



*DC COMPONENTS CO., LTD.*

RECTIFIER SPECIALISTS

UMB05F  
THRU  
UMB10F

**TECHNICAL SPECIFICATIONS OF SURFACE MOUNT HIGH EFFICIENCY BRIDGE RECTIFIER**

**VOLTAGE RANGE - 50 to 1000 Volts**

**CURRENT - 1.0 Ampere**

**FEATURES**

- \* High surge current capability
- \* Ideal for printed circuit board
- \* Fast reverse recovery time
- \* Glass passivated junction

**MECHANICAL DATA**

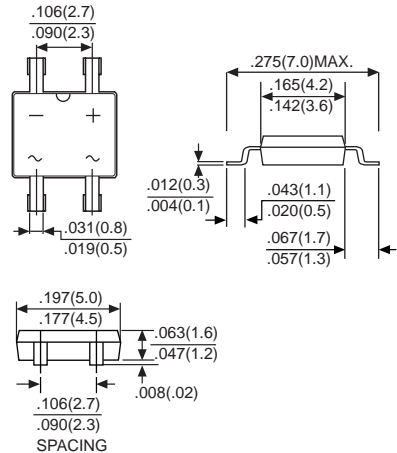
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: MIL-STD-202E, Method 208 guaranteed
- \* Polarity: Symbols molded or marked on body
- \* Mounting position: Any
- \* Weight: 0.075 gram

**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%.



MBF



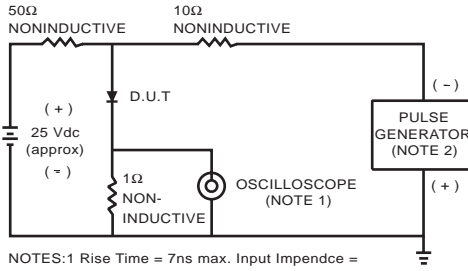
Dimensions in inches and (millimeters)

	SYMBOL	UMB05F	UMB1F	UMB2F	UMB4F	UMB6F	UMB8F	UMB10F	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	400	600	800	1000	Volts
Maximum RMS Bridge Input 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 Output Current at TA=100°C (Note 1)	Io	1.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	IFSM	30							Amps
Maximum DC Forward Voltage Drop per Bridge Element at 1.0A DC	VF	1.0					1.4	1.7	Volts
Maximum Reverse Current at rated DC Blocking Voltage per element	@ TA = 25°C	5.0							µAmps
	@ TA = 125°C	100							
Maximum Reverse Recovery Time (Note 4)	trr	50					75		nS
Typical Junction Capacitance ( Note 2)	CJ	18							pF
Typical Thermal Resistance (Note 3)	RθJA	80							°C/W
Operating and Storage Temperature Range	TJ,TSTG	-50 to + 150							°C

- NOTES: 1. Mounted on P.C. board with 4x(5x5mm<sup>2</sup>) copper pad.  
2. Measured at 1.0 MHZ and applied reverse voltage of 4.0V DC.  
3. Thermal resistance junction to ambient.  
4. Measured with IF = 0.5 A, IR = 1 A, Irr = 0.25 A.

# RATING AND CHARACTERISTIC CURVES ( UMB05F THRU UMB10F )

FIG. 1  
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.

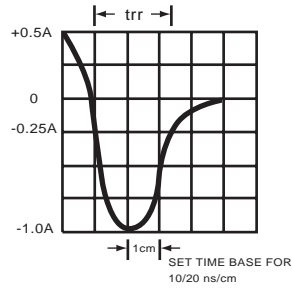


FIG. 2  
MAXIMUM NON-REPETITIVE SURGE CURRENT

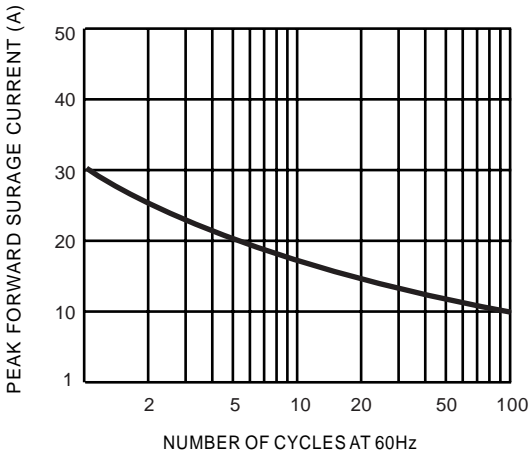


FIG. 2  
DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

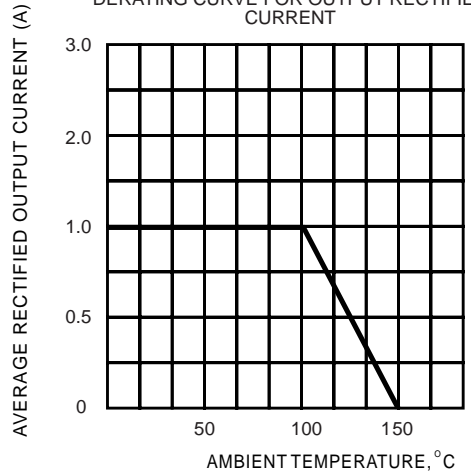


FIG. 3  
TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

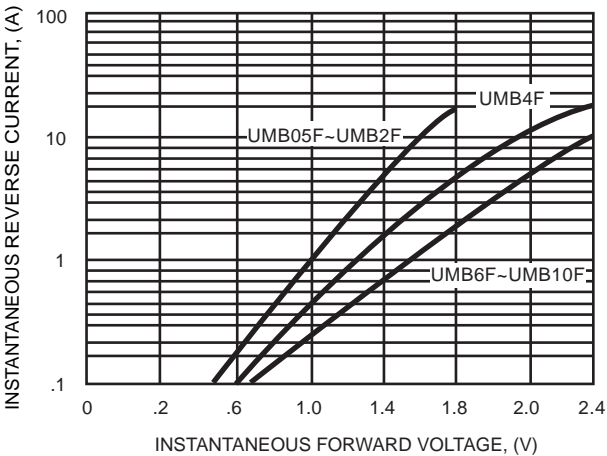
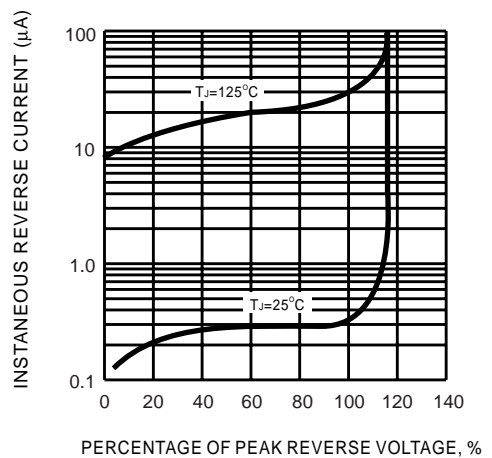


FIG. 4  
TYPICAL REVERSE CHARACTERISTICS



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