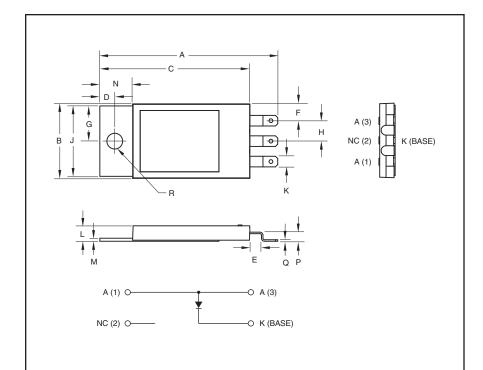


Powerex, Inc., 173 Pavilion Lane, Youngwood, Pennsylvania 15697 (724) 925-7272 www.pwrx.com

# 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



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

#### QRS4506002

Single Discrete Diode 60 Amperes/4500 Volts

# Maximum Ratings, T<sub>i</sub> = 25 °C unless otherwise specified

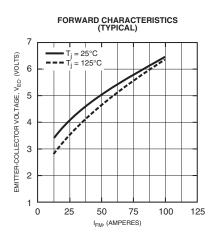
Ratings	Symbol	QRS4506002	Units
Peak Reverse Blocking Voltage	V <sub>RRM</sub>	4500	Volts
Average Current (DC, $T_C = 94^{\circ}C$ )	V <sub>F(avg)</sub>	60	Amperes
Peak 3-Cycle Surge (Non-Repetitive) On-State Current (60 Hz)	I <sub>FSM</sub>	120	Amperes
I <sup>2</sup> t (for Fusing) (8.3 milliseconds)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

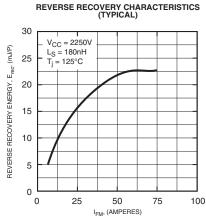
# Electrical Characteristics, T<sub>i</sub> = 25 °C unless otherwise specified

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Reverse Leakage Current (Peak)	I <sub>RRM</sub>	$V_{rrm} = 4500V$	—	—	1.0	mA
Peak On-State Voltage	V <sub>FM</sub>	I <sub>FM</sub> = 60A	—	5.6	6.2	Volts
Reverse Recovery Time	t <sub>rr</sub>	$I_{FM} = 67A$ , di/dt = -800A/µS, V <sub>r</sub> = ½V <sub>RM</sub>	—	230	—	nS
Reverse Recovery Charge	Q <sub>rr</sub>	$I_{FM} = 67A$ , 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 <sub>th(j-c)</sub>	Diode	—	0.15	TBD	°C/W
Thermal Resistance, Case to Sink	R <sub>th(c-s)</sub>	$\lambda_{grease} = 1W/mK$	—	0.10	—	°C/W
Thermal Grease Applied						





#### REVERSE RECOVERY CHARACTERISTICS (TYPICAL)

