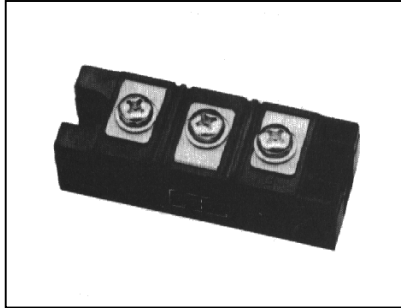
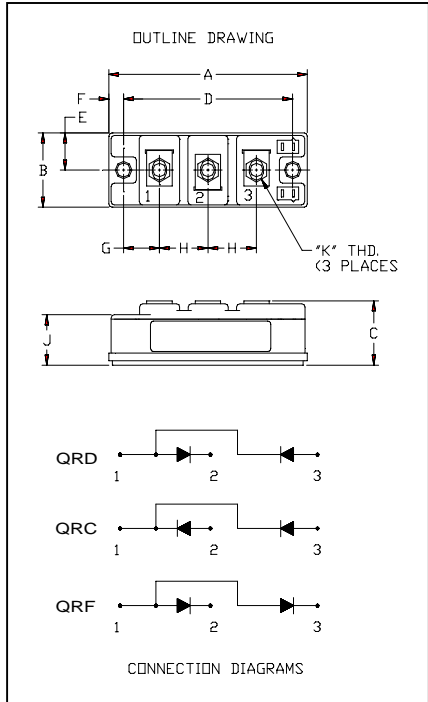


Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (724) 925-7272

Fast Recovery Diode Module 100 Amp/1400 Volts



QR_1410T30 Fast Recovery Diode Module 100 Amperes / 1400 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

QR_1410T30
100 Amp/1400 Volts

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100 Amp/1400 Volts

Absolute Maximum Ratings, T_J=25°C unless otherwise specified

| Characteristics | Conditions | Symbol | QRD1410T30 | QRC1410T30 | Units |
|--|--|--------------------|------------------------|------------|--------------------|
| | | | QRF1410T30 | | |
| Repetitive Peak Reverse Blocking Voltage | - | V _{RRM} | 1400 | | Volts |
| Non-Repetitive Peak Reverse Blocking Voltage | - | V _{RSM} | V _{RRM} + 100 | | Volts |
| Average Forward Current | 180° Conduction, T _c =25°C | I _{F(AV)} | 100 | | Amperes |
| Peak Half Cycle Non-Repetitive Surge Current | t = 8.3mS, 100%V _{RRM} Reapplied | I _{FSM} | 670 | | Amperes |
| I ² t for Fusing for One Cycle | t = 8.3mS, 100%V _{RRM} Reapplied | I ² t | 1870 | | A ² sec |
| Operating Junction Temperature | - | T _J | -40 to 150 | | °C |
| Storage Temperature | - | T _{STG} | -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 _{RMS} | 3000 | | Volts |

Electrical Characteristics, T_J=25°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 =100A | - | - | 3.8 | Volts |
| Reverse Recovery Time | t _{rr} | I _F = 100A, di/dt = -200A/μs | - | - | 300 | ns |
| Reverse Recovery Charge | Q _{rr} | I _F = 100A, di/dt = -200A/μs | - | 1.0 | - | μC |

Thermal Characteristics, T_J=25°C unless otherwise specified

| Characteristics | Symbol | | Min. | Typ. | Max. | Units |
|---|------------------|------------|------|------|------|---------|
| Thermal Resistance, Junction to Case | R _{θJC} | Per Diode | - | - | 0.35 | °C/Watt |
| Thermal Resistance, Case to Sink Lubricated | R _{θCS} | Per Module | - | - | 0.04 | °C/Watt |

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