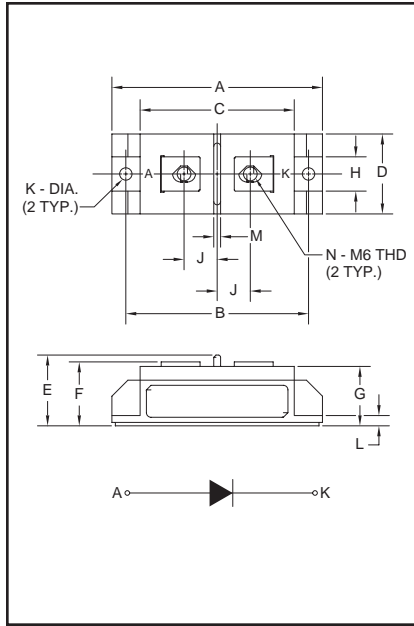


### Fast Recovery Single Diode Module 300 Amperes/1200 Volts



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

**CS641230**

**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, $T_C = 75^\circ C$	$I_{F(DC)}$	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 <sup>2</sup> sec
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

**CS641230**

**Fast Recovery Single Diode Module**

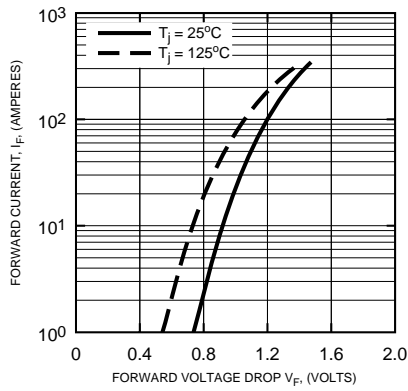
300 Amperes/1200 Volts

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

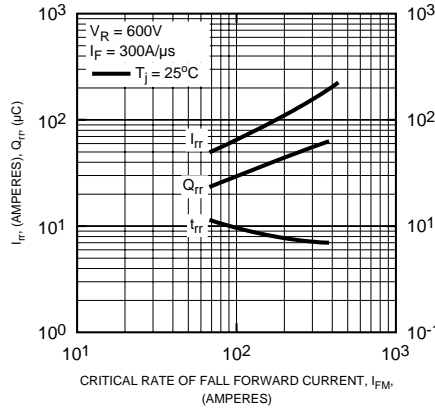
Characteristics	Symbol	Test Conditions	CS641230	Units
<b>Blocking State Maximums</b>				
Reverse Leakage Current, Peak	$I_{RRM}$	$T_j = 150^\circ\text{C}$ , $V_{RRM} = \text{Rated}$	40	mA
<b>Conducting State Maximums</b>				
Peak On-State Voltage	$V_{FM}$	$I_{FM} = 300\text{A}$ , $T_j = 25^\circ\text{C}$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

**CS641230**  
**Fast Recovery Single Diode Module**  
 300 Amperes/1200 Volts

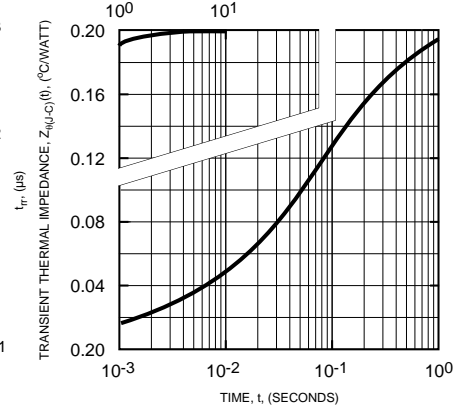
**MAXIMUM FORWARD VOLTAGE**



**REVERSE RECOVERY CHARACTERISTICS**



**TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS (JUNCTION-TO-CASE)**



**RATED SURGE (NON-REPETITIVE) CURRENT**

