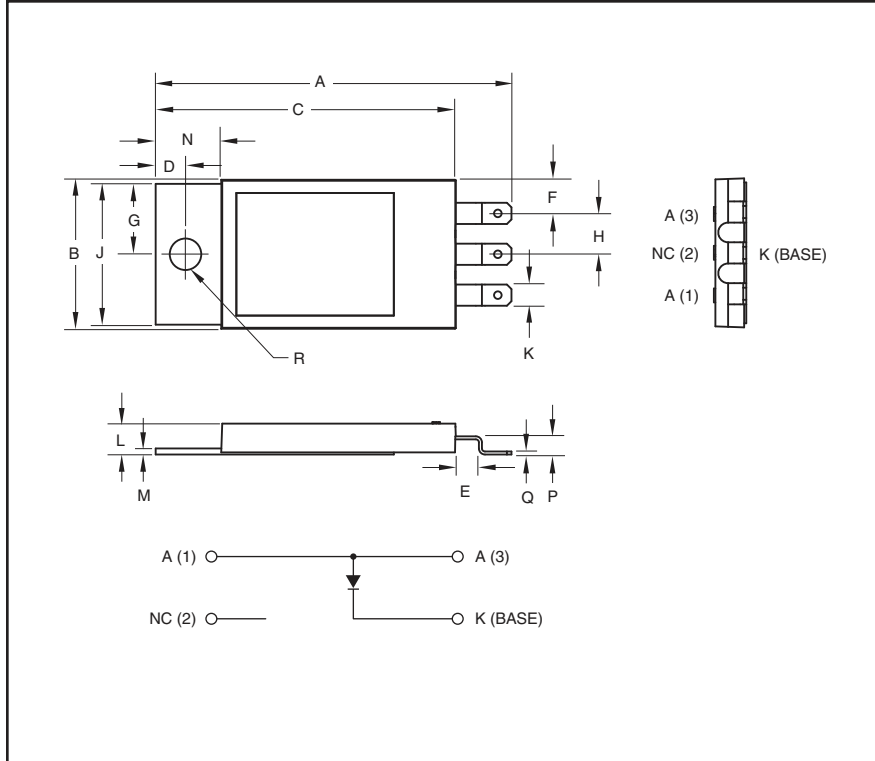


Single Discrete Diode
60 Amperes/4500 Volts



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

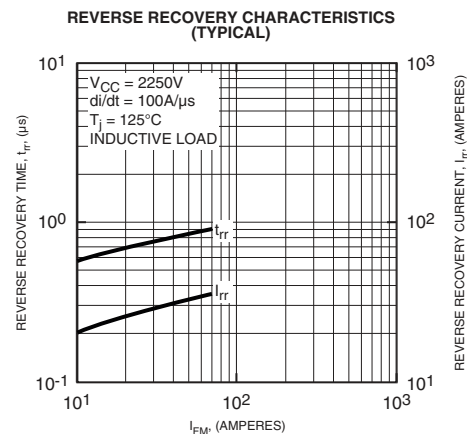
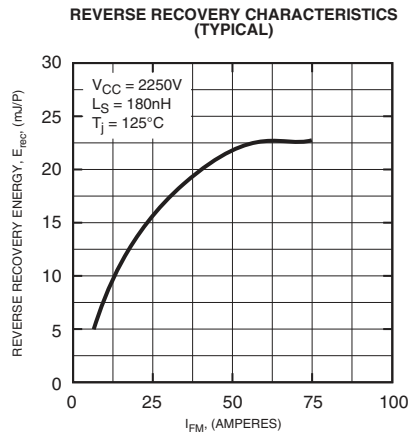
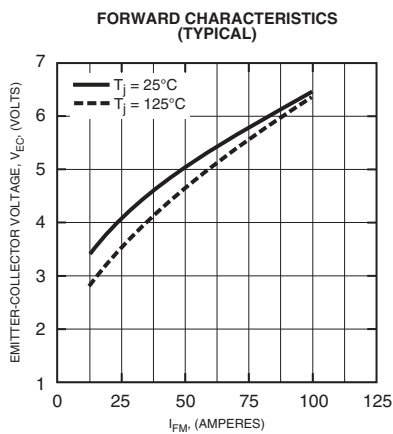
Ratings	Symbol	QRS4506002	Units
Peak Reverse Blocking Voltage	V_{RRM}	4500	Volts
Average Current (DC, $T_C = 94^\circ\text{C}$)	$V_{F(av)}$	60	Amperes
Peak 3-Cycle Surge (Non-Repetitive) On-State Current (60 Hz)	I_{FSM}	120	Amperes
I^2t (for Fusing) (8.3 milliseconds)	I^2t	1900	A^2sec
Operating Temperature	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						



Information presented is based upon manufacturers testing and projected capabilities. This information is subject to change without notice. The manufacturer makes no claim as to the suitability of use, reliability, capability, or future availability of this product.