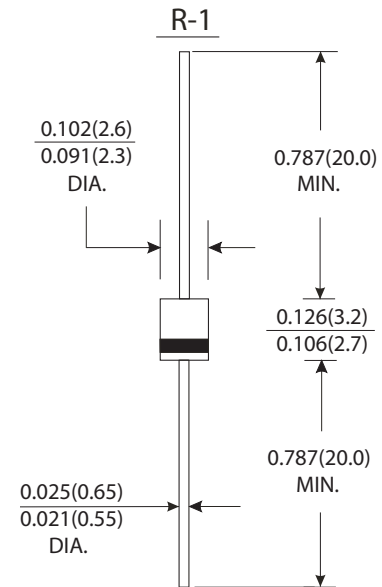


### Features

- Plastic Package has Underwriters Laboratory Flammability Classification 94V-0
- 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
- Weight : 0.007 ounce, 0.20 gram



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified, single phase, half wave, resistive or inductive load. For capacitive load, derate by 20%)

	Symbols	1S20	1S30	1S40	1S50	1S60	1S80	1S100	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	80	100	Volts
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	57	71	Volts
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	80	100	Volts
Maximum average forward rectified current 0.375"(9.5mm) lead length at $T_L=90^\circ\text{C}$	$I_{(AV)}$	1.0							Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) at $T_L=70^\circ\text{C}$	$I_{FSM}$	40.0							Amps
Maximum instantaneous forward voltage at 1.0A (Note 1)	$V_F$	0.55		0.70		0.75	0.83	Volts	
Maximum instantaneous reverse current at rated DC blocking voltage (Note1)	$T_A=25^\circ\text{C}$	0.5							mA
	$T_A=100^\circ\text{C}$	10							
Typical junction capacitance (Note 3)	$C_J$	110							pF
Typical thermal resistance (Note 2)	$R_{\theta JA}$	50							°C/W
Operating junction temperature range	$T_J$	-65 to +125			-65 to +150				°C
Storage temperature range	$T_{STG}$	-65 to +150							°C

#### Notes:

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



# RATINGS AND CHARACTERISTIC CURVES 1S20 THRU 1S100

FIG.1-FORWARD CURRENT DERATING CURVE

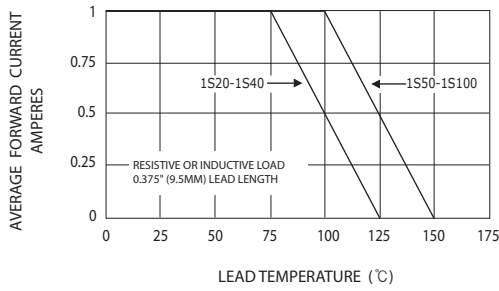


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

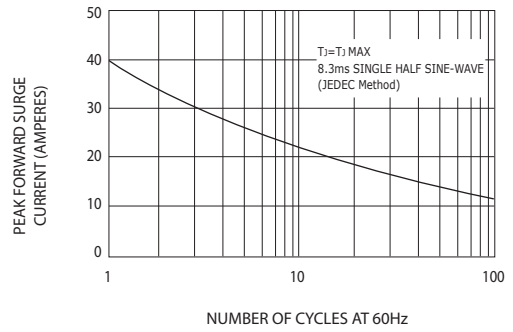


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

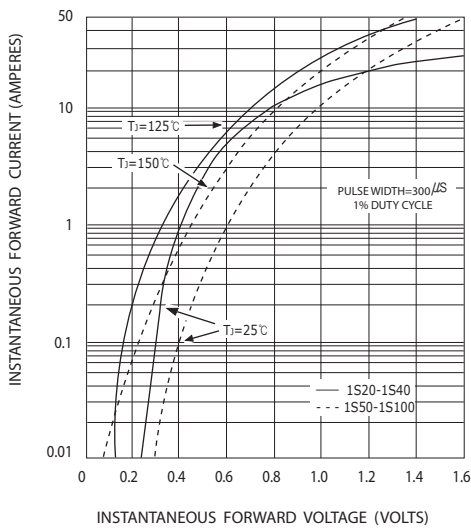


FIG.4-TYPICAL REVERSE CHARACTERISTICS

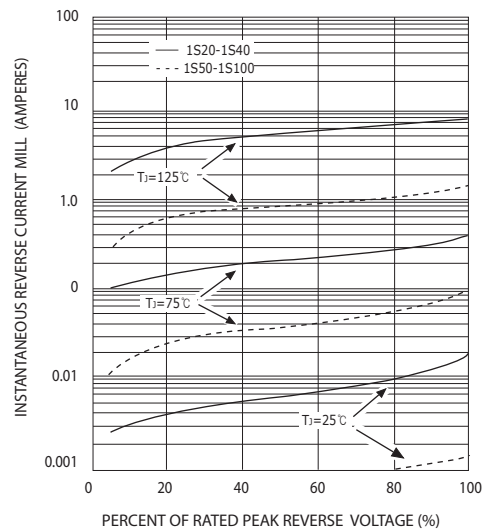


FIG.5-TYPICAL JUNCTION CAPACITANCE

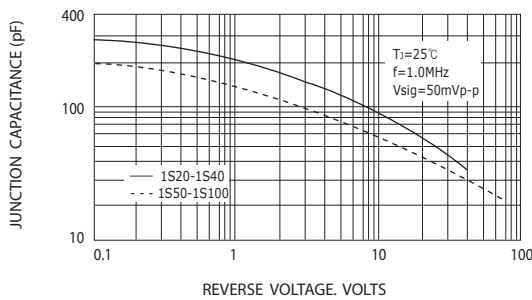


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

