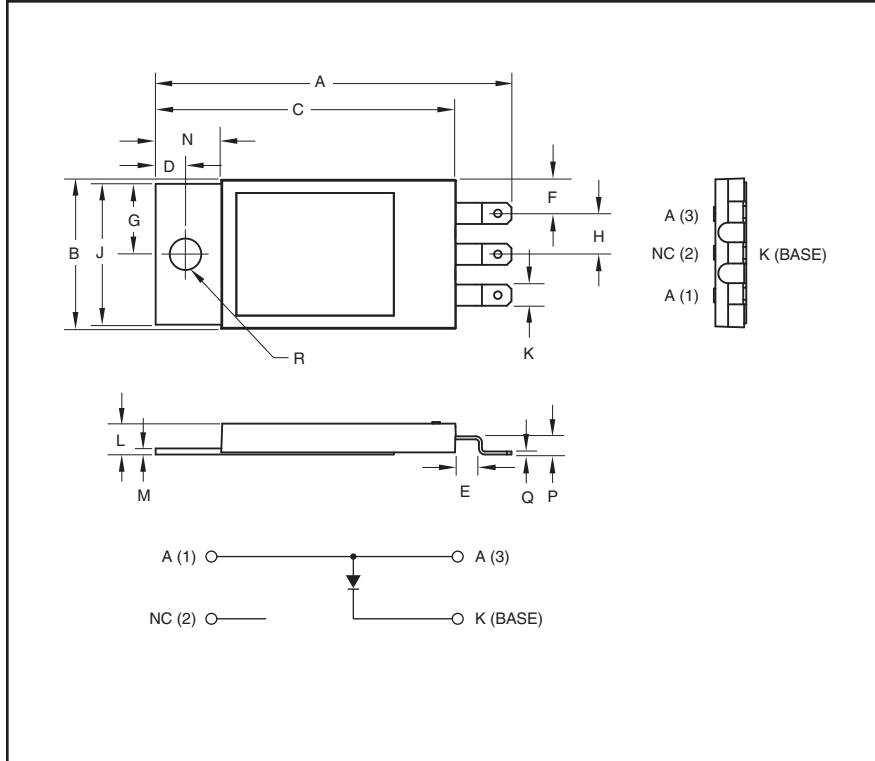


Single Discrete Diode 60 Amperes/4500 Volts



Description:

Powerex Single Non-isolated Discrete is designed specially for customer high voltage applications.

Features:

- Non-Isolated Package
- Molybdenum Mounting Plate
- Surface Mount Design

Applications:

- Snubber Circuits
- Free Wheeling
- Switching Power Supplies

Outline Drawing and Circuit Diagram

Dimensions	Inches	Millimeters
A	2.35	59.7
B	0.98	25.0
C	1.98	50.3
D	0.197	5.0
E	0.22	5.5
F	0.22	5.6
G	0.465	11.8
H	0.27	6.9

Dimensions	Inches	Millimeters
J	0.93	23.6
K	0.14	3.6
L	0.20	5.2
M	0.40	1.0
N	0.43	11.0
P	0.20	0.5
Q	0.12	3.0
R	0.208 Dia.	5.3 Dia.

QRS4506002
Single Discrete Diode
 60 Amperes/4500 Volts

Maximum Ratings, $T_j = 25\text{ }^\circ\text{C}$ unless otherwise specified

Ratings	Symbol	QRS4506002	Units
Peak Reverse Blocking Voltage	V_{RRM}	4500	Volts
Average Current (DC, $T_C = 94^\circ\text{C}$)	$V_{F(av)}$	60	Amperes
Peak 3-Cycle Surge (Non-Repetitive) On-State Current (60 Hz)	I_{FSM}	120	Amperes
I^2t (for Fusing) (8.3 milliseconds)	I^2t	1900	A^2sec
Operating Temperature	T_j	-55 to 150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to 125	$^\circ\text{C}$
Mounting Torque, M5 Mounting Screws	—	30	in-lb
Weight (Typical)	—	21	Grams

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

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Reverse Leakage Current (Peak)	I_{RRM}	$V_{rrm} = 4500\text{V}$	—	—	1.0	mA
Peak On-State Voltage	V_{FM}	$I_{FM} = 60\text{A}$	—	5.6	6.2	Volts
Reverse Recovery Time	t_{rr}	$I_{FM} = 67\text{A}$, $di/dt = -800\text{A}/\mu\text{S}$, $V_r = \frac{1}{2}V_{RM}$	—	230	—	nS
Reverse Recovery Charge	Q_{rr}	$I_{FM} = 67\text{A}$, $di/dt = -800\text{A}/\mu\text{S}$, $V_r = \frac{1}{2}V_{RM}$	—	11	—	μC

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

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Thermal Resistance, Junction to Case	$R_{th(j-c)}$	Diode	—	0.15	TBD	$^\circ\text{C}/\text{W}$
Thermal Resistance, Case to Sink	$R_{th(c-s)}$	$\lambda_{grease} = 1\text{W}/\text{mK}$	—	0.10	—	$^\circ\text{C}/\text{W}$
Thermal Grease Applied						

