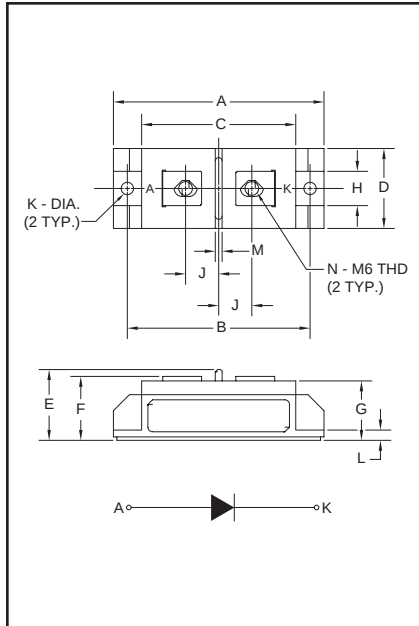


Fast Recovery Single Diode Module

250 Amperes/500 Volts



Outline Drawing

Dimension	Inches	Millimeters
A	3.630±0.01	92.2±0.25
B	3.150±0.008	80±0.2
C	2.657±0.01	67.5±0.25
D	1.378±0.012-0.000	35±0.3-0.0
E	1.220	31
F	1.102	28
G	1.024	26
H	0.591	15
J	0.571	14.5
K	0.213±0.004 Dia.	5.4±0.1
L	0.177	4.5
M	0.118	3
N	M6 Metric	M6



CS640525
Fast Recovery
Single Diode Module
250 Amperes/500 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: CS640525 is a 500 Volt, 250 Ampere Fast Recovery Single Diode Module.

Type	Voltage Volts (x100)	Current Rating Amperes (x10)
CS64	5	25

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

CS640525

Fast Recovery Single Diode Modules

250 Amperes/500 Volts

Absolute Maximum Ratings

Characteristics	Symbol	CS640525	Units
Repetitive Peak Reverse Voltage	V_{RRM}	500	Volts
Non-Repetitive Peak Reverse Voltage	V_{RSM}	600	Volts
DC Reverse Voltage	$V_{R(DC)}$	400	Volts
DC Current, $T_C = 50^\circ\text{C}$	I_{DC}	250	Amperes
Peak Half-Cycle Surge (Non-Repetitive) On-State Current (60Hz)	I_{FSM}	4500	Amperes
I^2t (for Fusing), 8.3 milliseconds	I^2t	8.5×10^4	A^2sec
Junction Temperature	T_J	-40 to 150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 to 125	$^\circ\text{C}$
Maximum Mounting Torque M5 Mounting Screw	—	17	in.-lb.
Maximum Mounting Torque M6 Terminal Screw	—	26	in.-lb.
Module Weight (Typical)	—	200	Grams
V Isolation	V_{RMS}	2500	Volts

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

Characteristics	Symbol	Test Conditions	CS640525	Units
Blocking State Maximums				
Repetitive Reverse Current	I_{RRM}	$T_J = 150^\circ\text{C}$, $V_{RRM} = \text{Rated}$	20	mA
Conducting State Maximums				
Forward Voltage Drop	V_{FM}	$I_{FM} = 250\text{A}$, $T_J = 25^\circ\text{C}$	1.2	Volts
Switching Maximums				
Reverse Recovery Time	t_{rr}	$I_{FM} = 250\text{A}$, $T_J = 25^\circ\text{C}$ $di/dt = -200\text{A}/\mu\text{s}$, $V_R = 100\text{V}$	0.65	μs
Reverse Recovery Charge	Q_{rr}	$I_{FM} = 250\text{A}$, $T_J = 25^\circ\text{C}$ $di/dt = -200\text{A}/\mu\text{s}$, $V_R = 100\text{V}$	100	μC
Thermal Maximums				
Thermal Resistance, Junction-to-Case	$R_{\theta(J-C)}$	Per Module	0.2	$^\circ\text{C}/\text{Watt}$
Thermal Resistance, Case-to-Fin (Lubricated)	$R_{\theta(C-F)}$	Per Module	0.08	$^\circ\text{C}/\text{Watt}$
Insulation Resistance, Main Terminal-to-Case	—	Per Module	—	$\text{m}\Omega$