1A SURFACE MOUNT SCHOTTKY BRIDGE

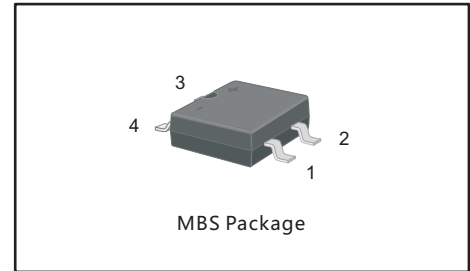### FEATURES:

Reverse Voltage - 40 to 200 V

Forward Current - 1 A

High Surge Current Capability

Designed for Surface Mount Application

PINNING

PIN	DESCRIPTION
1	Input Pin (~)
2	Input Pin (~)
3	Output Anode (+)
4	Output Cathode (-)

MECHANICAL DATA

• Case: MBS

• Terminals: Solderable per MIL-STD-750, Method 2026

• Approx. Weight: 100mg / 0.0035oz

MBS Package

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 current derate by 20 %.

Parameter	Symbols	MB14S	MB16S	MB18S	MB110S	MB115S	MB120S	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	40	60	80	100	150	200	V
Maximum RMS voltage	V_{RMS}	28	42	56	70	105	140	V
Maximum DC Blocking Voltage	V_{DC}	40	60	80	100	150	200	V
Maximum Average Forward Rectified Current at T_c = 100°C	$I_{F(AV)}$	1.0						A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	40			30			A
Max Instantaneous Forward Voltage at 1 A	V_F	0.55	0.70		0.85	0.90		V
Maximum DC Reverse Current T_a = 25°C at Rated DC Reverse Voltage T_a =100°C	I_R		0.3 10		0.2 5	0.1 2		mA
Typical Junction Capacitance [1]	C_j	110	80					pF
Typical Thermal Resistance [2]	$R_{\theta JA}$	100						°C/W
Operating Junction Temperature Range	T_j	-55 ~ +150						°C
Storage Temperature Range	T_{stg}	-55 ~ +150						°C

Note: 1. Measured at 1MHz and applied reverse voltage of 4 V D.C.

2. Mounted on glass epoxy PC board with 4×1.5"×1.5" (3.81×3.81 cm) copper pad.

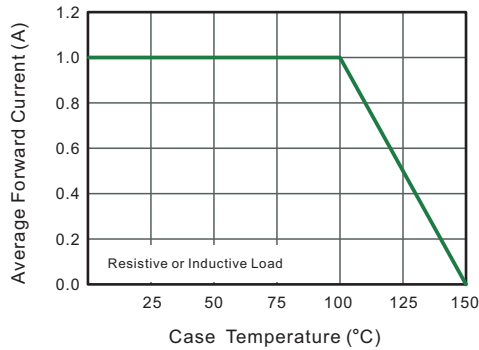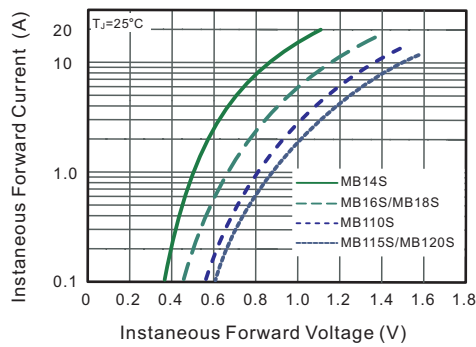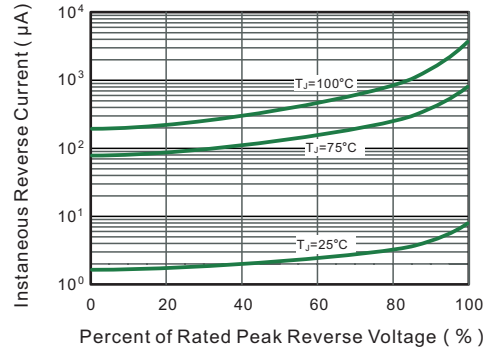Fig.1 Forward Current Derating Curve

Average Forward Current (A) vs Case Temperature (°C)

Resistive or Inductive Load

Fig.2 Typical Reverse Characteristics

Instantaneous Reverse Current (μA) vs Percent of Rated Peak Reverse Voltage (%)

$T_J=100°C$
$T_J=75°C$
$T_J=25°C$

$T_J=25°C$

Instantaneous Forward Current (A) vs Instaneous Forward Voltage (V)

MB14S
MB16S/MB18S
MB110S
MB115S/MB120S

Fig.4 Typical Junction Capacitance

Junction Capacitance (pF) vs Reverse Voltage (V)

$T_J=25°C$

MB14S
MB16S-MB120S

Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

Peak Forward Surage Current (A) vs Number of Cycles at 60Hz

MB14S-MB18S
MB110S-MB120S

8.3 ms Single Half Sine Wave (JEDEC Method)

Fig.6- Typical Transient Thermal Impedance

Transient Thermal Impedance (°C/W) vs t, Pulse Duration (sec)
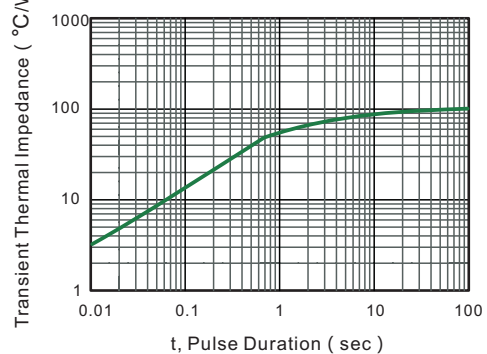
PACKAGE OUTLINE

Plastic surface mounted package; 4 leads

MBS

MBS mechanical data

UNIT		A	C	D	E	H_E	d	e	L	L_1	a	∠
mm	max	2.6	0.22	5.0	4.1	7.0	2.7	0.7	1.7	1.1	0.2	7°
	min	2.2	0.15	4.5	3.6	6.4	2.3	0.5	1.3	0.5	—	
mil	max	102	8.7	197	161	276	106	28	67	43	8	
	min	94	5.9	177	142	252	91	20	51	20	—	
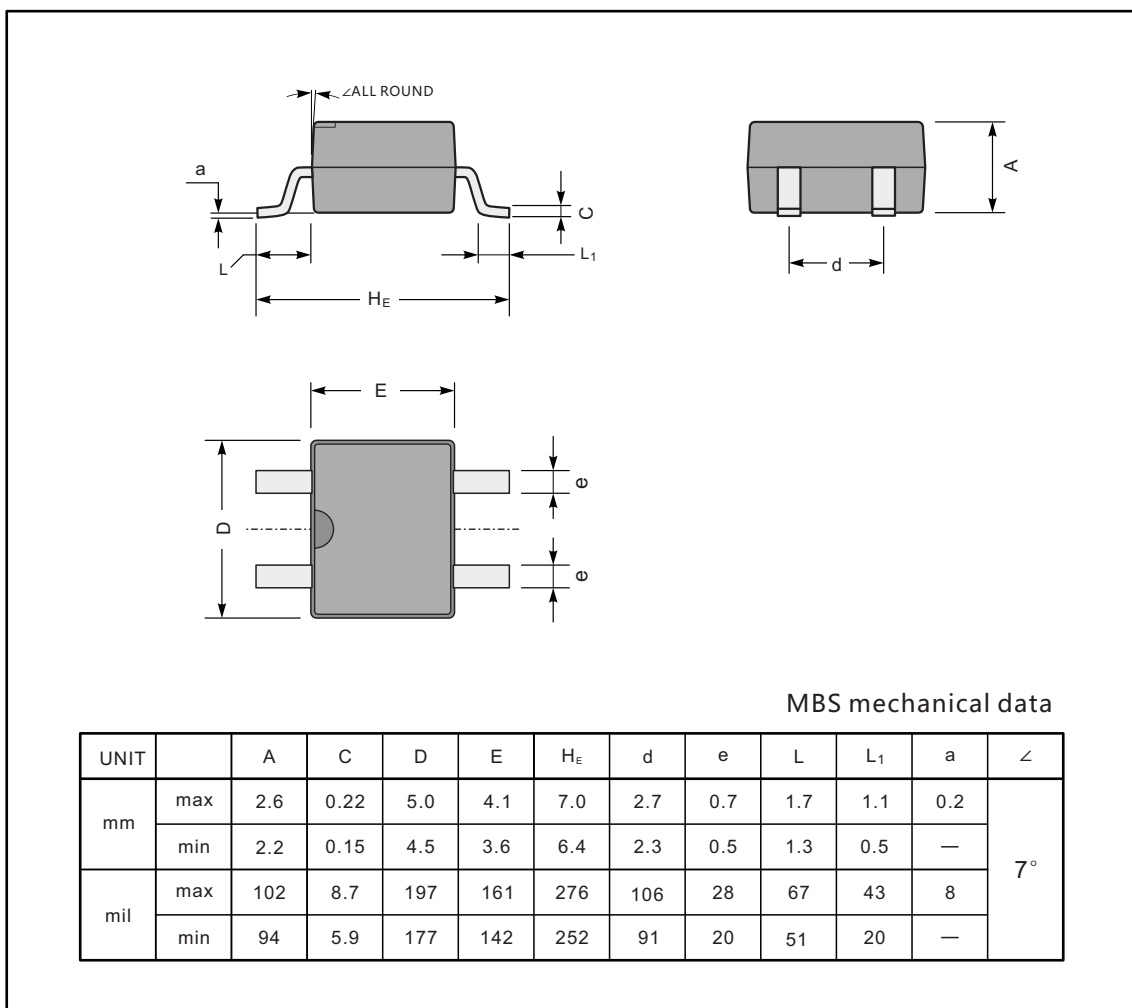
The recommended mounting pad size

Unit : $\dfrac{mm}{(mil)}$
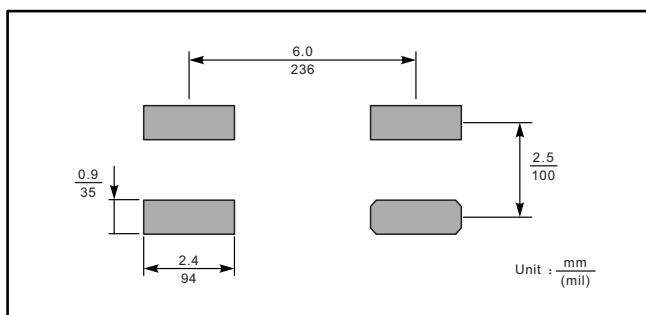
Marking

Type number	Marking code
MB14S	MB14S
MB16S	MB16S
MB18S	MB18S
MB110S	MB110S
MB115S	MB115S
MB120S	MB120S