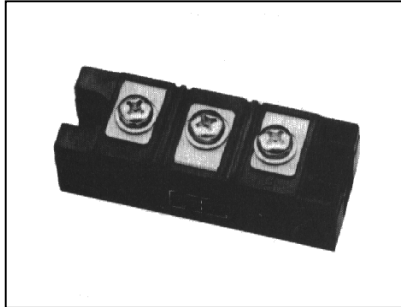
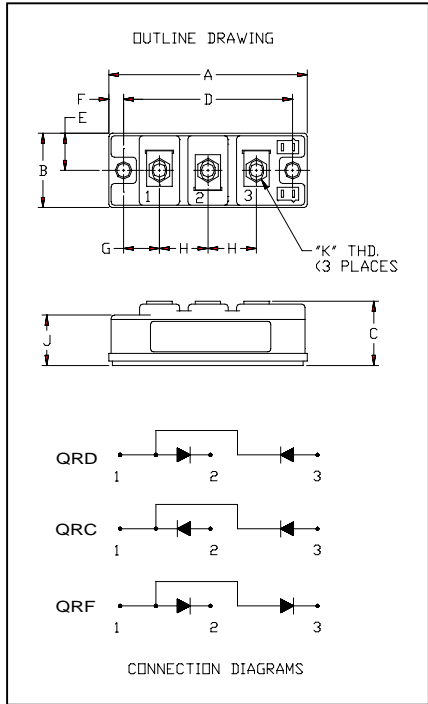


Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (724) 925-7272

Fast Recovery Diode Module
100 Amp/1200 Volts



QR_1210T30
Fast Recovery Diode Module
 100 Amperes / 1200 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 |

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

| Characteristics | Conditions | Symbol | QRD1210T30 | QRC1210T30 | Units |
|--|--|-------------|-----------------|------------|------------------------|
| | | | QRF1210T30 | | |
| Repetitive Peak Reverse Blocking Voltage | - | V_{RRM} | 1200 | | Volts |
| Non-Repetitive Peak Reverse Blocking Voltage | - | V_{RSM} | $V_{RRM} + 100$ | | Volts |
| Average Forward Current | 180° Conduction, $T_c=25^\circ\text{C}$ | $I_{F(AV)}$ | 100 | | Amperes |
| Peak Half Cycle Non-Repetitive Surge Current | $t = 8.3\text{mS}$, 100% V_{RRM} Reapplied | I_{FSM} | 840 | | Amperes |
| I^2t for Fusing for One Cycle | $t = 8.3\text{mS}$, 100% V_{RRM} Reapplied | I^2t | 2940 | | A^2sec |
| 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 Terminal Torque, M6 Terminal Screw | - | - | 26 | | In.-lb. |
| Module Weight (Typical) | - | - | 220 | | Grams |
| V Isolation | 60 Hz, circuit to base, all terminals shorted, $t = 1 \text{ sec}$ | V_{RMS} | 3000 | | 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} | - | - | 1 | mA |
| Peak On-State Voltage | V_{FM} | $I_F=100\text{A}$ | - | - | 3.5 | Volts |
| Reverse Recovery Time | t_{rr} | $I_F = 100\text{A}$, $di/dt = -200\text{A}/\mu\text{s}$ | - | - | 250 | ns |
| Reverse Recovery Charge | Q_{rr} | $I_F = 100\text{A}$, $di/dt = -200\text{A}/\mu\text{s}$ | - | 0.75 | - | μC |

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

| Characteristics | Symbol | Min. | Typ. | Max. | Units |
|---|-----------------|------|------|------|------------------------------|
| Thermal Resistance, Junction to Case | $R_{\theta JC}$ | - | - | 0.35 | $^\circ\text{C}/\text{Watt}$ |
| Thermal Resistance, Case to Sink Lubricated | $R_{\theta CS}$ | - | - | 0.04 | $^\circ\text{C}/\text{Watt}$ |

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