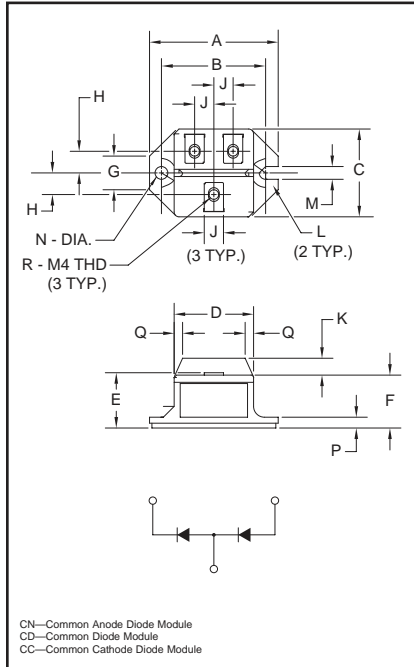


**Fast Recovery
Dual Diode Modules
50 Amperes/600-1200 Volts**



Outline Drawing

| Dimension | Inches | Millimeters |
|-----------|-------------|-------------|
| A | 2.106 | 53.5 |
| B | 1.705±0.008 | 43.3±0.2 |
| C | 1.437 | 36.5 |
| D | 1.299 | 33 |
| E | 0.925 | 23.5 |
| F | 0.866 | 22 |
| G | 0.551 | 14 |
| H | 0.354 | 9 |
| J | 0.315 | 8 |
| K | 0.276 | 7 |
| L | 0.236 R | R6 |
| M | 0.209 | 5.3 |
| N | 0.209 Dia. | Dia. 5.3 |
| P | 0.177 | 4.5 |
| Q | 0.138 | 3.5 |
| R | M4 Metric | M4 |



**CN24__50, CD24__50, CC24__50
Fast Recovery Dual Diode Modules
50 Amperes/600-1200 Volts**

Description:

Powerex 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:

- Isolated Mounting
- Planar Chips

Applications:

- Free Wheeling

Ordering Information:

Select the complete eight digit module part number you desire from the table below.
Example: CN241250 is a 1200 Volt, 50 Ampere Fast Recovery Common Anode Diode Module.

| Type | Voltage Volts (x100) | Current Rating Amperes (50) |
|------|-------------------------|--------------------------------|
| CN24 | 06 | 50 |
| CD24 | 12 | |



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

CN24__50, CD24__50, CC24__50
Fast Recovery Dual Diode Modules
 50 Amperes/600-1200 Volts

Absolute Maximum Ratings

| Characteristics | Symbol | CN240650 | CN241250 | Units |
|---|-------------|------------|------------|--------------------|
| | | CD240650 | CD241250 | |
| | | CC240650 | CC241250 | |
| Peak Reverse Blocking Voltage | V_{RRM} | 600 | 1200 | Volts |
| Transient Peak Forward Blocking Voltage (Non-Repetitive), $t < 5ms$ | V_{RSM} | 720 | 1350 | Volts |
| DC Reverse Blocking Voltage | $V_{R(DC)}$ | 480 | 960 | Volts |
| DC Output Current, $T_C = 105^\circ C$ | $I_{F(DC)}$ | 50 | 50 | Amperes |
| Peak One-Cycle Surge (Non-Repetitive) On-State Current (60Hz) | I_{FSM} | 1000 | 1000 | Amperes |
| Peak One-Cycle Surge (Non-Repetitive) On-State Current (50Hz) | I_{FSM} | 910 | 910 | Amperes |
| I^2t (for Fusing), 8.3 milliseconds | I^2t | 4165 | 4165 | A ² sec |
| Storage Temperature | T_{STG} | -40 to 125 | -40 to 125 | °C |
| Operating Temperature | T_j | -40 to 150 | -40 to 150 | °C |
| Maximum Mounting Torque M5 Mounting Screw | — | 17 | 17 | in.-lb. |
| Maximum Mounting Torque M4 Terminal Screw | — | 12 | 12 | in.-lb. |
| Module Weight (Typical) | — | 90 | 90 | Grams |
| V Isolation | V_{RMS} | 2500 | 2500 | Volts |

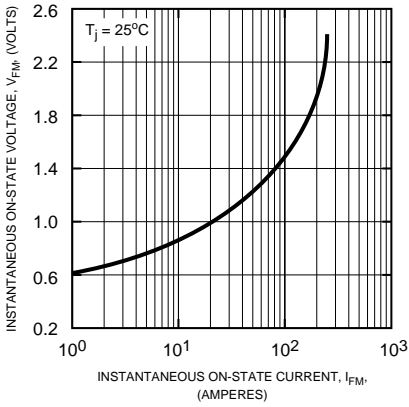
CN24_ _50, CD24_ _50, CC24_ _50
Fast Recovery Dual Diode Modules
 50 Amperes/600-1200 Volts

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

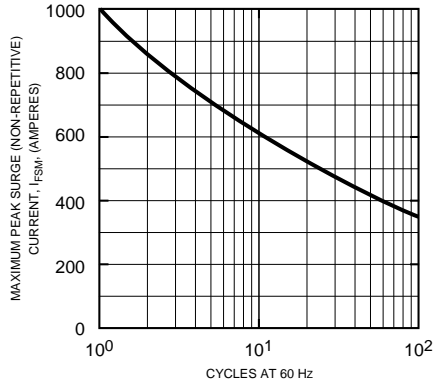
| Characteristics | Symbol | Test Conditions | CN24_ _50 CD24_ _50 CC24_ _50 | Units |
|---|-------------------|---|-------------------------------------|------------------------------|
| Blocking State Maximums | | | | |
| Reverse Leakage Current, Peak | I_{RRM} | $T_j = 150^\circ\text{C}$, $V_{RRM} = \text{Rated}$ | 10 | mA |
| Conducting State Maximums | | | | |
| Peak On-State Voltage | V_{FM} | $I_{FM} = 50\text{A}$ | 1.5 | Volts |
| Switching Maximums | | | | |
| Reverse Recovery Time | t_{rr} | $I_{FM} = 50\text{A}$, $T_j = 150^\circ\text{C}$ $di/dt = -100\text{A}/\mu\text{s}$, $V_R = 1/2V_{RM}$ | 0.8 | μs |
| Reverse Recovery Charge | Q_{rr} | $I_{FM} = 50\text{A}$, $T_j = 150^\circ\text{C}$ $di/dt = -100\text{A}/\mu\text{s}$, $V_R = 1/2V_{RM}$ | 30 | μC |
| Thermal Maximums | | | | |
| Thermal Resistance, Junction-to-Case | $R_{\theta(J-C)}$ | Per Module | 0.6 | $^\circ\text{C}/\text{Watt}$ |
| Thermal Resistance, Case-to-Sink (Lubricated) | $R_{\theta(C-S)}$ | Per Module | 0.4 | $^\circ\text{C}/\text{Watt}$ |

CN24_50, CD24_50, CC24_50
Fast Recovery Dual Diode Modules
 50 Amperes/600-1200 Volts

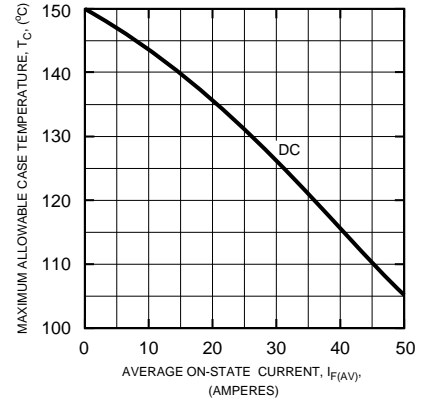
MAXIMUM ON-STATE CHARACTERISTICS



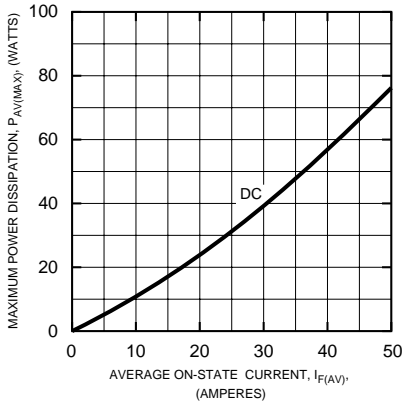
MAXIMUM ALLOWABLE PEAK SURGE (NON-REPETITIVE) CURRENT



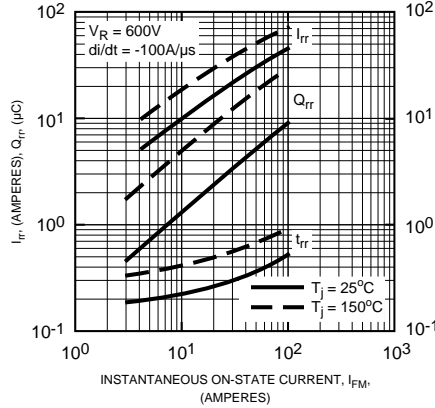
MAXIMUM ALLOWABLE CASE TEMPERATURE



MAXIMUM ON-STATE POWER DISSIPATION



REVERSE RECOVERY CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS (JUNCTION-TO-CASE)

