



*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**

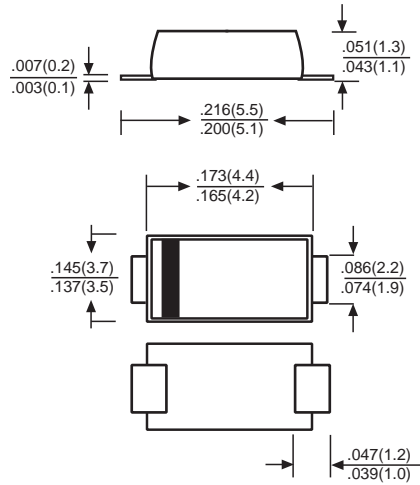
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- \* Polarity: As marked
- \* Mounting position: Any
- \* Weight: 0.06 gram

**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



	SYMBOL	US1ABF	US1BBF	US1DBF	US1GBF	US1JBF	US1KBF	US1MBF	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	VRMS	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	VDC	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at TA = 75°C	Io	1.0							Amps
Peak Forward Surge Current IFSM(surge): 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM	35							Amps
Maximum Forward Voltage at 1.0A DC	VF	1.0		1.3	1.5			Volts	
Maximum DC Reverse Current at Rated DC Blocking Voltage	@TA = 25°C	5.0							µAmps
	@TA = 125°C	50							
Maximum Reverse Recovery Time (Note 1)	trr	50				75			nSec
Typical Junction Capacitance (Note 2)	Cj	45							pF
Typical Thermal Resistance (Note 3)	RθJA	85							°C/W
	RθJL	25							
Operating and Storage Temperature Range	TJ, TSTG	-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<sup>2</sup> (12.7x12.7mm<sup>2</sup>) copper pads to each terminal.

# RATING AND CHARACTERISTIC CURVES ( US1ABF THRU US1MBF )

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

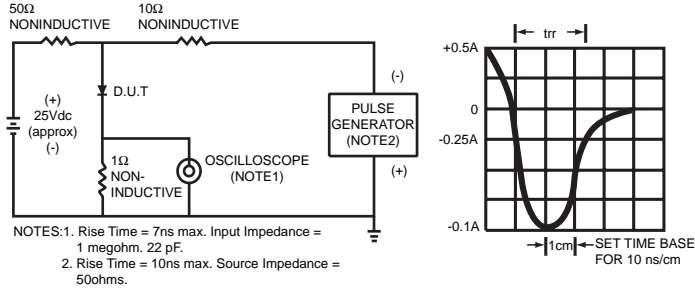


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

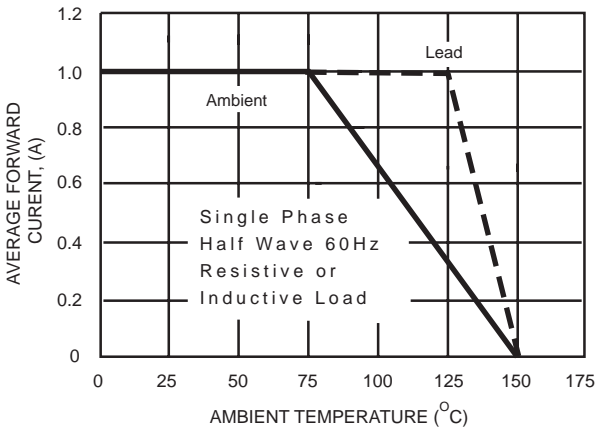


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

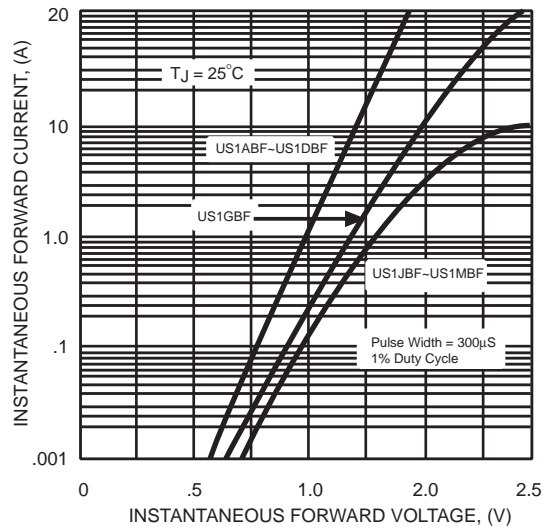


FIG. 4 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

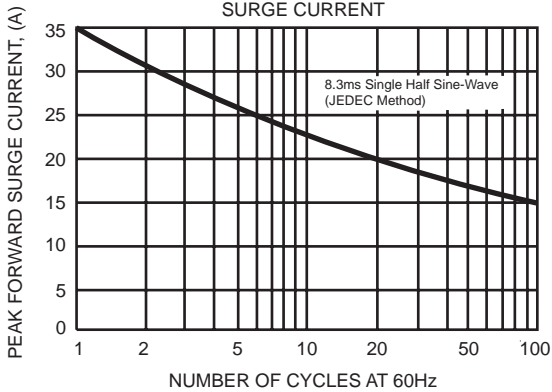
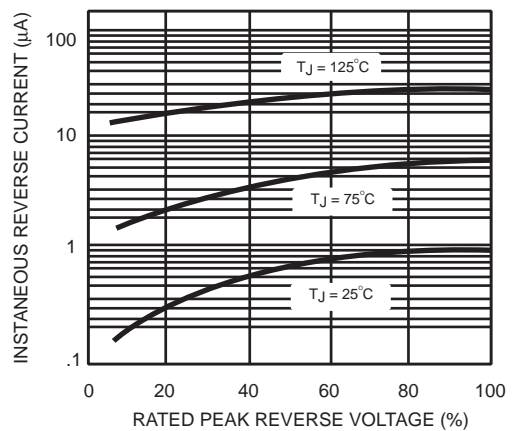


FIG. 5 - TYPICAL REVERSE CHARACTERISTICS



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