DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

US1ABF THRU US1MBF

TECHNICAL SPECIFICATIONS OF SURFACE MOUNT ULTRA FAST RECTIFIER

VOLTAGE RANGE 50 to 1000 Volts *CURRENT 1.0 Ampere*

FEATURES

* Ideal for surface mounted applications
* Low leakage current
* Glass passivated junction
* High efficiency

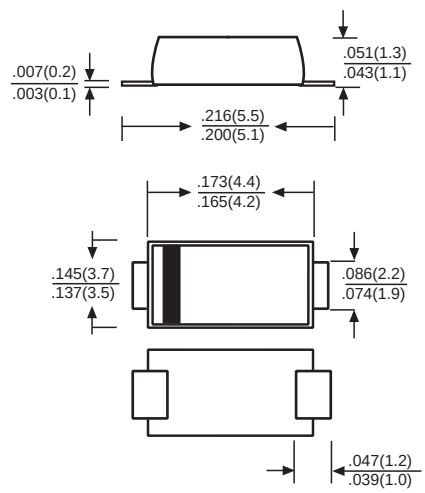
MECHANICAL DATA

* Case: Molded plastic
* Epoxy: UL 94V-0 rate flame retardant
*Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
* Polarity: As marked
* Mounting position: Any
* Weight: 0.06 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings 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%.

SMBFL



Dimensions in inches and (millimeters)

		SYMBOL	US1ABF	US1BBF	US1DBF	US1GBF	US1JBF	US1KBF	US1MBF	UNITS
Maximum Recurrent 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_A = 75°C		I_O	1.0							Amps
Peak Forward Surge Current I_{FM}(surge): 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)		I_{FSM}	35							Amps
Maximum Forward Voltage at 1.0A DC		V_F	1.0			1.3	1.5			Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@T_A = 25°C	I_R	5.0							µAmps
	@T_A = 125°C		50							
Maximum Reverse Recovery Time (Note 1)		trr	50				75			nSec
Typical Junction Capacitance (Note 2)		C_j	45							pF
Typical Thermal Resistance (Note 3)		$R_{\theta JA}$	85							°C/W
		$R_{\theta JL}$	25							
Operating and Storage Temperature Range		T_J, T_{STG}	-55 to +150							°C

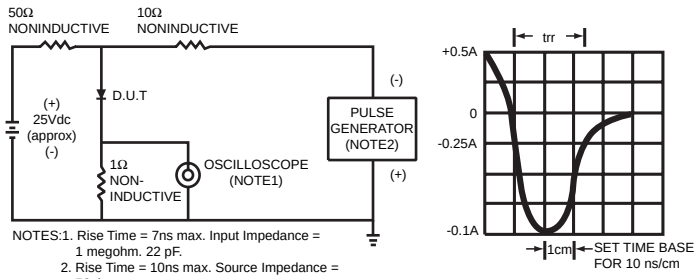
NOTES : 1. Test Conditions: IF=0.5A, IR=1.0A, IRR=0.25A.

2. Measured at 1.0 MHz and applied reverse voltage of 4.0 VDC.

3. P.C.B. mounted with 0.5x0.5 in^2 (12.7x12.7mm^2) copper pads to each terminal.

RATING AND CHARACTERISTIC CURVES (US1ABF THRU US1MBF)

FIG. 1 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

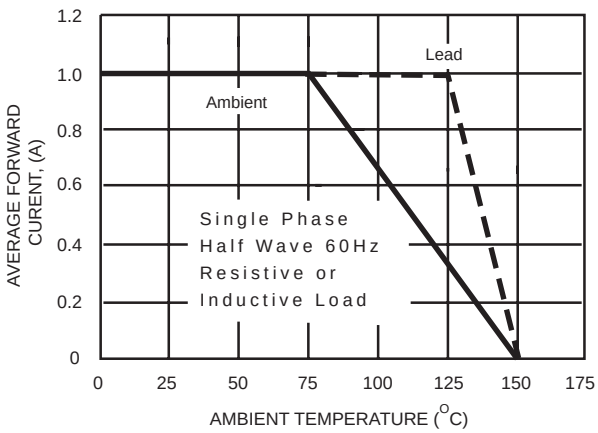


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

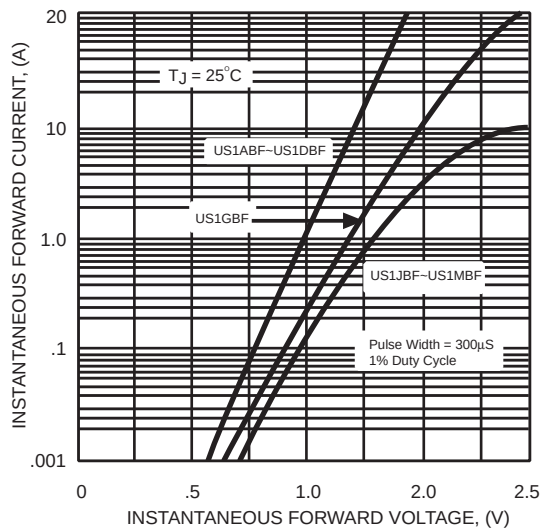


FIG. 4 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

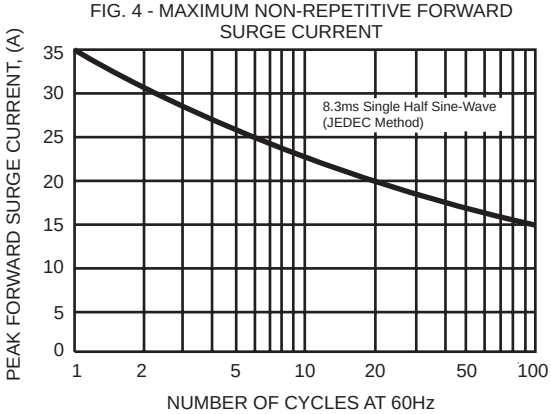
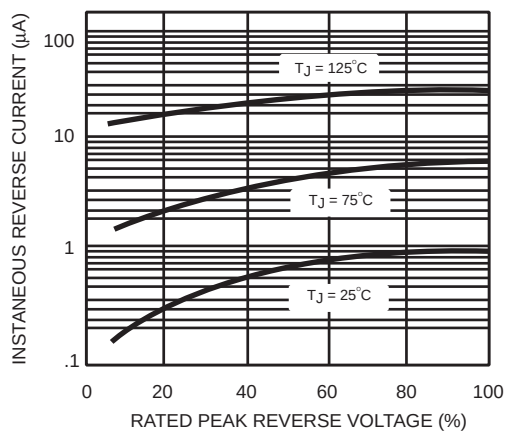


FIG. 5 - TYPICAL REVERSE CHARACTERISTICS



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