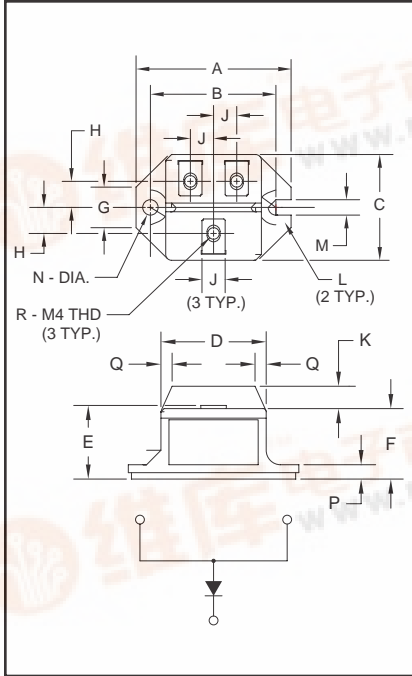


CS241020

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

Fast Recovery Single Diode Module
200 Amperes/1000 Volts



CS241020
Fast Recovery
Single Diode Module
200 Amperes/1000 Volts

Description:

Powerex Fast Recovery Single 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: CS241020 is a 1000 Volt, 200 Ampere Fast Recovery Single Diode Module.

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

Type	Voltage Volts (x100)	Current Rating Amperes (x10)
CS64	10	20



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Fast Recovery Single Diode Module
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Absolute Maximum Ratings

Characteristics	Symbol	CS241020	Units
Peak Reverse Blocking Voltage	V_{RRM}	1000	Volts
Transient Peak Reverse Blocking Voltage (Non-Repetitive), $t < 5ms$	V_{RSM}	1100	Volts
DC Reverse Blocking Voltage	$V_{R(DC)}$	800	Volts
DC Current, $T_C = 75^\circ C$	I_{FM}	200	Amperes
Peak One-Cycle Surge (Non-Repetitive) On-State Current (60Hz)	$I_{F(DC)}$	2000	Amperes
Peak One-Cycle Surge (Non-Repetitive) On-State Current (50Hz)	I_{FSM}	1825	Amperes
I^2t (for Fusing), 8.3 milliseconds	I^2t	16500	A ² sec
Storage Temperature	T_{STG}	-40 to 125	$^\circ C$
Operating Temperature	T_j	-40 to 150	$^\circ C$
Maximum Mounting Torque M5 Mounting Screw	—	17	in.-lb.
Maximum Mounting Torque M4 Terminal Screw	—	12	in.-lb.
Module Weight (Typical)	—	90	Grams
V Isolation	V_{RMS}	2500	Volts

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

Characteristics	Symbol	Test Conditions	CS241020	Units
Blocking State Maximums				
Forward Leakage Current, Peak	I_{RRM}	$T_j = 150^\circ C, V_{DRM} = \text{Rated}$	40	mA
Conducting State Maximums				
Peak On-State Voltage	V_{FM}	$I_{FM} = 200A$	1.5	Volts
Switching Maximums				
Reverse Recovery Time	t_{rr}	$I_{FM} = 200A, T_j = 150^\circ C$ $di/dt = -400A/\mu s, V_R = 600V$	0.8	μs
Reverse Recovery Charge	Q_{rr}	$I_{FM} = 200A, T_j = 150^\circ C$ $di/dt = -400A/\mu s, V_R = 600V$	80	μC
Thermal Maximums				
Thermal Resistance, Junction-to-Case	$R_{\theta(J-C)}$	Per Module	0.25	$^\circ C/Watt$
Thermal Resistance, Case-to-Sink (Lubricated)	$R_{\theta(C-S)}$	Per Module	0.15	$^\circ C/Watt$

