1N17 THRU 1N19

SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - *20 to 40Volts*   Forward Current - *1.0 Ampere*

R-1

1.0 (25.4)
MIN.

0.102 (2.6)
0.091 (2.3)
DIA.

0.140(3.50)
0.114(2.90)

1.0 (25.4)
MIN.

0.025 (0.65)
0.021 (0.55)
DIA.

Dimensions in inches and (millimeters)
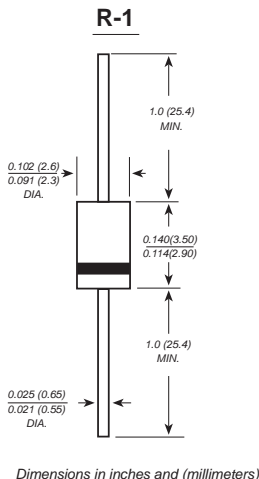
FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction,majority carrier conduction
- Guardring for overvoltage protection
- 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
- High temperature soldering guaranteed: 250℃/10 seconds,0.375"(9.5mm) lead length, 5 lbs. (2.3kg) tension

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
Weight:0.007 ounce, 0.20 gramS

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.
Single phase half-wave 60Hz,resistive or inductive load,for current capacitive load derate by 20%.

	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 average forward rectified current 0.375"(9.5mm) lead length at T_L=90℃	$I_{(AV)}$	1.0			Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	25.0			Amps
Maximum instantaneous forward voltage at 1.0A	V_F	0.450	0.550	0.600	Volts
Maximum DC reverse current T_A=25℃ at rated DC blocking voltage T_A=100℃	I_R	1.0 10.0			mA
Typical junction capacitance (NOTE 1)	C_J	110.0			pF
Typical thermal resistance (NOTE 2)	R_{qJA}	50.0			℃/W
Operating junction and storage temperature range	T_J,T_{STG}	-65 to +125			℃

Note:1.Measured at 1MHz and applied reverse voltage of 4.0V D.C.

　　　2.Thermal resistance from junction to ambient at 0.375"(9.5mm)lead length,P.C.B. mounted

RATINGS AND CHARACTERISTIC CURVES 1N17 THRU 1N19
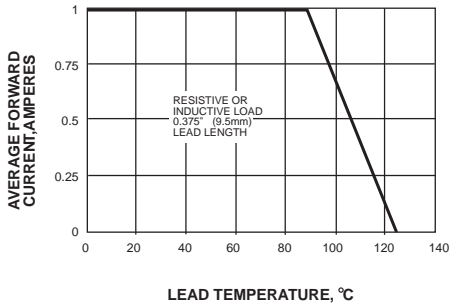
FIG. 1- FORWARD CURRENT DERATING CURVE

RESISTIVE OR INDUCTIVE LOAD 0.375" (9.5mm) LEAD LENGTH

AVERAGE FORWARD CURRENT,AMPERES

LEAD TEMPERATURE, ℃

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

8.3ms SINGLE HALF SINE-WAVE (JEDEC Method)

£PEAK FORWARD SURGE CURRENT, AMPERES

NUMBER OF CYCLES AT 60 Hz
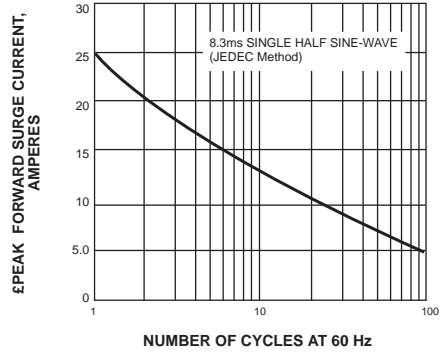
FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

T_J=125℃

T_J=25℃

PULSE WIDTH=300 ms 1%DUTY CYCLE

INSTANTANEOUS FORWARD CURRENT,AMPERES

INSTANTANEOUS FORWARD VOLEAGE, VOLTS
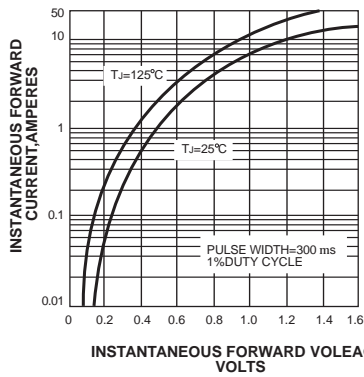
FIG. 4-TYPICAL REVERSE CHARACTERISTICS

T_J=100℃

T_J=75℃

T_J=25℃

INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

PERCENT OF PEAK REVERSE VOLTAGE,%

FIG. 5-TYPICAL JUNCTION CAPACITANCE

T_J=25℃
f=1.0MHz
Vsig=50mVp-p

JUNCTION CAPACITANCE, pF

REVERSE VOLTAGE,VOLTS
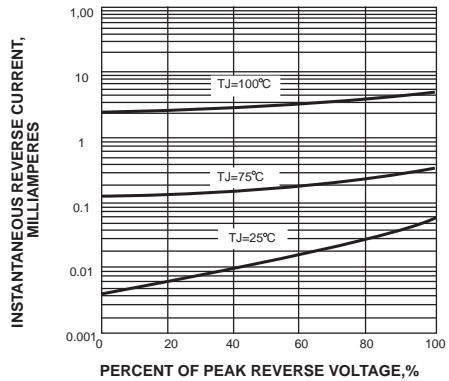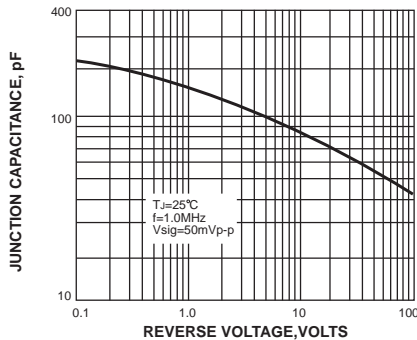
FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

TRANSIENT THERMAL IMPEDANCE, °C/W

t,PULSE DURATION,sec.