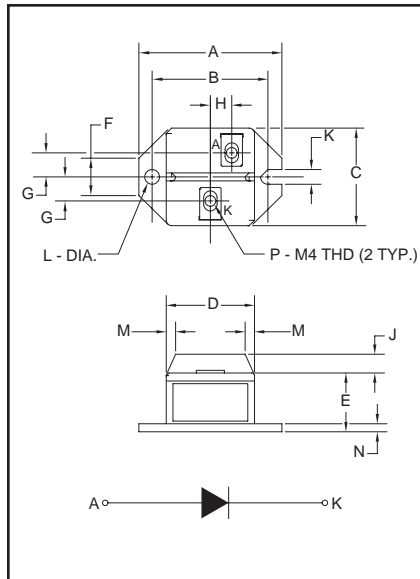


**Fast Recovery Single Diode Modules**  
50 Amperes/600-1200 Volts



**Outline Drawing**

Dimension	Inches	Millimeters
A	2.087	53
B	1.705±0.008	43.3±0.2
C	1.417	36
D	1.299	33
E	0.866	22
F	0.551	14
G	0.354	9
H	0.315	8
J	0.276	7
K	0.217	5.5
L	0.217 Dia.	Dia. 5.5
M	0.138	3.5
N	0.118	3
P	M4 Metric	M4



**CS240650, CS241250**  
**Fast Recovery**  
**Single Diode Modules**  
50 Amperes/600-1200 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. POW-R-BLOK™ has been tested and recognized by Underwriters Laboratories (QQQX2 Power Switching Semiconductors).

**Features:**

- Isolated Mounting
- Planar Chips
- UL Recognized

**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: CS241250 is a 1200 Volt, 50 Ampere Fast Recovery Single Diode Module.

Type	Voltage Volts (x100)	Current Rating Amperes (50)
CS24	06 12	50



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

**CS240650, CS241250**  
**Fast Recovery Single Diode Modules**  
50 Amperes/600-1200 Volts

### Absolute Maximum Ratings

Characteristics	Symbol	CS240650	CS241250	Units
Peak Reverse Blocking Voltage	$V_{RRM}$	600	1200	Volts
Transient Peak Reverse Blocking Voltage (Non-Repetitive), $t < 5ms$	$V_{RSM}$	720	1350	Volts
DC Reverse Blocking Voltage	$V_{R(DC)}$	480	960	Volts
DC Current, $T_C = 105^\circ C$	$I_{F(DC)}$	50	50	Amperes
Peak One-Cycle Surge (Non-Repetitive) On-State Current (60Hz)	$I_{FSM}$	1000	1000	Amperes
Peak One-Cycle Surge (Non-Repetitive) On-State Current (50Hz)	$I_{FSM}$	910	910	Amperes
$I^2t$ (for Fusing), 8.3 milliseconds	$I^2t$	4165	4165	A <sup>2</sup> sec
Storage Temperature	$T_{STG}$	-40 to 125	-40 to 125	°C
Operating Temperature	$T_j$	-40 to 150	-40 to 150	°C
Maximum Mounting Torque M5 Mounting Screw	—	17	17	in.-lb.
Maximum Mounting Torque M4 Terminal Screw	—	12	12	in.-lb.
Module Weight (Typical)	—	90	90	Grams
V Isolation	$V_{RMS}$	2500	2500	Volts



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

Characteristics	Symbol	Test Conditions	CS240650/CS241250	Units
<b>Blocking State Maximums</b>				
Reverse Leakage Current, Peak	$I_{RRM}$	$T_j = 150^\circ\text{C}$ , $V_{RRM} = \text{Rated}$	10	mA
<b>Conducting State Maximums</b>				
Peak On-State Voltage	$V_{FM}$	$I_{FM} = 50\text{A}$	1.5	Volts
<b>Switching Minimums</b>				
Reverse Recovery Time	$t_{rr}$	$I_{FM} = 50\text{A}$ , $T_j = 150^\circ\text{C}$ $di/dt = -200\text{A}/\mu\text{s}$ , $V_R = 1/2 V_{RRM}$	0.8	$\mu\text{s}$
Reverse Recovery Charge	$Q_{rr}$	$I_{FM} = 50\text{A}$ , $T_j = 150^\circ\text{C}$ $di/dt = -200\text{A}/\mu\text{s}$ , $V_R = 1/2 V_{RRM}$	30	$\mu\text{C}$
<b>Thermal Maximums</b>				
Thermal Resistance, Junction-to-Case	$R_{\theta(J-C)}$	Per Module	0.6	$^\circ\text{C}/\text{Watt}$
Thermal Resistance, Case-to-Sink (Lubricated)	$R_{\theta(C-S)}$	Per Module	0.4	$^\circ\text{C}/\text{Watt}$

**CS240650, CS241250**  
**Fast Recovery Single Diode Modules**  
 50 Amperes/600-1200 Volts

