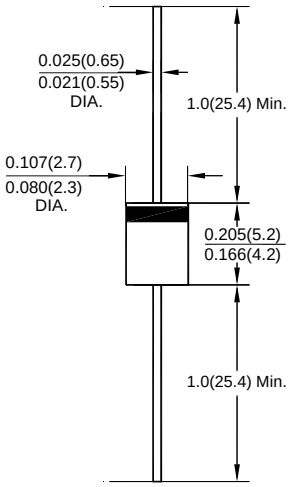
1N4933S THRU 1N4937S

FAST RECOVERY RECTIFIERS
Reverse Voltage – 50 to 600 V
Forward Current – 1 A

A-405



Dimensions in inches and (millimeters)

Features
- Low reverse leakage
- High forward surge current capability
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Construction utilizes void-free molded plastic technique

Mechanical Data
- **Case:** A-405, Molded plastic.
- **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
Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	1N4933S	1N4934S	1N4935S	1N4936S	1N4937S	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	V
Maximum Average Forward Rectified Current 0.375"(9.5 mm) lead lengths at T_A = 75 °C	$I_{F(AV)}$	1					A
Peak Forward Surge Current 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	30					A
Maximum Instantaneous Forward Voltage at 1 A	V_F	1.2					V
Maximum DC Reverse Current at T_A = 25 °C at Rated DC Blocking Voltage at T_A = 100 °C	I_R	5 50					μA
Maximum Reverse Recovery Time [1]	t_{rr}	200					ns
Typical Junction Capacitance [2]	C_J	15					pF
Typical Thermal Resistance [3]	$R_{\theta JA}$	50					°C/W
Operating and Storage Temperature Range	T_J ,T_S	- 65 to + 150					°C

[1] Reverse recovery condition I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A
[1] Measured at 1 MHz and applied reverse voltage of 4 V D.C.
[2] Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, P.C.B mounted.

FIG. 1- FORWARD CURRENT DERATING CURVE

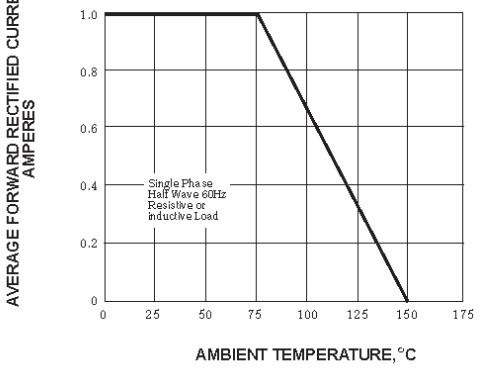


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

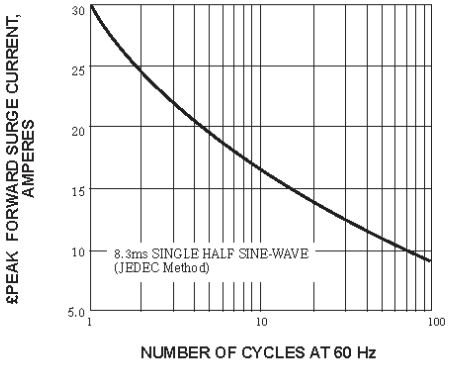


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

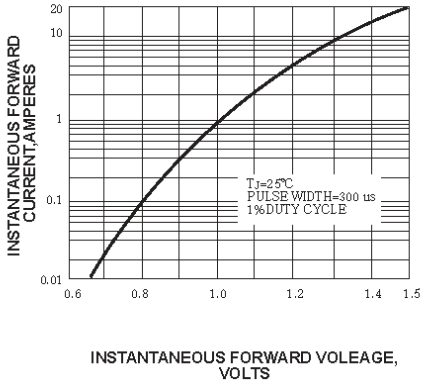


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

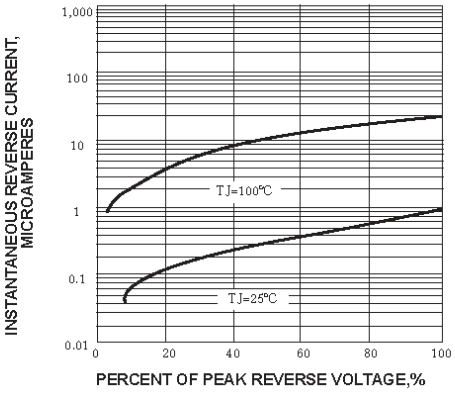


FIG. 5-TYPICAL JUNCTION CAPACITANCE

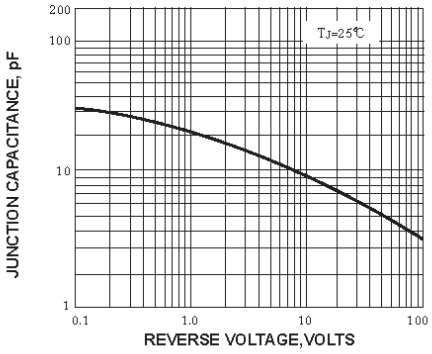


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE