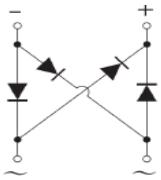
VOLTAGE RANGE
50 to 1000 Volts
CURRENT
5.0 Ampere

FEATURES

- Glass Passivated Chip Junction
- Reverse Voltage - 50 to 1000 V
- Forward Current - 5.0 A
- High Surge Current Capability
- Designed for Surface Mount Application

MECHANICAL DATA

* Case: UMSB
* Terminals: Solderable per MIL-STD-750, Method 2026



Internal Schematic

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25 C ambient temperature uniess otherwies specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

TYPE NUMBER	MSB50A	MSB50B	MSB50D	MSB50G	MSB50J	MSB50K	MSB50M	UNIT
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current	5.0							A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	150							A
I^2t Rating for Fusing (1ms < t < 8.3ms)	93.375							A^2S
Maximum Forward Voltage Drop per Bridge Element at 5.0A	1.1							V
Maximum DC Reverse Current Ta=25°C	5.0							μA
at Rated DC Blocking Voltage Ta=125°C	200							μA
Typical Thermal Resistance R JA (Note 2)	50							°C/W
Operating Temperature Range, TJ	-55 — +150							°C
Storage Temperature Range, TSTG	-55 — +150							°C

NOTES: 1. Mounted on P.C. Board.
2. Thermal Resistance Junction to Ambient.

RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

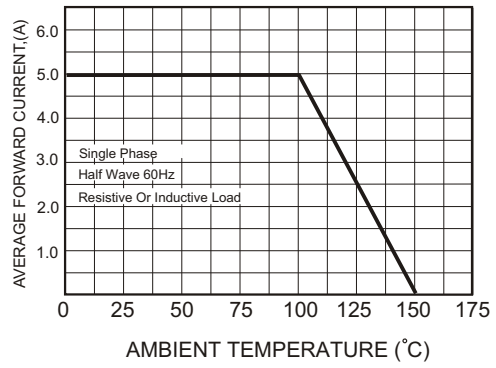


FIG.2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

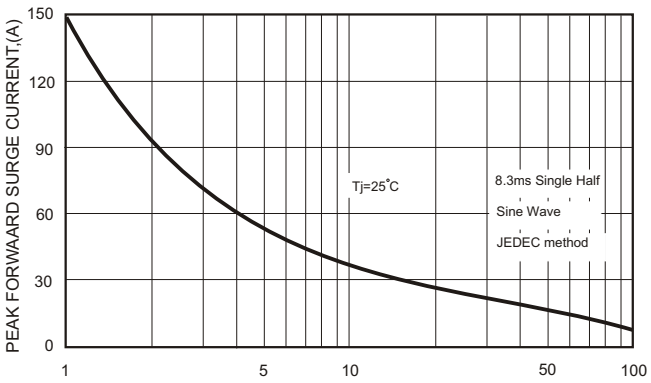


FIG.3-TYPICAL FORWARD CHARACTERISTICS

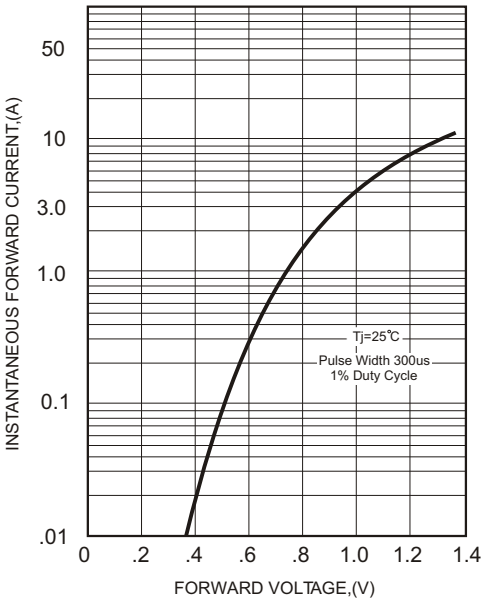
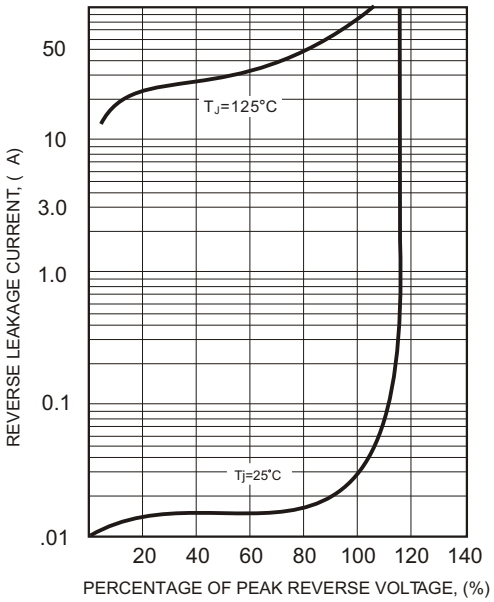


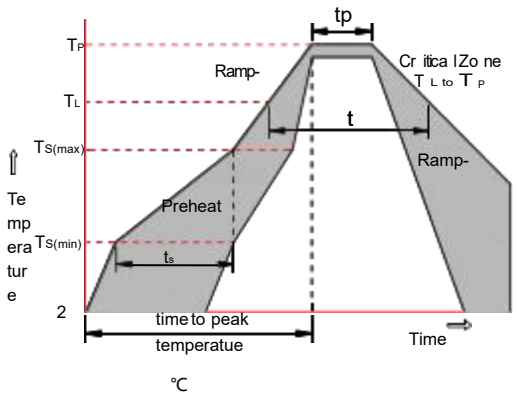
FIG.4-TYPICAL REVERSE CHARACTERISTICS



Soldering parameters

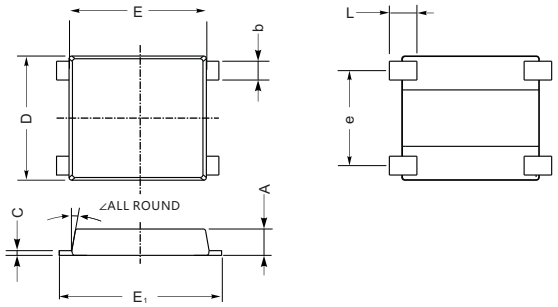
Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃ of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6℃/sec. Max
Time 25℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃

FIG5: Reflow condition

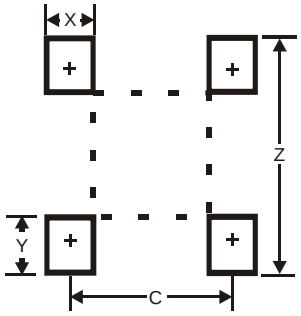


Package Dimensions & Suggested Pad Layout

UMSB



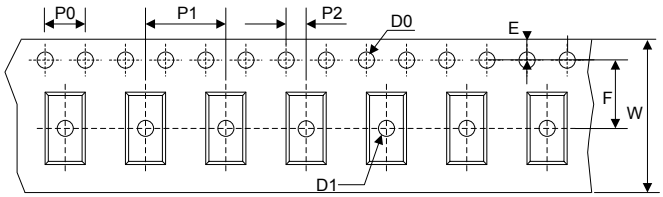
UNIT		A	C	D	E	E_1	L	e	b	∠
mm	max	1.5	0.29	7.0	7.6	8.9	1.6	5.3	1.15	10°
	min	1.3	0.17	6.2	7.1	8.4	1.0	4.9	0.95	
mil	max	59	12	276	299	350	55	209	45	
	min	51	7	244	280	331	31.5	193	37	

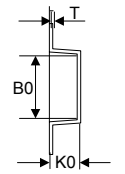


Dimensions	
Z	9.4
X	1.8
Y	2.1
C	5.1

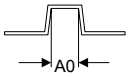
Tape & rell specification

Tape





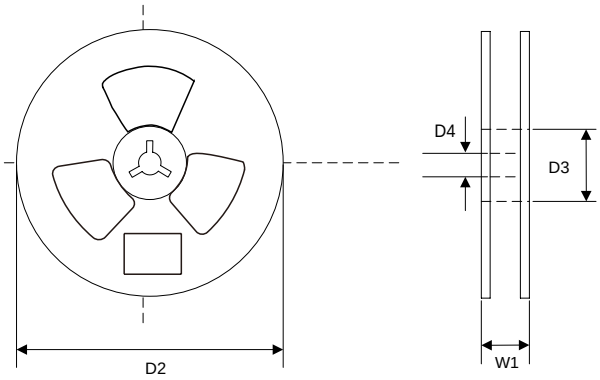
SECTION : B-B



SECTION : A-A

Symbol	Dimension (mm)
P0	4.00±0.20
P1	12.00±0.20
P2	2.00±0.20
D0	1.60±0.15
D1	1.60±0.15
E	1.75±0.20
F	7.50±0.15
W	16.00±0.20
A0	7.00±0.25
B0	9.30±0.25
K0	1.80±0.25
T	0.25±0.10

13” Reel



D2	330.0±5.0
D3	73Min.
D4	16.0±2.5
W1	21.0±3.0
Quantity: 3000PCS	