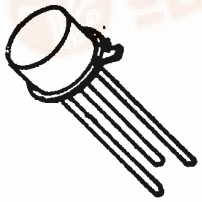
5RO/52 THRU 15RO/52
1 AMP
EPION II HIGH SPEED RECTIFIER
50—150 VOLTS

SSDI
14830 Valley View Avenue
La Mirada, California 90638
(213) 921-9660
TWX 910-583-4807
FAX 213-921-2396

CASE STYLE L
JEDED TO—52



FEATURES

- RADIATION TOLERANT
- ULTRA FAST RECOVERY 9 NSEC MAX
- REVERSE VOLTAGE TO 150 VOLTS
- LOW FORWARD VOLTAGE DROP 450 MV AVERAGE
- LOW REVERSE LEAKAGE
- HERMETICALLY SEALED
- SINGLE CHIP CONSTRUCTION
- 200°C OPERATING, GOLD EUTECTIC DIE ATTACH, ULTRASONIC ALUMINUM WIRE BONDS

MAXIMUM RATINGS

Rating		Symbol	Value	Unit
Peak Repetitive Reverse Voltage		$V_{RM\ (rep)}$		Volts
and				
DC Blocking Voltage	5RO/52	V_R	50	
	7RO/52		70	
	10RO/52		100	
	12RO/52		125	
	15RO/52		150	
RMS Reverse Voltage		V_r		Volts
	5RO/52		35	
	7RO/52		50	
	10RO/52		70	
	12RO/52		90	
	15RO/52		110	
Half Wave Rectified Forward Current, Averaged Over Full Cycle (Resistive Load, 60Hz, Sine Wave, T_C = 55°C)		I_O	1	Amps
Peak Repetitive Forward Current (T_C = 55°C, 8.3 ms Pulse, Allow Junction to Reach Equilibrium Between Pulses)		$I_{FM\ (rep)}$	10	Amps
Peak Surge Current (T_C = 55°C, Superimposed on Rated Current at Rated Voltage, 8.3 ms Pulse)		$I_{FM\ (surge)}$	50	Amps
Operating and Storage Temperature		T_J, T_{stg}	-65 to +200	°C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	50	°C/W

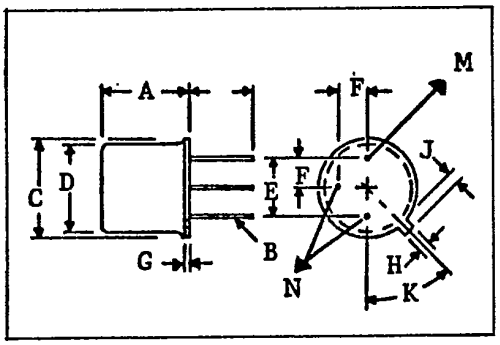
ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Value	Unit
Max Full Cycle Forward Voltage Drop, Averaged Over Full Cycle, (I_O (Max), 60 Hz Square Wave, T_C = 55°C)	$V_{F(AV)}$	.45	Vdc
Max Instantaneous Forward Drop (IF = 1 Adc, T_C = 25°C, 300 μs Pulse)	V_F	.9	Vdc
Max Full Cycle Reverse Leakage Current, Averaged Over Full Cycle, (Rated V_R, 60Hz, Square Wave, T_C = 100°C)	$I_{R(AV)}$	100	μAdc
Max Reverse Leakage Current (Rated V_R, T_C = 25°C)	I_R	10	μAdc
Max Junction Capacitance (V_R = 10 V, T_C = 25°C)	C_J	15	pf

REVERSE RECOVERY CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Unit
Reverse Recovery Time (I_F = 500ma, I_R = 1A, I_{RR} = 250ma)	t_{rr}	--	6	9	ns

PHYSICAL DIMENSIONS

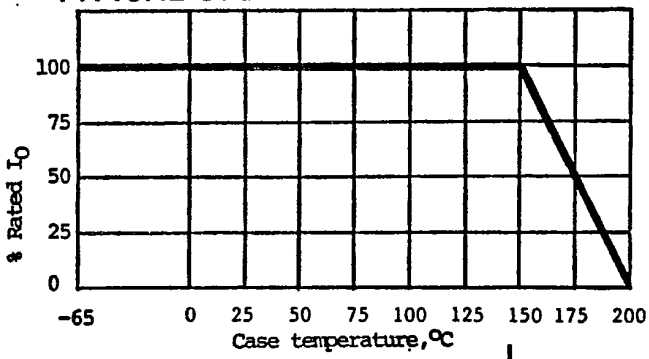


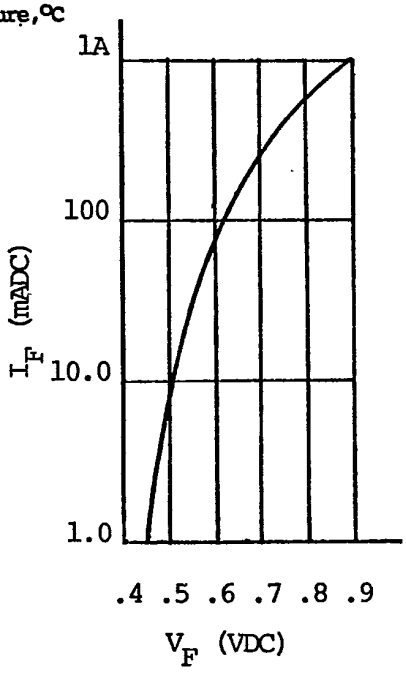
KEY TO DIMENSIONS:

(Inches)

A =	.115 - .150
B =	.016 - .021
C =	.209 - .230
D =	.178 - .195
E =	.100 T.P.
F =	.050 T.P.
G =	.030 MAX.
H =	.036 - .046
J =	.028 - .048
K =	45° T.P.
M =	CATHODE
N =	ANODE

TYPICAL OPERATING CURVES





SSDI SOLID STATE DEVICES, INC.

P.O. Box 577, La Mirada, California 90637 Telephone: (213) 921-9660 • TWX 910-583-4807 • FAX#213-921-2396

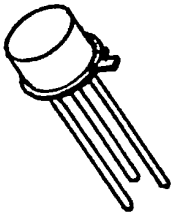
T-03-15

5R1/52 THRU 15R1/52
3 AMP
EPION II HIGH SPEED RECTIFIER
50—150 VOLTS

14830 Valley View Avenue
La Mirada, California 90638
P. O. Box 577
La Mirada, California 90637
(213) 921-9660
TWX 910-583-4807

CASE STYLE L

JEDEC TO—52



FEATURES

- RADIATION TOLERANT
- ULTRA FAST RECOVERY 15 NSEC MAX
- REVERSE VOLTAGE TO 150 VOLTS
- LOW FORWARD VOLTAGE DROP 450 MV AVERAGE
- LOW REVERSE LEAKAGE
- HERMETICALLY SEALED
- SINGLE CHIP CONSTRUCTION
- 200°C OPERATING, GOLD EUTECTIC DIE ATTACH, ULTRASONIC ALUMINUM WIRE BONDS

MAXIMUM RATINGS

Rating		Symbol	Value	Unit
Peak Repetitive Reverse Voltage and DC Blocking Voltage		$V_{RM\ (rep)}$ V_R		Volts
	5R1/52		50	
	7R1/52		70	
	10R1/52		100	
	12R1/52		125	
	15R1/52		150	
RMS Reverse Voltage		V_r		Volts
	5R1/52		35	
	7R1/52		50	
	10R1/52		70	
	12R1/52		90	
	15R1/52		110	
Half Wave Rectified Forward Current, Averaged Over Full Cycle (Resistive Load, 60 Hz, Sine Wave, T_C = 55°C)		I_O	3	Amps
Peak Repetitive Forward Current (T_C = 55°C, 8.3 ms Pulse, Allow Junction to Reach Equilibrium Between Pulses)		$I_{FM\ (rep)}$	10	Amps
Peak Surge Current (T_C = 55°C, Superimposed on Rated Current at Rated Voltage, 8.3 ms Pulse)		$I_{FM\ (surge)}$	50	Amps
Operating and Storage Temperature		T_J, T_{stg}	-65 to +200	°C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	16	°C/W

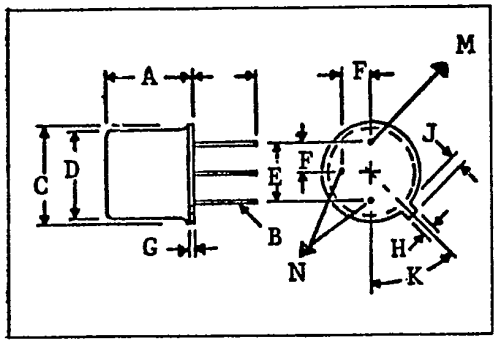
ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Value	Unit
Max Full Cycle Forward Voltage Drop, Averaged Over Full Cycle, (I_O (Max), 60 Hz Square Wave, T_C = 55°C)	$V_{F(AV)}$	.45	Vdc
Max Instantaneous Forward Drop (IF = 3 Adc, T_C = 25°C, 300 μs Pulse)	V_F	.9	Vdc
Max Full Cycle Reverse Leakage Current, Averaged Over Full Cycle, (Rated V_R, 60Hz, Square Wave, T_C = 100°C)	$I_{R(AV)}$	200	μAdc
Max Reverse Leakage Current (Rated V_R, T_C = 25°C)	I_R	20	μAdc
Max Junction Capacitance (V_R = 10 V, T_C = 25°C)	C_J	35	pf

REVERSE RECOVERY CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Unit
Reverse Recovery Time (I_F = 500ma, I_R = 1A, I_{RR} = 250ma)	t_{rr}	--	10	15	ns

PHYSICAL DIMENSIONS

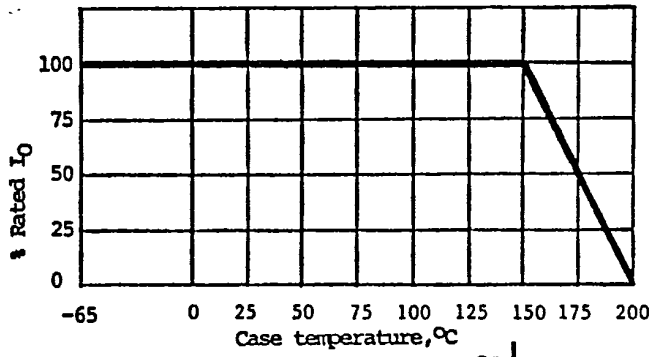


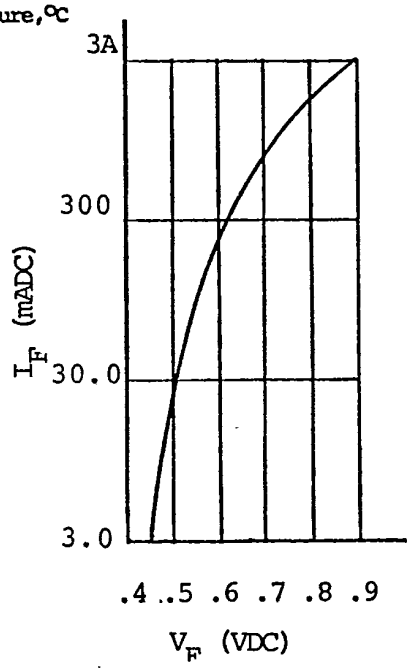
KEY TO DIMENSIONS:

(Inches)

A = .115 - .150
B = .016 - .021
C = .209 - .230
D = .178 - .195
E = .100 T.P.
F = .050 T.P.
G = .030 MAX
H = .036 - .046
J = .028 - .048
K = 45° T.P.
M = CATHODE
N = ANODE

TYPICAL OPERATING CURVES





SSDI SOLID STATE DEVICES, INC.

P.O. Box 577, La Mirada, California 90637 Telephone: (213) 921-9660 • TWX 910-583-4807 • FAX#213-921-2396

T-03-17

14830 Valley View Avenue
La Mirada, California 90638
(213) 921-9660
TWX 910-583-4807
FAX 213-921-2396

HSR-3B

8 AMP EPION HIGH SPEED RECTIFIER

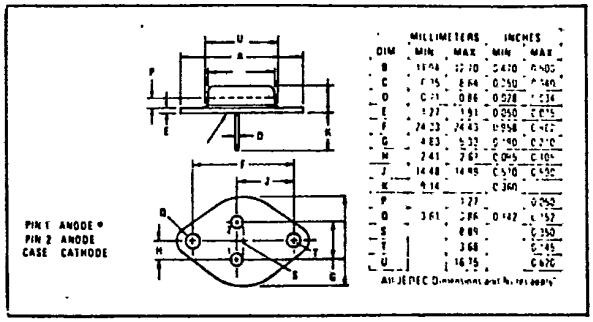
Epion is an exclusive SSDI ion implantation process

FEATURES

- LOW FORWARD VOLTAGE DROP 450 MV AVERAGE
- ULTRA FAST REVERSE RECOVERY 20 NSEC MAX.
- LOW REVERSE LEAKAGE
- EXCEPTIONAL EFFICIENCY
- HIGH SURGE CURRENT
- HERMETICALLY SEALED
- RADIATION HARDENED

PHYSICAL DIMENSIONS

In accordance with JEDEC (TO 66) outline



*Parallel Anode available – Special order HSR-3BD

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage and DC Blocking Voltage	$V_{RM\ (rep)}$ V_R		Volts
2R3B		20	
3R3B		30	
4R3B		40	
5R3B		50	
7R3B		70	
10R3B		100	
12R3B		125	
15R3B		150	
RMS Reverse Voltage	V_r		Volts
2R3B		15	
3R3B		20	
4R3B		30	
5R3B		35	
7R3B		50	
10R3B		70	
12R3B		90	
15R3B		110	
Average 1/2-Wave Rectified Forward Current (Resistive Load, 60 Hz, T_C= 55°C)	I_O	8	Amp
Peak Repetitive Forward Current (T_C= 100°C)	$I_{FM\ (rep)}$	32	Amp
Peak Surge Current (T_C=100°C, Superimposed on Rated Current at Rated Voltage)	$I_{FM\ (surge)}$		Amp
Operating Temperature	T_J	-65 to +175	°C
Storage Temperature	T_{stg}	-65 to +200	°C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2.0	°C/W

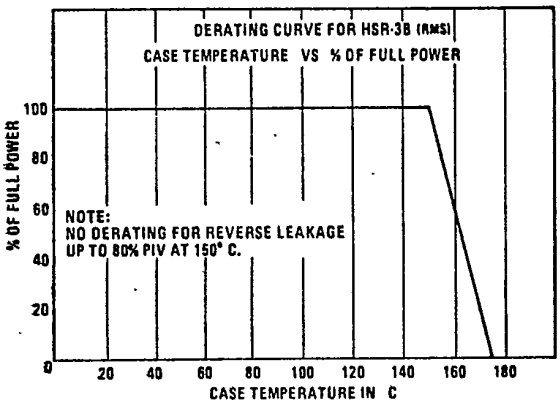
ELECTRICAL CHARACTERISTICS

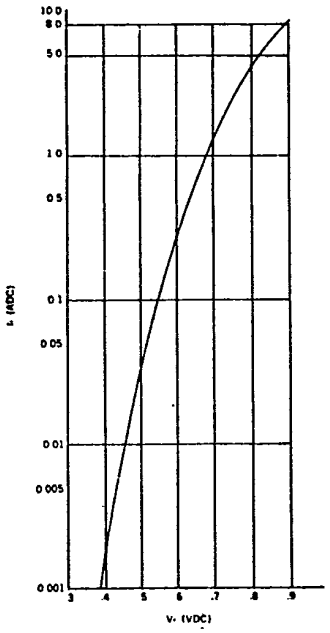
Characteristics	Symbol	Value	Unit
Max Full Cycle Average Forward Voltage Drop, 1/2 Wave ($I_{O\ (Max)}$, rated V_r, 60 Hz, T_C= 55°C)	$V_{F(AV)}$	.45	Volts
Max Instantaneous Forward Voltage Drop (I_F= 8 Amps, T_J= 25°C)	V_F	.9	Volts
Max Full Cycle Average Reverse Current ($I_{O\ (Max)}$, rated V_r, 60 Hz, T_C = 100°C)	$I_{R(AV)}$	1.0	mA
Max DC Reverse Current (Rated V_R, T_C= 25°C)	I_R	100	μa

REVERSE RECOVERY CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Unit
Reverse Recovery Time (I_F = .5 Amp to 1 Amp, .1 Amp	t_{rr}	–	15	20	ns

TYPICAL OPERATING CURVES





MAXIMUM FORWARD CHARACTERISTICS