

PFS

SCHOTTKY BARRIER RECTIFIER

1S20 THRU 1S100

VOLTAGE RANGE
CURRENT

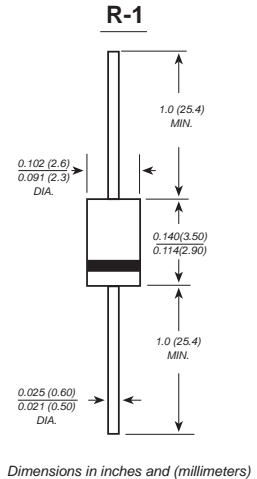
20 to 100 Volts
1.0 Ampere

FEATURES

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- High forward surge current capability
- High temperature soldering guaranteed:
250°C/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°C ambient temperature unless otherwise specified.
- Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

	SYMBOLS	1S 20	1S 30	1S 40	1S 50	1S 60	1S 70	1S 80	1S 90	1S 100	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	70	80	90	100	VOLTS
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	49	56	63	70	VOLTS
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	70	80	90	100	VOLTS
Maximum average forward rectified current 0.375" (9.5mm) lead length (see fig.1)	I_{AV}	1.0									Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	40.0									Amps
Maximum instantaneous forward voltage at 1.0A	V_F	0.55			0.70			0.85			Volts
Maximum DC reverse current at rated DC blocking voltage	I_R	0.5									mA
$T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$		10.0									
Typical junction capacitance (NOTE 1)	C_J	110			80						pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	50.0									°C/W
Operating junction temperature range	T_J	-65 to +125			-65 to +150						°C
Storage temperature range	T_{STG}	-65 to +150									°C

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

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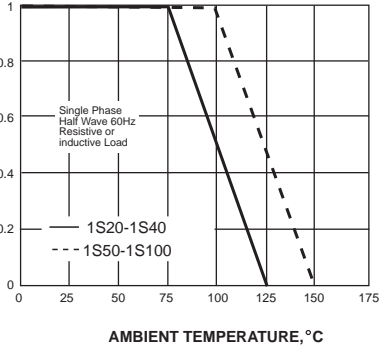
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AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT, AMPERES

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

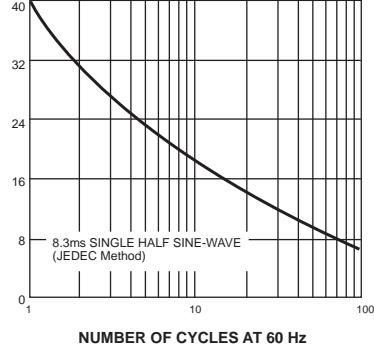


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

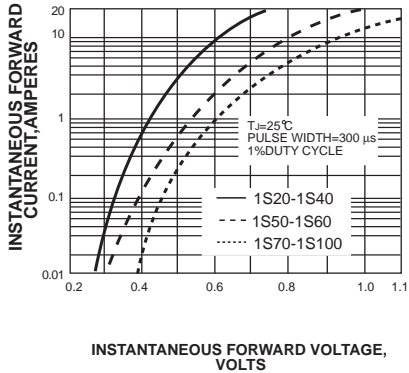


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

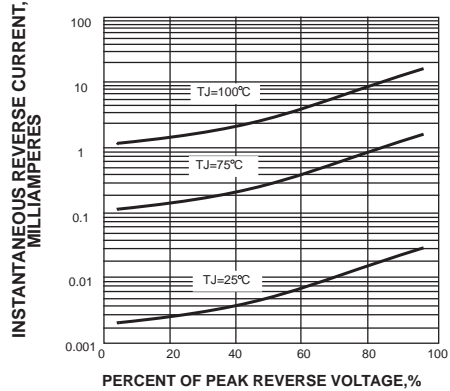
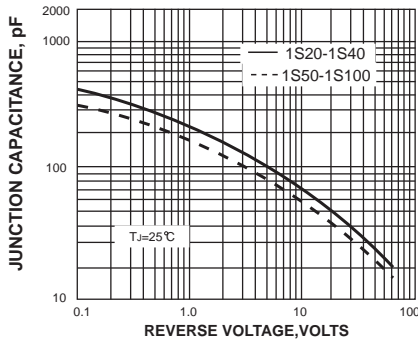


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

