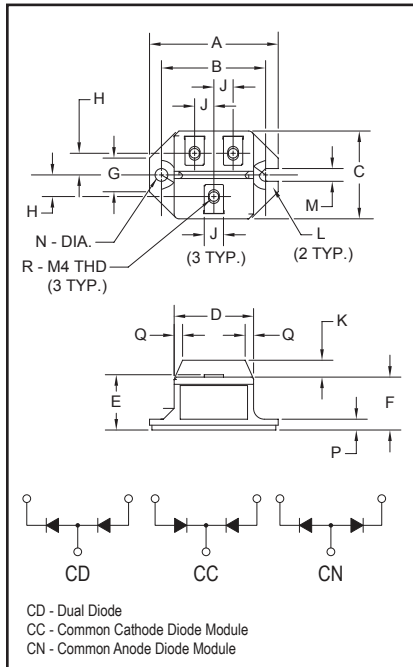


Fast Recovery Dual Diode Modules 50 Amperes/600-1200 Volts



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

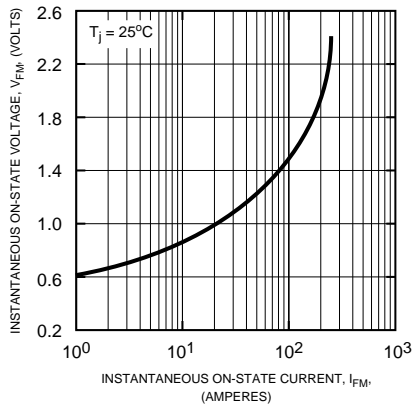
CN24_ _50, CD24_ _50, CC24_ _50
Fast Recovery Dual Diode Modules
 50 Amperes/600-1200 Volts

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

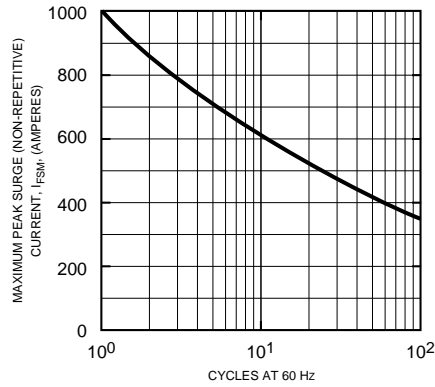
Characteristics	Symbol	Test Conditions	CN24_ _50 CD24_ _50 CC24_ _50	Units
Blocking State Maximums				
Reverse Leakage Current, Peak	I_{RRM}	$T_j = 150^\circ\text{C}$, $V_{RRM} = \text{Rated}$	10	mA
Conducting State Maximums				
Peak On-State Voltage	V_{FM}	$I_{FM} = 50\text{A}$	1.5	Volts
Switching Maximums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

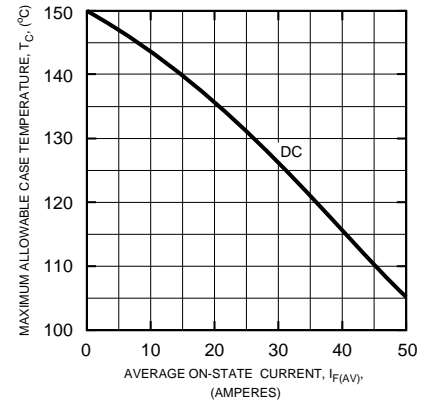
MAXIMUM ON-STATE CHARACTERISTICS



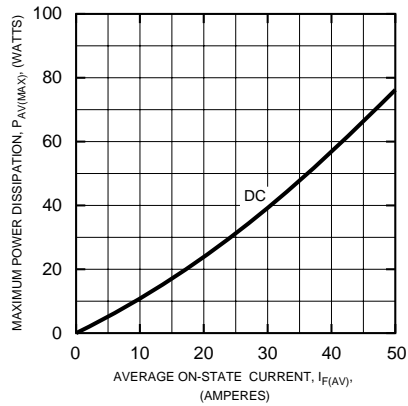
MAXIMUM ALLOWABLE PEAK SURGE (NON-REPETITIVE) CURRENT



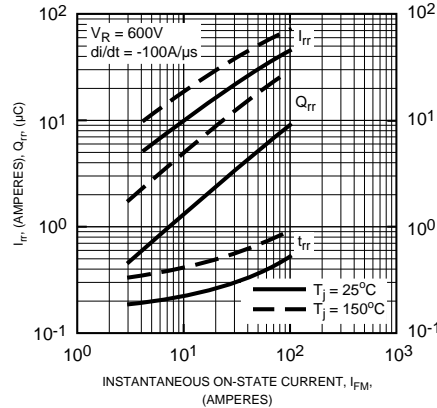
MAXIMUM ALLOWABLE CASE TEMPERATURE



MAXIMUM ON-STATE POWER DISSIPATION



REVERSE RECOVERY CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS (JUNCTION-TO-CASE)

