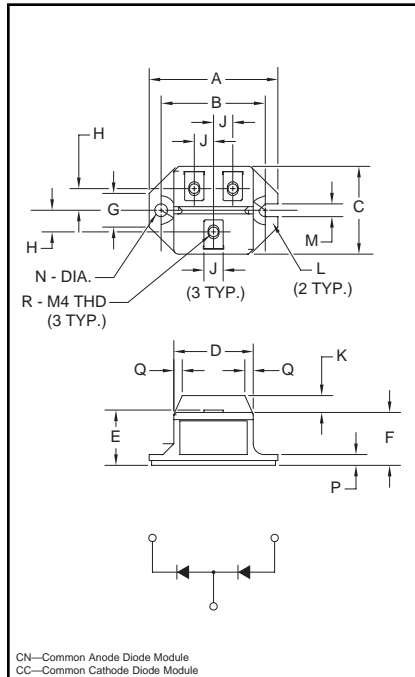


## Super Fast Recovery Dual Diode Modules 20 Amperes/300-600 Volts



### 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 Impedance
- ☐  $t_{rr} = 200\text{ns}$ , Maximum

### Applications:

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

### Ordering Information:

Select the complete ten digit module part number you desire from the table below. Example: CC2406020N is a 600 Volt, 20 Ampere,  $t_{rr} = 200\text{ns}$  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		

**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), $t < 5\text{ms}$	$V_{RSM}$	360	720	Volts
DC Reverse Blocking Voltage	$V_{R(DC)}$	240	480	Volts
DC Current, $T_C = 90^\circ\text{C}$	$I_{F(DC)}$	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	$\text{A}^2\text{sec}$
Storage Temperature	$T_{STG}$	-40 to 125	-40 to 125	$^\circ\text{C}$
Operating Temperature	$T_j$	-40 to 150	-40 to 150	$^\circ\text{C}$
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, $T_j = 25^\circ\text{C}$ unless otherwise specified

Characteristics	Symbol	Test Conditions	CC24_020N/CN24_020N	Units
<b>Blocking State Maximums</b>				
Reverse Leakage Current, Peak	$I_{RRM}$	$T_j = 125^\circ\text{C}$ , $V_{RRM} = \text{Rated}$	10	mA
<b>Conducting State Maximums</b>				
Peak On-State Voltage	$V_{FM}$	$I_{FM} = 20\text{A}$	2.5	Volts
<b>Switching Maximums</b>				
Reverse Recovery Time	$t_{rr}$	$I_{FM} = 20\text{A}$ $di/dt = -50\text{ A}/\mu\text{s}$ , $V_R = 1/2 V_{RRM}$	200	ns
<b>Thermal Maximums</b>				
Thermal Resistance, Junction-to-Case	$R_{\theta(J-C)}$	Per Module	1.2	$^\circ\text{C}/\text{Watt}$
Thermal Resistance, Case-to-Sink (Lubricated)	$R_{\theta(C-S)}$	Per Module	0.3	$^\circ\text{C}/\text{Watt}$

