

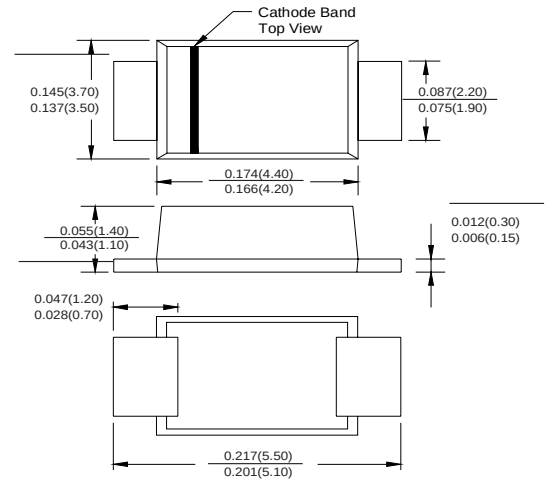


Features

- Glass Passivated Die Construction
- Diffused Junction
- Ultra-Fast Recovery Time for High Efficiency
- Low Forward Voltage Drop, High Current Capability, and Low Power Loss
- Surge Overload Rating to 30A Peak
- Ideally Suited for Automated Assembly
- Plastic Material: UL Flammability Classification Rating 94V-0



SMBF



MECHANICAL DATA

- Case: SMBF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 57mg / 0.002oz

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 derate current by 20%.

		SYMBOLS	US3ABF	US3BF	US3DBF	US3GBF	US3JBF	US3KBF	US3MBF	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°C (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°C	I _R	10							μA
	T _A = 125 °C		200							
Maximum Reverse Recovery Time Test conditions I _F =0.5A, I _R =1.0A, I _{RR} =0.25A		t _{rr}	50				100			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 _{θJA}	55							°C/W
		R _{θJL}	17							
Operating Junction Temperature		T _J	(-55 to +150)							°C
Storage Temperature Range		T _{STG}	(-55 to +150)							°C

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.



RATING AND CHARACTERISTIC CURVES US3A THRU US3M

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

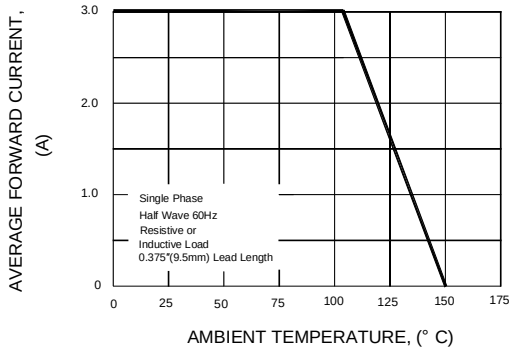


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

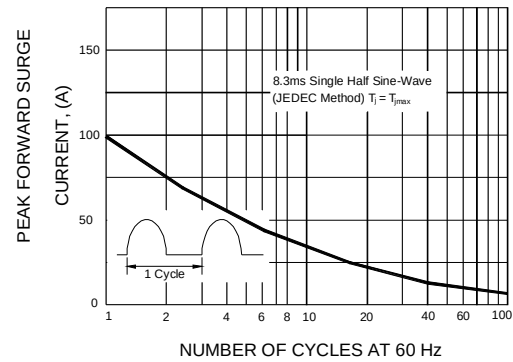


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

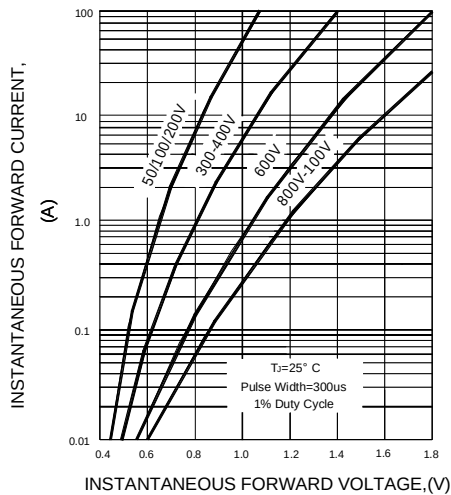


FIG.4-TYPICAL REVERSE CHARACTERISTICS

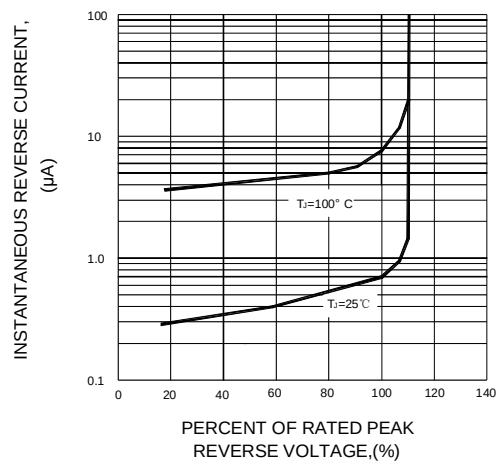


FIG.5-TYPICAL JUNCTION CAPACITANCE

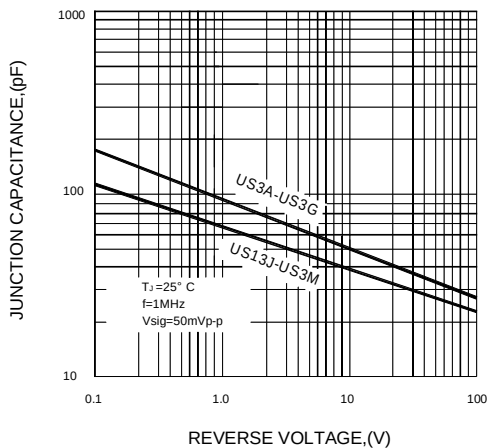
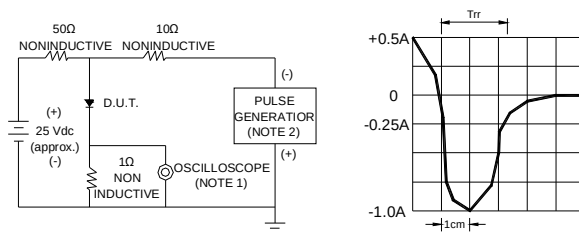


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES : 1. Rise Time=7ns max. Input Impedance=1 megohm. 22pF
2. Rise time=10ns max. Source Impedance=50 ohms

SET TIME BASE FOR 50/100ns/cm