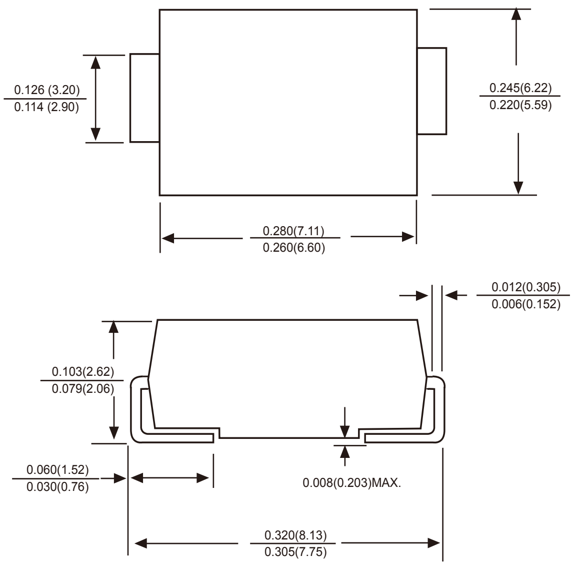
US3A THRU US3M

3.0 AMP Surface Mount High Efficiency Fast Recovery Rectifiers

FEATURES

The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
For surface mounted applications
Super fast switching for high efficiency
Low reverse leakage
Built-in strain relief,ideal for automated placement
High forward surge current capability
High temperature soldering guaranteed:
260°C/10 seconds at terminals
Glass passivated chip junction

SMC / DO-214AB



Dimensions in inches and (millimeters)

MECHANICAL DATA

Case: JEDEC DO-214AB molded plastic body over passivated chip
Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight:0.007 ounce, 0.25grams

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	US3A	US3B	US3D	US3G	US3J	US3K	US3M	UNIT
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage		V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage		V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current At T_L=105 (NOTE 1)		$I_{(AV)}$	3.0							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)		I_{FSM}	100							Amps
Maximum Instantaneous Forward Voltage at 3.0A		V_F	1.0			1.3	1.7			Volts
Maximum DC Reverse Current at rated DC Blocking Voltage at	$T_A = 25$	I_R	10							μA
	$T_A = 125$		200							
Maximum Reverse Recovery Time Test conditions I_F=0.5A, I_R=1.0A, I_{RR}=0.25A		t_{rr}	50				75			nS
Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V)		C_J	80				50			pF
Typical Thermal Resistance (Note 1)		$R_{\theta JA}$	55							/W
		$R_{\theta JL}$	17							
Operating Junction Temperature		T_J	(-55 to +150)							
Storage Temperature Range		T_{STG}	(-55 to +150)							

Notes:

1. Thermal resistance from Junction to ambient and from junction to lead mounted on P.C.B. with 0.3×0.3! (8.0 ×8.0mm) copper pad areas.

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

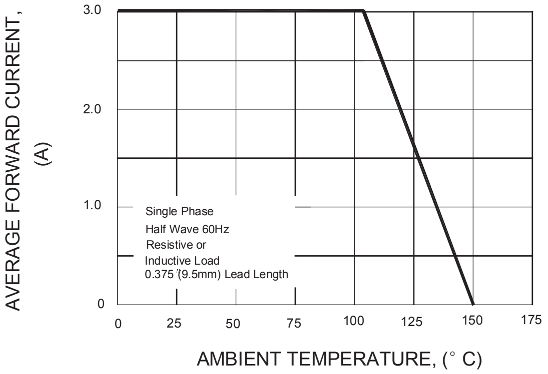


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

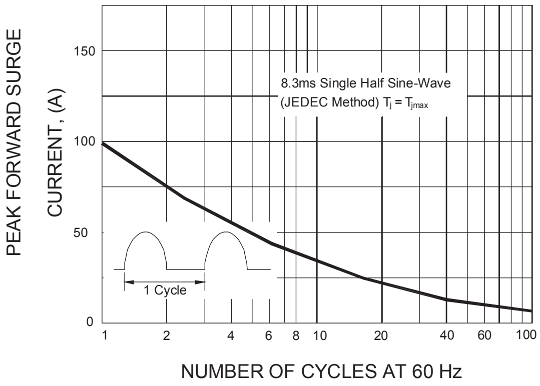


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

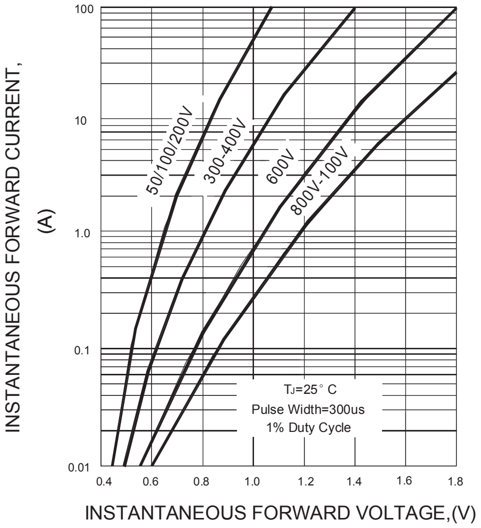


FIG.4-TYPICAL REVERSE CHARACTERISTICS

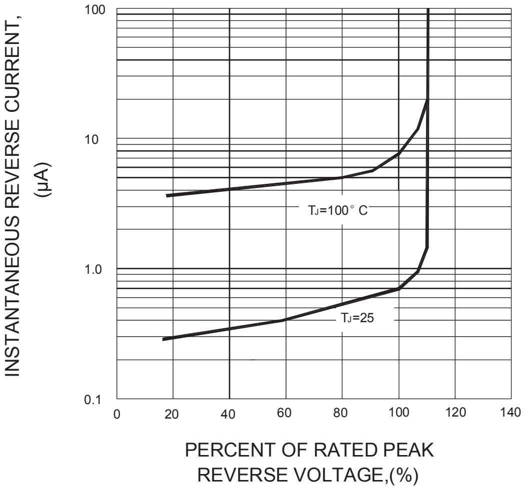
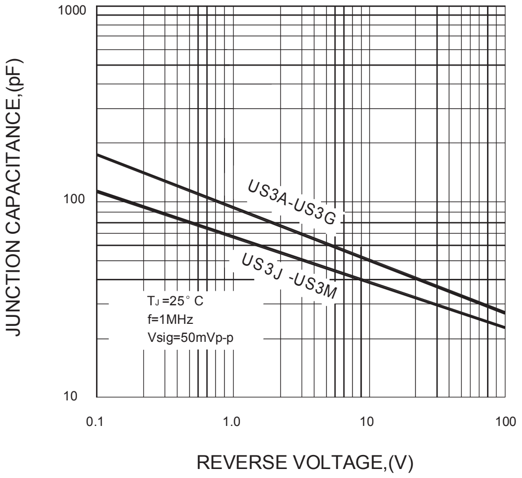
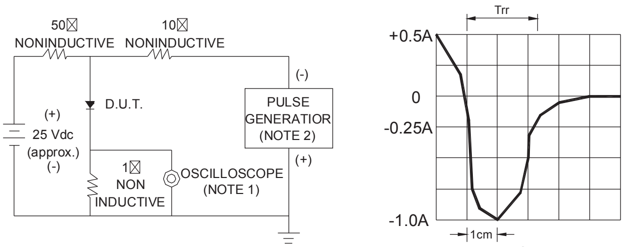


FIG.5-TYPICAL JUNCTION CAPACITANCE



F1G.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES : 1.Rise Time=7ns max. Input Impedance= 1 megohm. 22pF

2.Rise time=10ns max. Source Impedance= 50 ohms