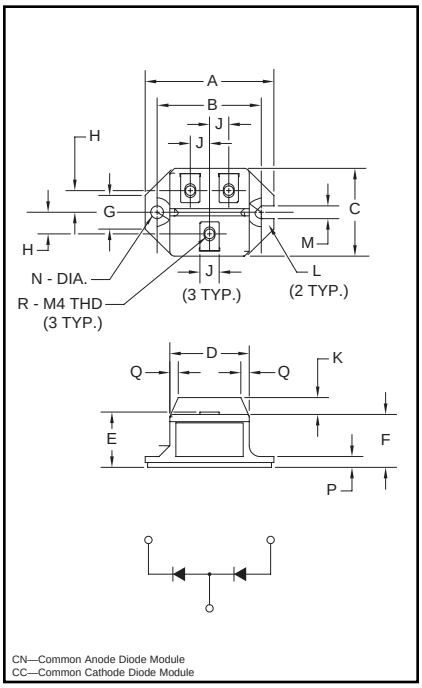
Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (724) 925-7272

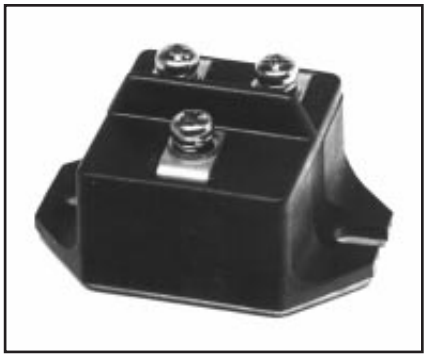
Super Fast Recovery Dual Diode Modules

20 Amperes/300-600 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_ _020N, CC24_ _020N
Super Fast Recovery
Dual Diode Modules
20 Amperes/300-600 Volts

Description:
Powerex Super Fast Recovery Dual Diode Modules are designed for use in applications requiring high speed rectification or voltage clamping in isolated packaging. The modules are insulated for easy mounting onto a common heatsink with other components. They consist of two diodes connected in either a common cathode (CC) or a common anode (CN) configuration.

Features:

- ☐ Isolated Mounting
- ☐ Metal Baseplate
- ☐ Low Thermal Impendance
- ☐ t_{rr} = 200ns, Maximum

Applications:

- ☐ Battery Supplies
- ☐ Free Wheeling Diodes
- ☐ Motor Control Inventers
- ☐ UPS Inventers

Ordering Information:
Select the complete ten digit module part number you desire from the table below.
Example: CC2406020N is a 600 Volt, 20 Ampere, t_{rr} = 200ns Common Cathode Super Fast Recovery Diode Module.

Type	Voltage Volts (x100)	Current Rating Amperes (x10)	Current Recovery Time (200ns)
CC24	03	02	ON
CN24	06		

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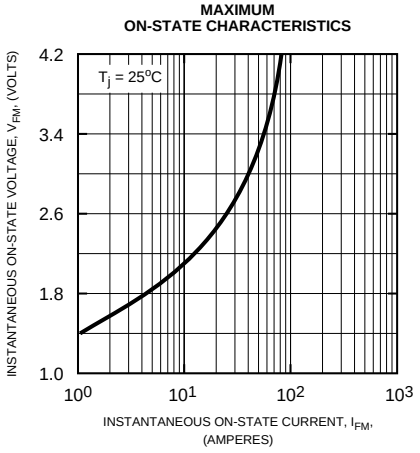
CC24_ _020N, CN24_ _020N
Super Fast Recovery Dual Diode Modules
20 Amperes/300-600 Volts

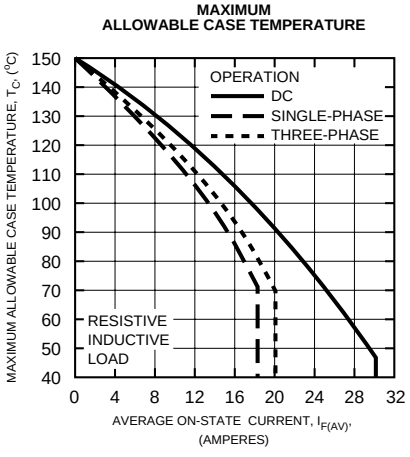
Absolute Maximum Ratings

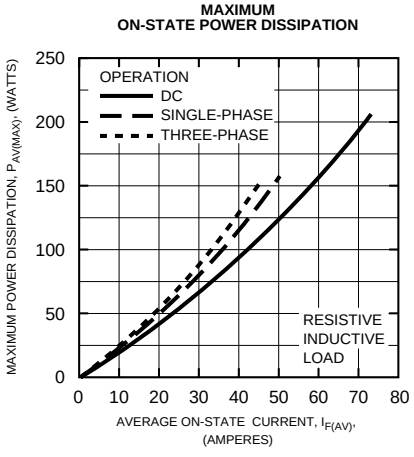
Characteristics	Symbol	CC2403020N CN2403020N	CC2406020N CN2406020N	Units
Peak Reverse Blocking Voltage	V_{RRM}	300	600	Volts
Transient Peak Reverse Blocking Voltage (Non-Repetitive), t < 5ms	V_{RSM}	360	720	Volts
DC Reverse Blocking Voltage	$V_{R(DC)}$	240	480	Volts
DC Current, T_C = 90°C	$I_{F(DC)}$	20	20	Amperes
Peak One-Cycle Surge (Non-Repetitive) On-State Current (60Hz)	I_{FSM}	400	400	Amperes
Peak One-Cycle Surge (Non-Repetitive) On-State Current (50Hz)	I_{FSM}	365	365	Amperes
I^2t (for Fusing), 8.3 milliseconds	I^2t	667	667	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 M4 Mounting Screw	—	12	12	in.-lb.
Maximum Mounting Torque M5 Terminal Screw	—	17	17	in.-lb.
Module Weight (Typical)	—	90	90	Grams
V Isolation	V_{RMS}	2500	2500	Volts

Electrical and Thermal Characteristics, T_j = 25°C unless otherwise specified

Characteristics	Symbol	Test Conditions	CC24_ _020N/CN24_ _020N	Units
Blocking State Maximums				
Reverse Leakage Current, Peak	I_{RRM}	T_j = 125°C, V_{RRM} = Rated	10	mA
Conducting State Maximums				
Peak On-State Voltage	V_{FM}	I_{FM} = 20A	2.5	Volts
Switching Maximums				
Reverse Recovery Time	t_{rr}	I_{FM} = 20A, di/dt = -50 A/μs, V_R = 1/2 V_{RRM}	200	ns
Thermal Maximums				
Thermal Resistance, Junction-to-Case	$R_{\theta(J-C)}$	Per Module	1.2	°C/Watt
Thermal Resistance, Case-to-Sink (Lubricated)	$R_{\theta(C-S)}$	Per Module	0.3	°C/Watt







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