

1N17 ~ 1N19

SCHOTTKY BARRIER RECTIFIERS

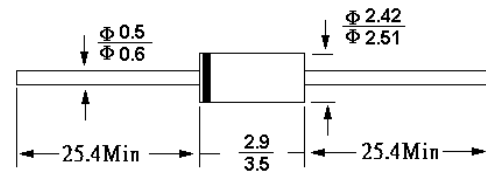
Reverse Voltage – 20 to 40 Volts

Forward current – 1.0 Amperes

R-1

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



Dimensions in mm

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°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 $T_L = 90^\circ\text{C}$	$I_{(AV)}$	1			Amps
Peak Forward Surge Current, 8.3ms Single half sine-wave Superimposed On Rated Load (JEDEC method) At $T_L = 70^\circ\text{C}$	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 $T_A = 25^\circ\text{C}$	I_R	0.5			mAmps
Rated DC Blocking Voltage $T_A = 100^\circ\text{C}$		10			mAmps
Typical Thermal Resistance	$R_{\theta JA}$ $R_{\theta JL}$	50 15			$^\circ\text{C/W}$
Typical Junction Capacitance	C_J	110			pF
Storage and Operating Junction Temperature Range	T_J, T_{Stg}	-65 to +125			$^\circ\text{C}$

Notes: 1. Pulse test: 300 μ s 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

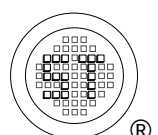


FIG.1-FORWARD CURRENT DERATING CURVE

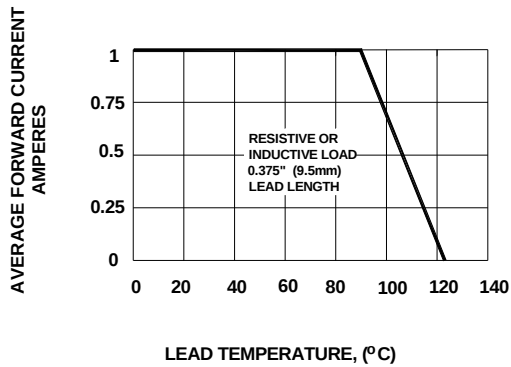


Fig.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

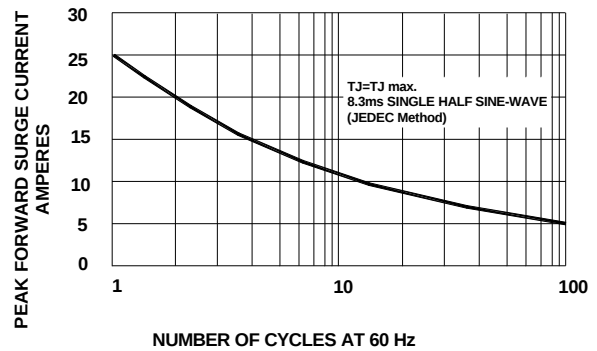


Fig.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

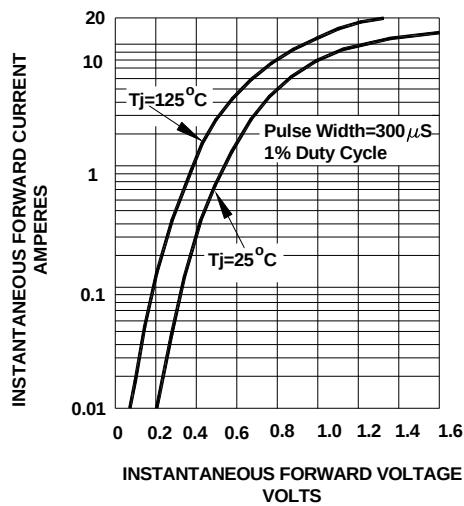


Fig.4- TYPICAL REVERSE CHARACTERISTICS

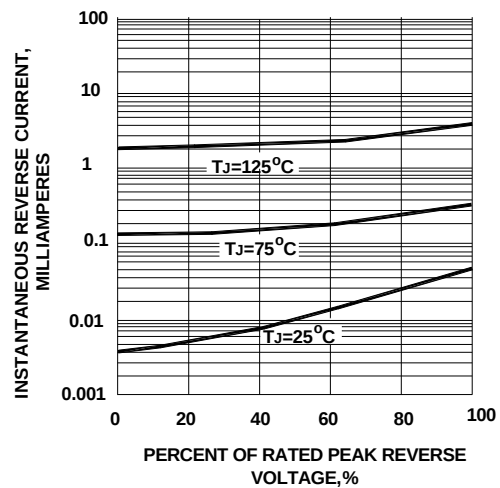


Fig.5- TYPICAL JUNCTION CAPACITANCE

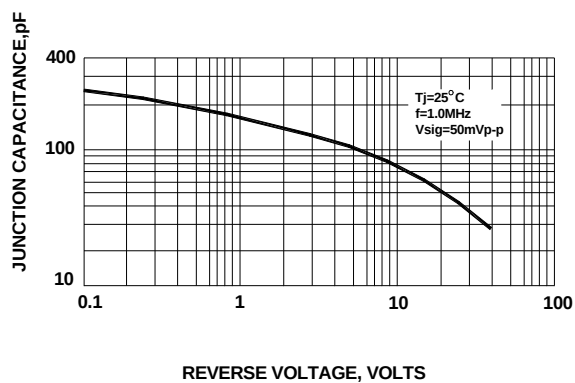


Fig.6- TYPICAL TRANSIENT THERMAL IMPEDANCE

