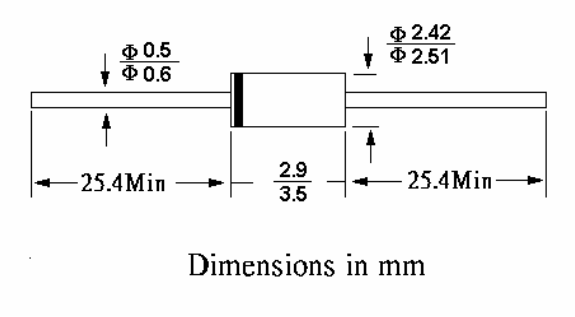
1N17 ~ 1N19

SCHOTTKY BARRIER RECTIFIERS

Reverse Voltage – 20 to 40 Volts **R-1**

Forward current – 1.0 Amperes



Features

- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- High current capability low forward voltage drop
- High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

Mechanical data

- **Case**: R-1 molded plastic body
- **Terminals**: Plated axial leads, solderable per MIL-STD-750, method 2026
- **Polarity**: color band denotes cathode end
- **Mounting Position**: Any

Absolute Maximum Ratings and Characteristics

Ratings at 25^{o}C ambient temperature unless otherwise specified.

	Symbols	1N17	1N18	1N19	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	30	40	Volts
Maximum RMS voltage	V_{RMS}	14	21	28	Volts
Maximum DC Blocking Voltage	V_{DC}	20	30	40	Volts
Maximum Non-repetitive Peak Reverse Voltage	V_{RSM}	24	36	48	Volts
Maximum Average Forward Rectified Current 0.375" (9.5mm) Lead Length At T_L = 90 ^{O}C	$I_{(AV)}$	1			Amps
Peak Forward Surge Current, 8.3ms Single half sine-wave Superimposed On Rated Load (JEDEC method) At T_L = 70 ^{O}C	I_{FSM}	25			Amps
Maximum Instantaneous Forward Voltage At 1 A	V_F	0.45	0.550	0.60	Volts
Maximum Instantaneous Forward Voltage At 3.1 A	V_F	0.75	0.875	0.90	Volts
Maximum Instantaneous Reverse Current at T_A = 25^{O}C	I_R	0.5			mAmps
Rated DC Blocking Voltage T_A = 100 ^{O}C		10			mAmps
Typical Thermal Resistance	$R_{\theta JA}$ $R_{\theta JL}$	50 15			^{O}C/W
Typical Junction Capacitance	C_J	110			pF
Storage and Operating Junction Temperature Range	T_J ,T_S	-65 to +125			^{O}C

Notes: 1. Pulse test: 300 μs pulse width, 1% duty cycle
2. Thermal resistance (from junction to ambient) Vertical P.B.C. MOUNTED, 0.5" (12.7 mm) lead length
3. Measured at 1.0MHz and reverse voltage of 4.0 volts

SEMTECH ELECTRONICS LTD.

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)

ISO/TS 16949 : 2002 Certificate No. 05103 ISO 14001:2004 Certificate No. 7116 ISO 9001:2000 Certificate No. 0506098

Dated : 23/12/2002

FIG.1-FORWARD CURRENT DERATING CURVE

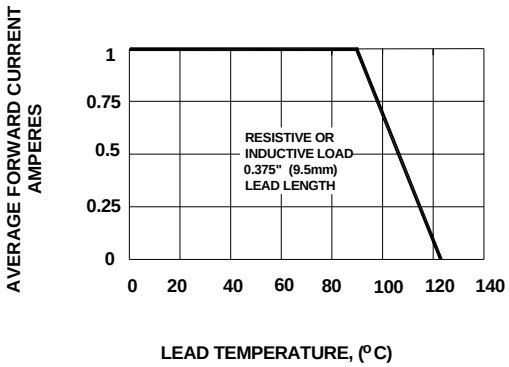


Fig.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

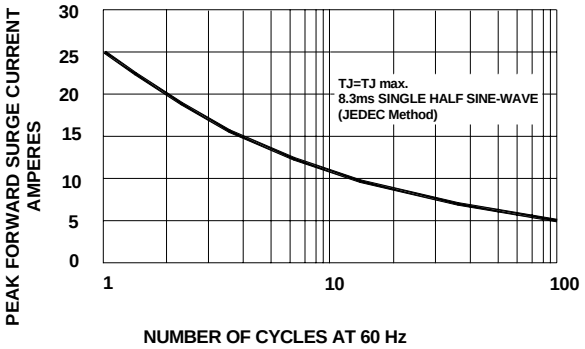


Fig.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

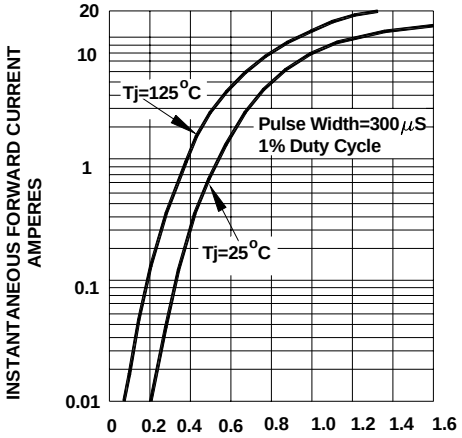


Fig.4- TYPICAL REVERSE CHARACTERISTICS

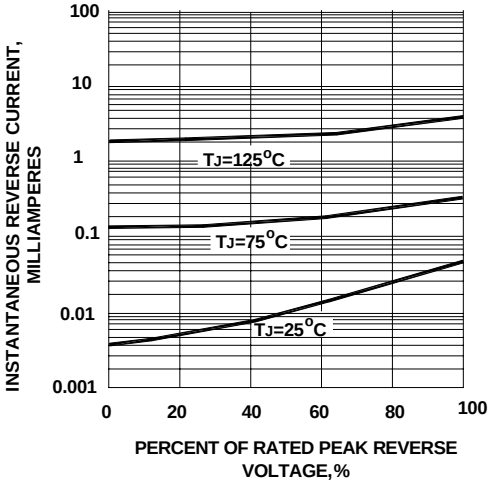


Fig.5- TYPICAL JUNCTION CAPACITANCE

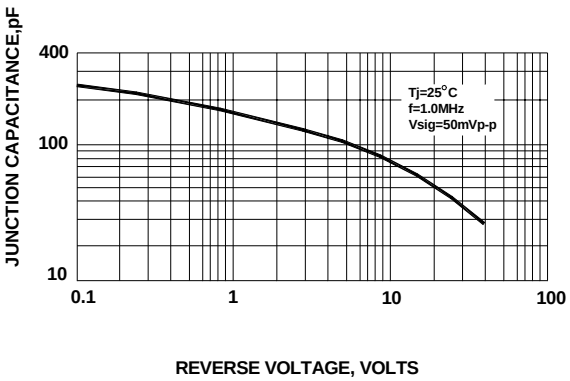


Fig.6- TYPICAL TRANSIENT THERMAL IMPEDANCE