PRELIMINARY

SOLID STATE DEVICES, INC.
14005 Stage Road * Santa Fe Springs, Ca 90670
Phone: (562) 404-4474 * Fax: (562) 404-1773

5R1/220 thru 15R1/220

3 AMPS 50-150 VOLTS EPION HIGH SPEED RECTIFIER

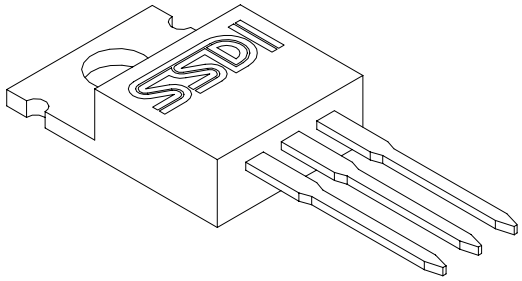
Designer's Data Sheet

FEATURES:

Optimized for 12V and 15V auxiliary output power supplies. The EPION series has been designed to provide low forward voltage drops and small delta shifts in reverse recovery time at high temperature minimizing switching loses.

- **Radiation Tolerant**
- **Ultra Fast Recovery Time**
- **Low Forward Voltage**
- **Low Reverse Leakage**
- **High Reverse Blocking Voltage**
- **175°C Operating T_J**

TO-220



Maximum Ratings	SYMBOL	VALUE	UNITS
Peak Repetitive Reverse and DC Blocking Voltage 5R 7R 10R 12R 15R	V_{RM}(rep) V_R	50 70 100 125 150	Volts
Half Wave Rectified Forward Current. Averaged Over Full Cycle (Resistive load, 60Hz, Sine Wave, T_C = 55°C)	Io	3	Amps
Peak Repetitive Forward Current (T_C = 55°C, 8.3 ms Pulse, Allow Junction to Reach Equilibrium Between Pulses)	I_{FM}(rep)	4	Amps
Peak Surge Current (T_C= 55°C, Superimposed on Rated Current at Rated Voltage, 8.3 ms Pulse)	I_{FM}(surge)	12	Amps
Operating and Storage Temperature	T_J & Tstg	-65 TO +175	°C
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	30	°C/W

NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: RC0012A

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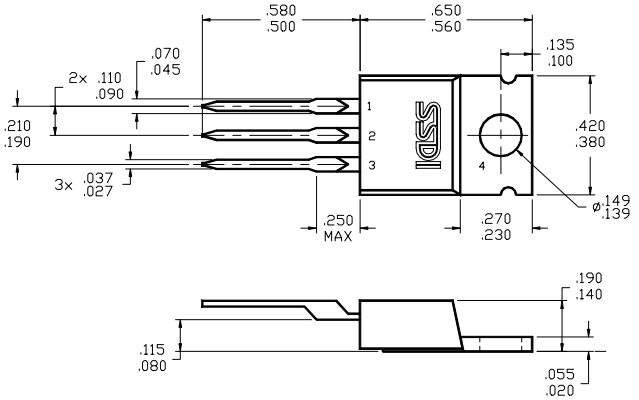
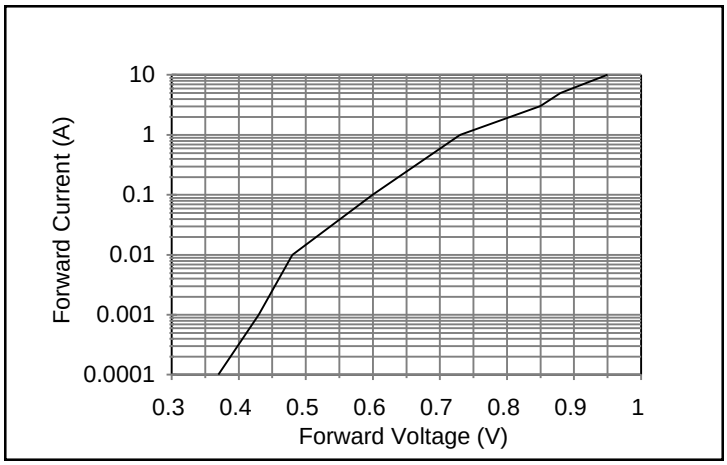
Electrical Characteristics	SYMBOL	VALUE	UNITS
Reverse Leakage Current (T_J = 25°C, 300µs pulse minimum V_R = 150V)	I_{R1}	35	µA
Reverse Leakage Current (T_J = 125°C, 300µs pulse minimum V_R = 150V)	I_{R2}	130	µA
Instantaneous Forward Voltage Drop (T_J = 25°C, 300µsec pulse minimum I_F = 3A I_F = 10A)	I_{F1}	0.90 1.0	V_{DC} V_{DC}
Instantaneous Forward Voltage Drop (T_J = 125°C, 300µsec pulse minimum I_F = 3A I_F = 10A)	I_{F2}	.75 .90	V_{DC} V_{DC}
Reverse Recovery Time (T_A= 25°C, I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A)	T_{RR1}	50	nsec
Reverse Recovery Time (T_A= 150°C, I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A)	T_{RR2}	65	nsec
Junction Capacitance (V_R = 10V_{DC}, T_A = 25°C, f = 1MHz)	C_J	50	pF

CASE OUTLINE: TO-220

PIN 1: ANODE 1
PIN 2: CATHODE
PIN 3: ANODE 2



FORWARD VOLTAGE @T_J = 25°C



FORWARD VOLTAGE @T_J = 125°C