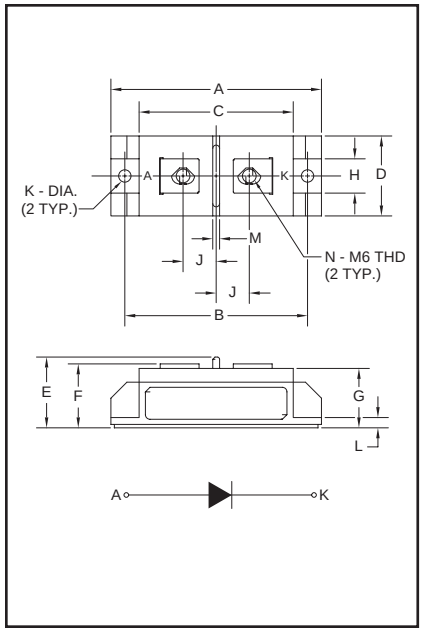
Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (724) 925-7272

Fast Recovery Single Diode Module

300 Amperes/1200 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.	Dia. 5.4±0.1
L	0.177	4.5
M	0.118	3
N	M6 Metric	M6



CS641230
Fast Recovery
Single Diode Module
300 Amperes/1200 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:

- ☐ Inverters
- ☐ Choppers
- ☐ Switching Power Supplies
- ☐ Free Wheeling

Ordering Information:
Select the complete eight digit module part number you desire from the table below.
Example: CS641230 is a 1200 Volt, 300 Ampere Fast Recovery Single Diode Module.

Type	Voltage Volts (x100)	Current Rating Amperes (x10)
CS64	12	30

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Fast Recovery Single Diode Module
300 Amperes/1200 Volts

Absolute Maximum Ratings

Characteristics	Symbol	CS641230	Units
Peak Reverse Blocking Voltage	V_{RRM}	1200	Volts
Transient Peak Reverse Blocking Voltage (Non-Repetitive), t < 5ms	V_{RSM}	1350	Volts
DC Reverse Blocking Voltage	$V_{R(DC)}$	960	Volts
DC Current, T_C = 75°C	$I_{F(DC)}$	300	Amperes
Peak Half-Cycle Surge (Non-Repetitive) On-State Current (60Hz)	I_{FSM}	3000	Amperes
I^2t (for Fusing), 8.3 milliseconds	I^2t	37500	A^2sec
Junction Temperature	T_j	-40 to 150	°C
Storage Temperature	T_{STG}	-40 to 125	°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

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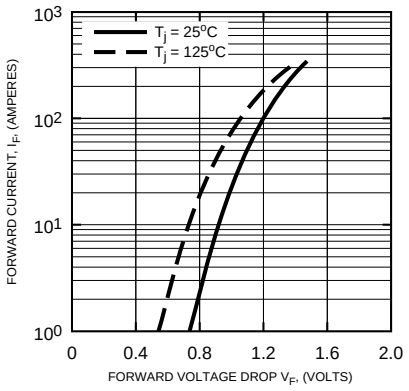
Electrical and Thermal Characteristics, T_j = 25°C unless otherwise specified

Characteristics	Symbol	Test Conditions	CS641230	Units
Blocking State Maximums				
Reverse Leakage Current, Peak	I_{RRM}	T_j = 150°C, V_{RRM} = Rated	40	mA
Conducting State Maximums				
Peak On-State Voltage	V_{FM}	I_{FM} = 300A, T_j = 25°C	1.5	Volts
Switching Maximums				
Reverse Recovery Time	t_{rr}	I_{FM} = 300A, T_j = 150°C di/dt =-600A/μs, V_R = 600V	0.8	μs
Reverse Recovery Charge	Q_{rr}	I_{FM} = 300A, T_j = 150°C di/dt =-600A/μs, V_R = 600V	80	μC
Thermal Maximums				
Thermal Resistance, Junction-to-Case	$R_{\theta(J-C)}$	Per Module	0.2	°C/Watt
Thermal Resistance, Case-to-Sink (Lubricated)	$R_{\theta(C-S)}$	Per Module	0.15	°C/Watt
Isolation Resistance, Main Terminal-to-Case	—	Per Module	10 (minimum)	mΩ

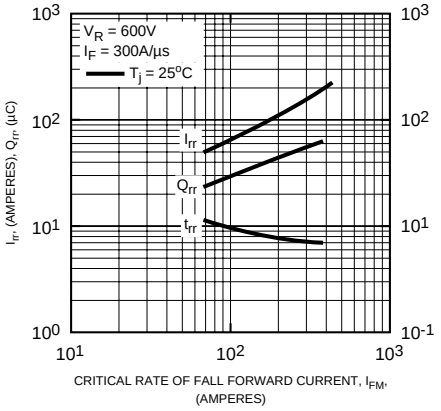
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300 Amperes/1200 Volts

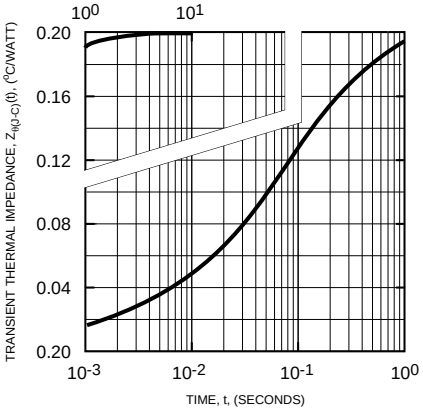
MAXIMUM FORWARD VOLTAGE



REVERSE RECOVERY CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS (JUNCTION-TO-CASE)



RATED SURGE (NON-REPETITIVE) CURRENT

