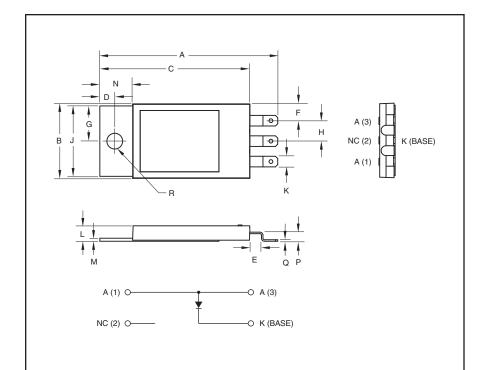


Powerex, Inc., 173 Pavilion Lane, Youngwood, Pennsylvania 15697 (724) 925-7272 www.pwrx.com

Single Discrete Diode 60 Amperes/4500 Volts



Outline Drawing and Circuit Diagram

Dimensions	Inches	Millimeters		
А	2.35	59.7		
В	0.98	25.0		
С	1.98	50.3		
D	0.197	5.0		
Е	0.22	5.5		
F	0.22	5.6		
G	0.465	11.8		
Н	0.27	6.9		

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



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



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QRS4506002

Single Discrete Diode 60 Amperes/4500 Volts

Maximum Ratings, T_i = 25 °C unless otherwise specified

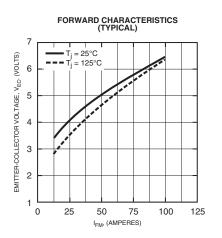
Ratings	Symbol	QRS4506002	Units
Peak Reverse Blocking Voltage	V _{RRM}	4500	Volts
Average Current (DC, $T_C = 94^{\circ}C$)	V _{F(avg)}	60	Amperes
Peak 3-Cycle Surge (Non-Repetitive) On-State Current (60 Hz)	I _{FSM}	120	Amperes
I ² t (for Fusing) (8.3 milliseconds)	l ² t	1900	A ² sec
Operating Temperature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

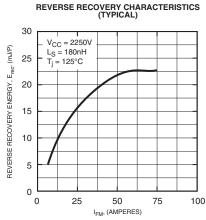
Electrical Characteristics, T_i = 25 °C unless otherwise specified

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Reverse Leakage Current (Peak)	I _{RRM}	$V_{rrm} = 4500V$	—	—	1.0	mA
Peak On-State Voltage	V _{FM}	I _{FM} = 60A	—	5.6	6.2	Volts
Reverse Recovery Time	t _{rr}	$I_{FM} = 67A$, di/dt = -800A/µS, V _r = ½V _{RM}	—	230	—	nS
Reverse Recovery Charge	Q _{rr}	$I_{FM} = 67A$, di/dt = -800A/µS, $V_r = \frac{1}{2}V_{RM}$	_	11	_	μC

Thermal and Mechanical Characteristics, $T_i = 25$ °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	°C/W
Thermal Resistance, Case to Sink	R _{th(c-s)}	$\lambda_{grease} = 1W/mK$	—	0.10	—	°C/W
Thermal Grease Applied						





REVERSE RECOVERY CHARACTERISTICS (TYPICAL)

