

**SINGLE-PHASE GLASS PASSIVATED  
SILICON BRIDGE RECTIFIER**  
VOLTAGE RANGE 50 to 1000 Volts CURRENT 4.0 Ampere

**FEATURES**

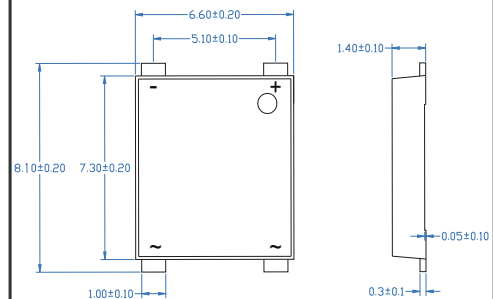
- \* Good for automation insertion
- \* Ideal for printed circuit board
- \* Reliable low cost construction utilizing molded
- \* Glass passivated device
- \* Mounting position: Any

**MECHANICAL DATA**

- \* UL listed the recognized component directory, file #E94233
- \* Epoxy: Device has UL flammability classification 94V-O
- \* Halogen-free



**MSBS**



Dimensions in inches and (millimeters)

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.  
resistive or inductive load.

**MAXIMUM RATINGS** (At  $T_A = 25^\circ\text{C}$  unless otherwise noted)

RATINGS	SYMBOL	MSB401S	MSB402S	MSB403S	MSB404S	MSB405S	MSB406S	MSB407S	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS Bridge Input 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 Output Current at $T_C = 110^\circ\text{C}$	$I_O$	4.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	120							Amps
Typical Current Squared Time	$I^2t$	59.76							$\text{A}^2\text{S}$
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	55							$^\circ\text{C}/\text{W}$
	$R_{\theta JL}$	15							
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to + 150							$^\circ\text{C}$

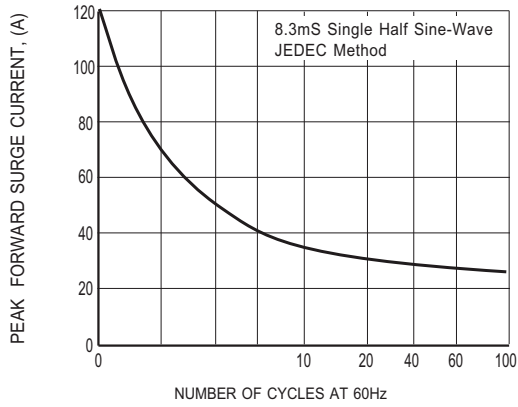
**ELECTRICAL CHARACTERISTICS** (At  $T_A = 25^\circ\text{C}$  unless otherwise noted)

CHARACTERISTICS	SYMBOL	MSB401S	MSB402S	MSB403S	MSB404S	MSB405S	MSB406S	MSB407S	UNITS
Maximum Forward Voltage Drop per Bridge Element at 4.0A DC	$V_F$	1.1							Volts
Maximum Reverse Current at Rated	$I_R$	1.0							$\mu\text{Amps}$
DC Blocking Voltage per element		500							$\mu\text{Amps}$

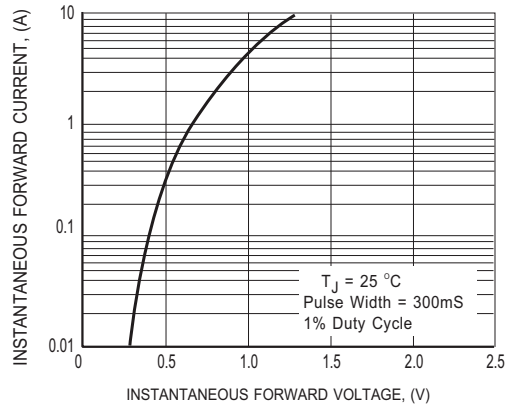
Note: 1. "Fully ROHS compliant", "100% Sn plating(Pb-free).  
2. Thermal Resistance: Mounted on PCB.

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REV:A

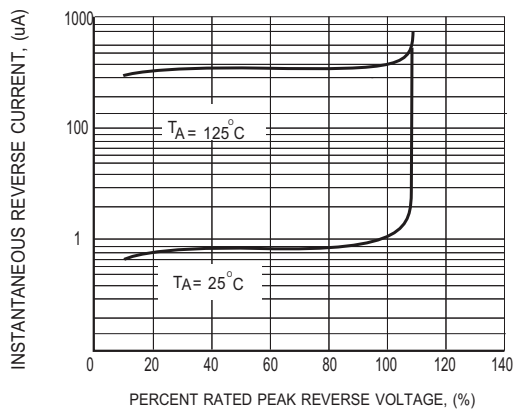
## RATING AND CHARACTERISTICS CURVES ( MSB401S THRU MSB407S )



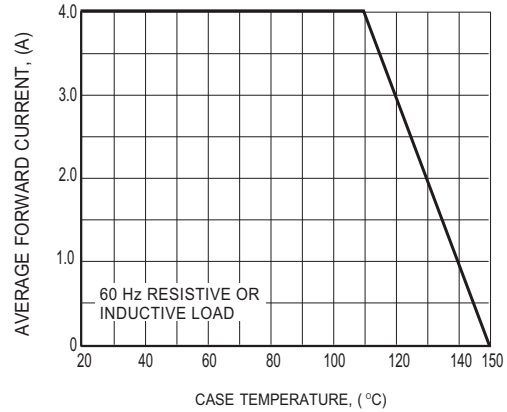
**FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG. 2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 3 MAXIMUM REVERSE CHARACTERISTICS**



**FIG. 4 TYPICAL FORWARD CURRENT DERATING CURVE**

## REEL TAPING SPECIFICATIONS FOR SURFACE MOUNT DEVICES - MSBS

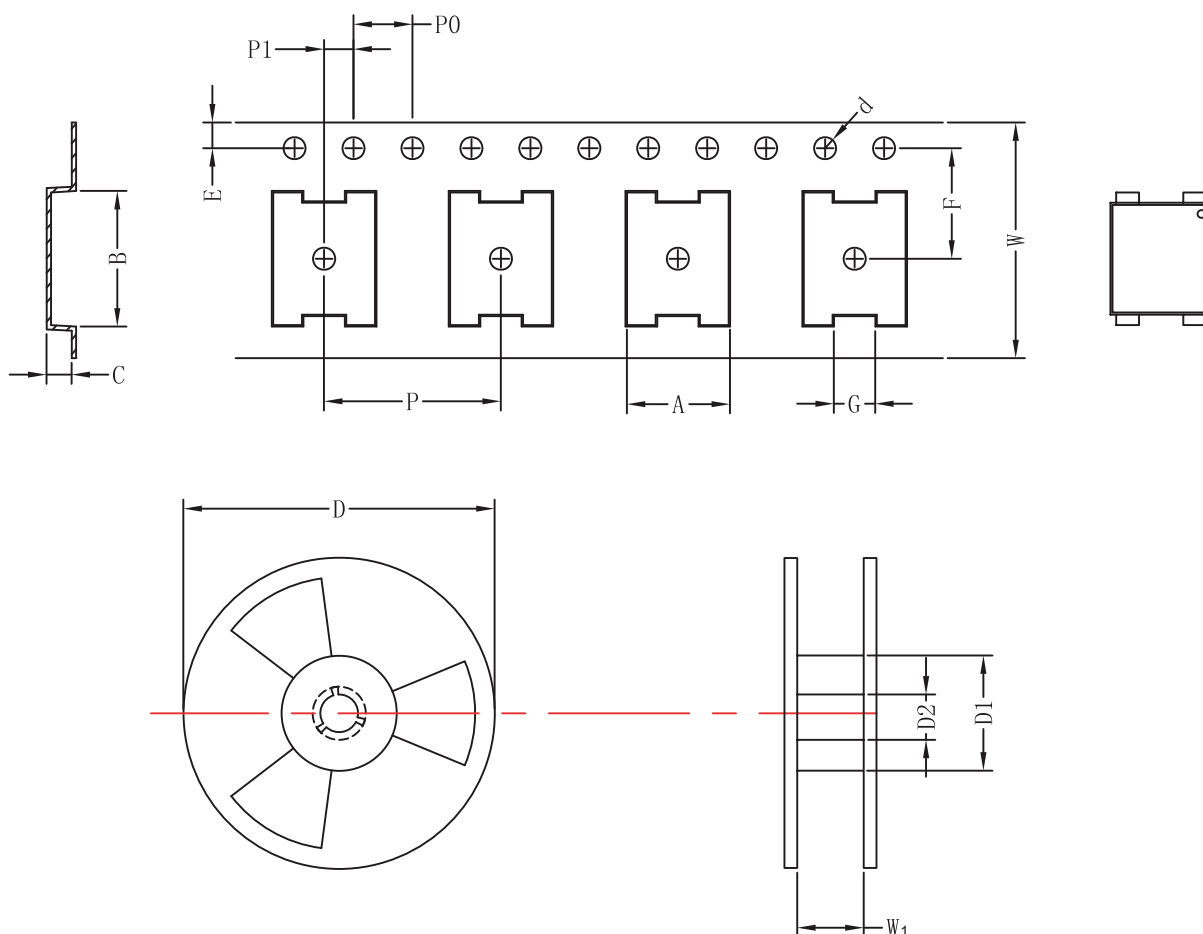


Fig.: Configuration of MSBS REEL TAPING

ITEM	SYMBOL	SPECIFICATIONS (mm)	SPECIFICATIONS (inch)
Carrier width	A	$0.69 \pm 0.1$	$0.272 \pm 0.004$
Carrier length	B	$7.60 \pm 0.1$	$0.299 \pm 0.004$
Carrier depth	C	$1.70 \pm 0.1$	$0.067 \pm 0.004$
Sprocket hole	d	$1.50 \pm 0.1$	$0.059 \pm 0.004$
Reel outside diameter	D	$330.0 \pm 2.0$	$12.992 \pm 0.079$
Reel inner diameter	D1	$16.4 \pm 2.0$	$0.646 \pm 0.079$
Feed hole diameter	D2	$13.0 \pm 0.2$	$0.512 \pm 0.008$
Sprocket hole position	E	$1.75 \pm 0.1$	$0.069 \pm 0.004$
Punch hole position	F	$7.5 \pm 0.1$	$0.295 \pm 0.004$
Punch hole pitch	P	$12.0 \pm 0.1$	$0.472 \pm 0.004$
Sprocket hole pitch	P0	$4.0 \pm 0.1$	$0.157 \pm 0.004$
Embossment center	P1	$2.0 \pm 0.1$	$0.079 \pm 0.004$
Tape width	W	$16.0 \pm 0.3$	$0.63 \pm 0.012$
Reel width	W1	$22.4 \pm 1.0$	$0.882 \pm 0.039$

## PACKAGING OF DIODE AND BRIDGE RECTIFIERS

### REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
MSBS	-T	3,000	3,000	9.5	52	330	360*355*360	24,000	9.0



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