> t for Fusing for One Cycle	t = 8.3mS, 100%V <sub>RRM</sub> Reapplied	I <sup>2</sup> t	13500	A <sup>2</sup> sec
Operating Junction Temperature	-	T <sub>J</sub>	-40 to 150	°C
Storage Temperature	-	T <sub>STG</sub>	-40 to 150	°C
Maximum Mounting Torque, M6 Mounting Screw	-	-	26	In.-lb.
Maximum Terminal Torque, M6 Terminal Screw	-	-	26	In.-lb.
Module Weight (Typical)	-	-	220	Grams
V Isolation	60 Hz, circuit to base, all terminals shorted, t = 1 sec	V <sub>RMS</sub>	3000	Volts

**Electrical Characteristics, T<sub>J</sub>=25°C unless otherwise specified**

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Peak Reverse Leakage Current	I <sub>RRM</sub>	Rated V <sub>RRM</sub>	-	-	1	mA
Peak On-State Voltage	V <sub>FM</sub>	I <sub>F</sub> =300A	-	-	2.8	Volts
Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = 300A, di/dt = -600A/μs	-	-	110	ns
Reverse Recovery Charge	Q <sub>rr</sub>	I <sub>F</sub> = 300A, di/dt = -600A/μs	-	0.81	-	μC

**Thermal Characteristics, T<sub>J</sub>=25°C unless otherwise specified**

Characteristics	Symbol	Min.	Typ.	Max.	Units
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	-	-	0.24	°C/Watt
Thermal Resistance, Case to Sink Lubricated	R <sub>θCS</sub>	-	-	0.04	°C/Watt

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