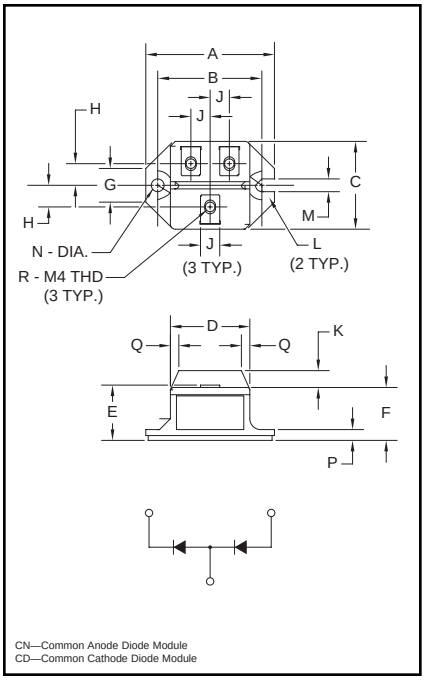
Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (724) 925-7272

Fast Recovery Dual Diode Modules

100 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_ _10, CD24_ _10
Fast Recovery Dual Diode Modules
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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: CN241210 is a 1200 Volt, 100 Ampere Fast Recovery Common Anode Diode Module.

Type	Voltage Volts (x100)	Current Rating Amperes (x10)
CN24	06	10
CD24	12	

CN24_ _10, CD24_ _10
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Absolute Maximum Ratings

Characteristics	Symbol	CN240610 CD240610	CC240610 CD241210	Units
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 = 75°C	$I_{F(DC)}$	100	100	Amperes
Peak One-Cycle Surge (Non-Repetitive) On-State Current (60Hz)	I_{FSM}	2000	2000	Amperes
Peak One-Cycle Surge (Non-Repetitive) On-State Current (50Hz)	I_{FSM}	1825	1825	Amperes
I^2t (for Fusing), 8.3 milliseconds	I^2t	16600	16600	A^2sec
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_ _10, CD24_ _10
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Electrical and Thermal Characteristics, T_j = 25°C unless otherwise specified

Characteristics	Symbol	Test Conditions	CN24_ _10/CD24_ _10	Units
Blocking State Maximums				
Reverse Leakage Current, Peak	I_{RRM}	T_j = 150°C, V_{RRM} = Rated	20	mA
Conducting State Maximums				
Peak On-State Voltage	V_{FM}	I_{FM} = 100A	1.5	Volts
Switching Maximums				
Reverse Recovery Time	t_{rr}	I_{FM} = 100A, T_j = 150°C di/dt =-200A/μs, V_R = 1/2V_{RM}	0.8	μs
Reverse Recovery Charge	Q_{rr}	I_{FM} = 100A, T_j = 150°C di/dt =-200A/μs, V_R = 1/2V_{RM}	30	μC
Thermal Maximums				
Thermal Resistance, Junction-to-Case	$R_{\theta(J-C)}$	Per Module	0.5	°C/Watt
Thermal Resistance, Case-to-Sink (Lubricated)	$R_{\theta(C-S)}$	Per Module	0.4	°C/Watt

CN24_ _10, CD24_ _10
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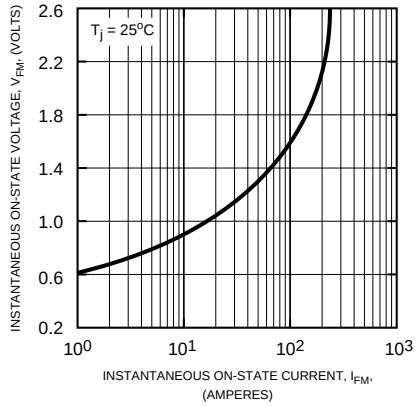
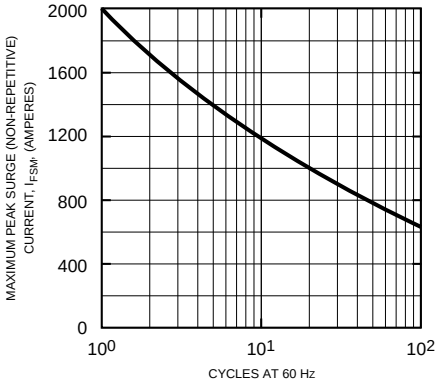
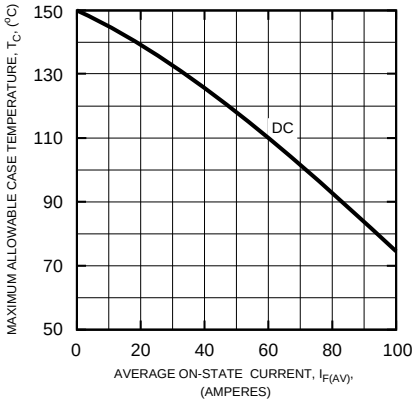
MAXIMUM ON-STATE CHARACTERISTICS



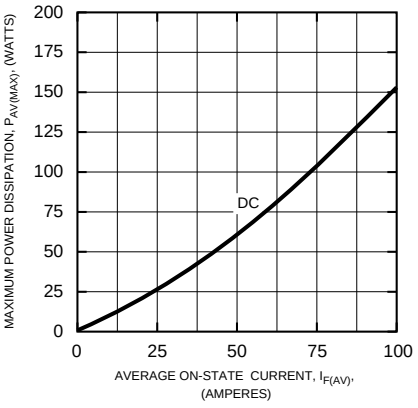
MAXIMUM ALLOWABLE PEAK SURGE (NON-REPETITIVE) CURRENT



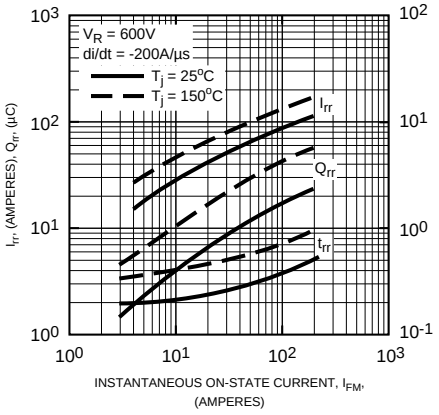
MAXIMUM ALLOWABLE CASE TEMPERATURE



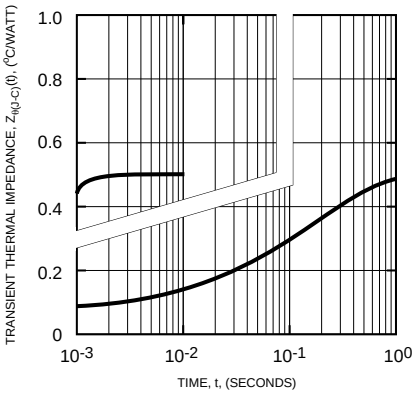
MAXIMUM ON-STATE POWER DISSIPATION



REVERSE RECOVERY CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS (JUNCTION-TO-CASE)



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