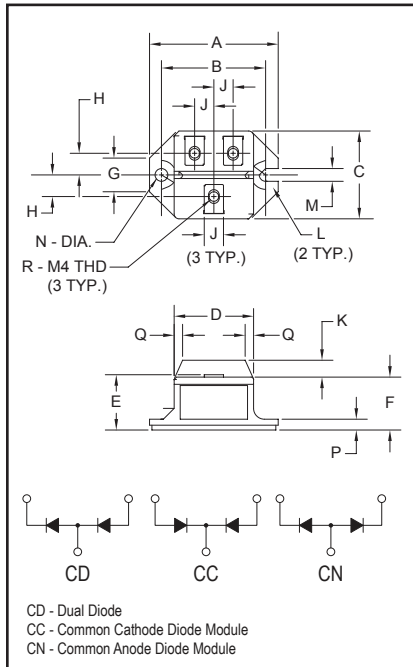


## Fast Recovery Dual Diode Modules 50 Amperes/600-1200 Volts



### 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 <sup>2</sup> 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

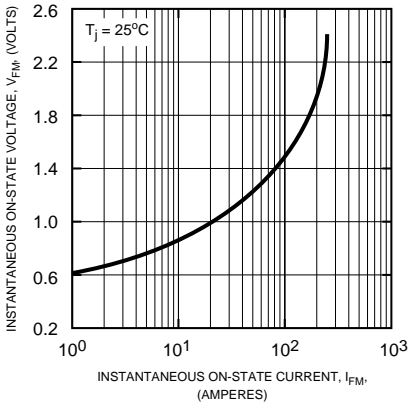
CN24\_ \_50, CD24\_ \_50, CC24\_ \_50  
 Fast Recovery Dual Diode Modules  
 50 Amperes/600-1200 Volts

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

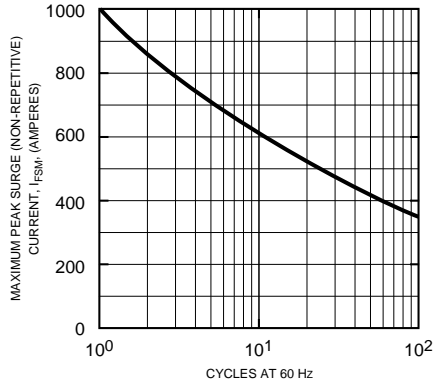
Characteristics	Symbol	Test Conditions	CN24_ _50 CD24_ _50 CC24_ _50	Units
<b>Blocking State Maximums</b>				
Reverse Leakage Current, Peak	$I_{RRM}$	$T_j = 150^\circ\text{C}$ , $V_{RRM} = \text{Rated}$	10	mA
<b>Conducting State Maximums</b>				
Peak On-State Voltage	$V_{FM}$	$I_{FM} = 50\text{A}$	1.5	Volts
<b>Switching Maximums</b>				
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	$\mu\text{s}$
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	$\mu\text{C}$
<b>Thermal Maximums</b>				
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

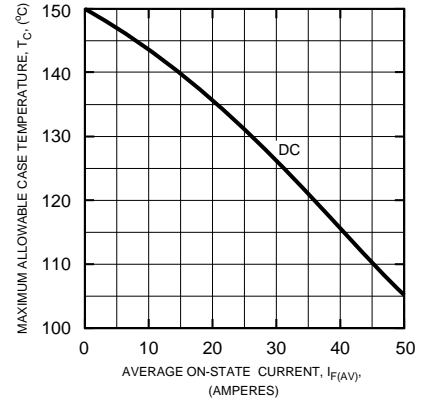
**MAXIMUM ON-STATE CHARACTERISTICS**



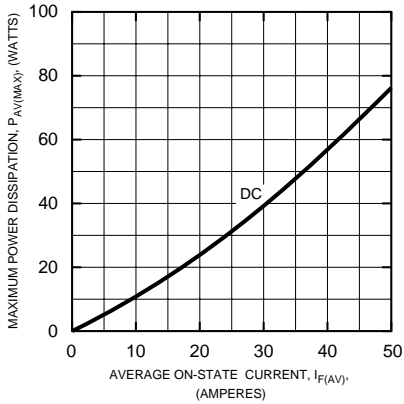
**MAXIMUM ALLOWABLE PEAK SURGE (NON-REPETITIVE) CURRENT**



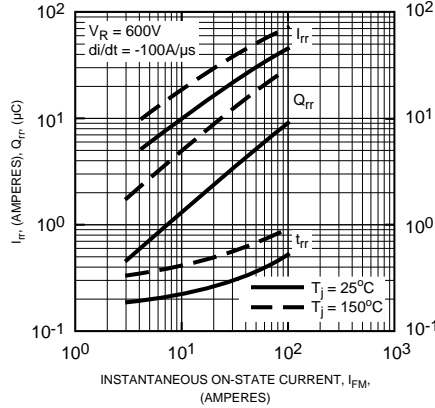
**MAXIMUM ALLOWABLE CASE TEMPERATURE**



**MAXIMUM ON-STATE POWER DISSIPATION**



**REVERSE RECOVERY CHARACTERISTICS**



**TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS (JUNCTION-TO-CASE)**

