MSB301 THRU MSB307

SINGLE PHASE 3.0 AMP SURFACE MOUNT BRIDGE RECTIFIERS

Features

The plastic package carries Underwriters Laboratory Flammability Classification 94V-0

Idea for printed circuit board

Glass passivated Junction chip

Low reverse leakage

High forward surge current capability

High temperature soldering guaranteed

265℃/10 seconds at terminals

Mechanical Data

Case : Molded plastic body

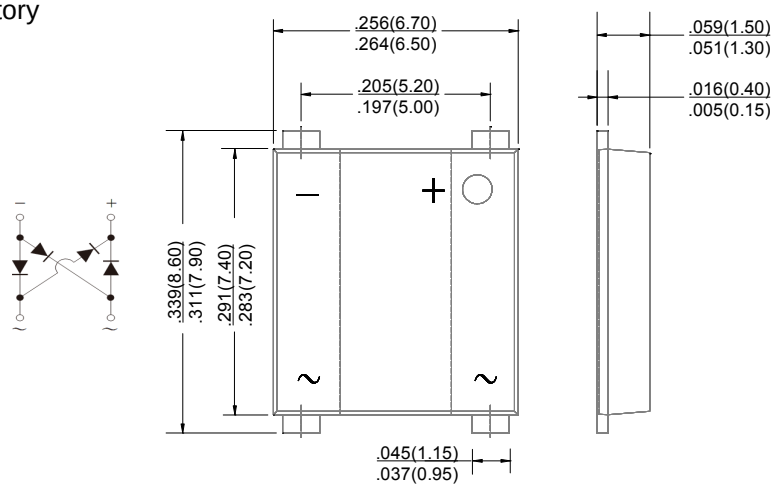
Terminals : Solder plated, solderable per MIL-STD-750,Method 2026

Polarity : Polarity symbol marking on body

Mounting Position : Any

Lead Free Finish/RoHS 2.0 Compliant

MSBL



Dimensions in inches and (millimeters)

Maximum Ratings And Electrical Characteristics

Ratings at 25℃ ambient temperature unless otherwise specified. Single phase half-wave 60Hz,resistive or inductive load, for capacitive load current derate by 20%.

Parameter	SYMBOLS	MSB301	MSB302	MSB303	MSB304	MSB305	MSB306	MSB307	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at Tc=110℃	$I_{(AV)}$	3.0							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	90.0							A
Rating for fusing (t=8.3ms, Ta=25℃)	I^2t	33.6							A^2s
Maximum instantaneous forward voltage at 3.0A	V_F	1.0							V
Maximum DC reverse current T_A =25℃ at rated DC blocking voltage T_A=125℃	I_R	5.0 500							u A
Typical junction capacitance (Note 1)	C_J	35.0							pF
Typical thermal resistance	R_{qJA}	55.0							°C/W
Operating junction and storage temperature range	T_J,T_{STG}	-55 to +150							°C

Note: 1.Measured at 1MHz and applied reverse voltage of 4.0V D.C.

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RATING AND CHARACTERISTIC CURVES (MSB301 THRU MSB307)

FIG. 1 – FORWARD CURRENT DERATING CURVE

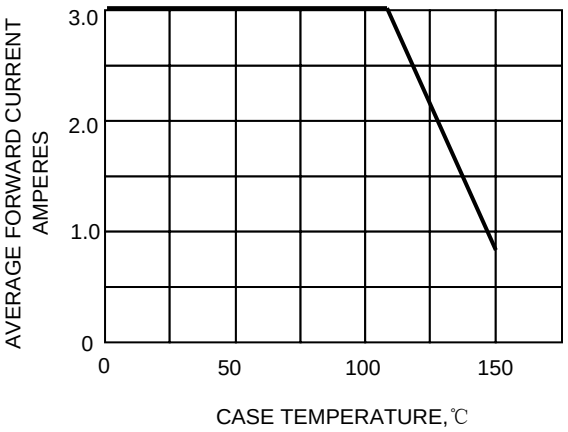


FIG. 2 – MAXIMUM NON-REPETITIVE SURGE CURRENT

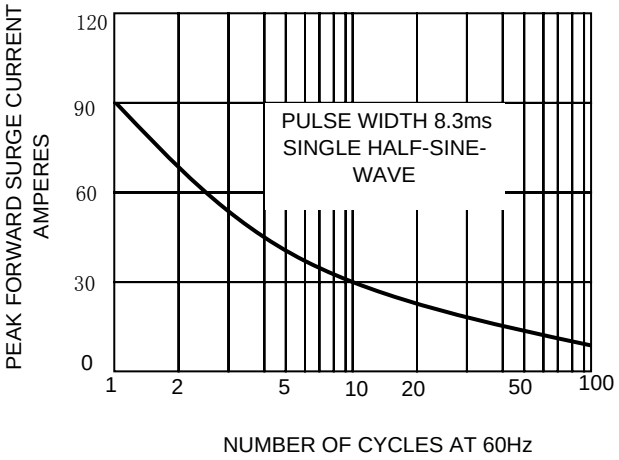


FIG.3-TYPICAL FORWARD CHARACTERISTICS

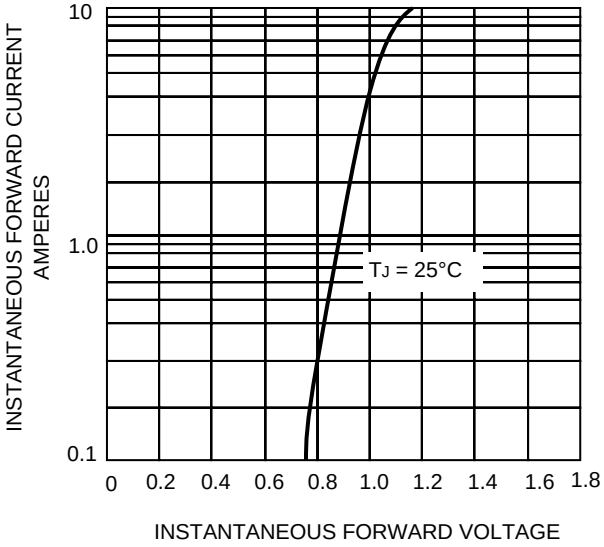
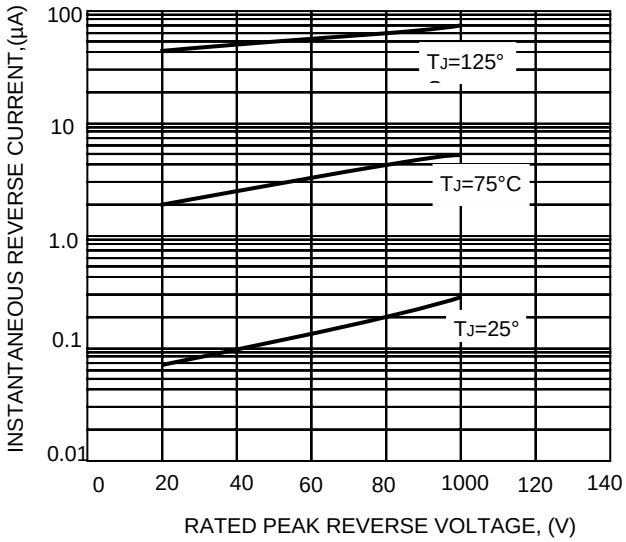
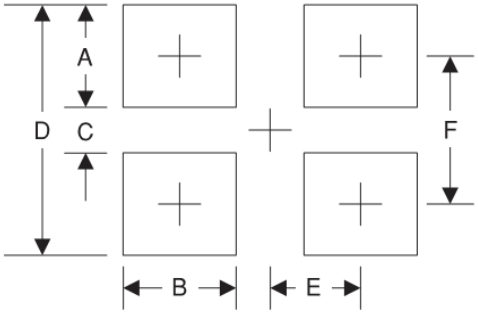


FIG.4- TYPICAL REVERSE CHARACTERISTICS



Suggested Pad Layout

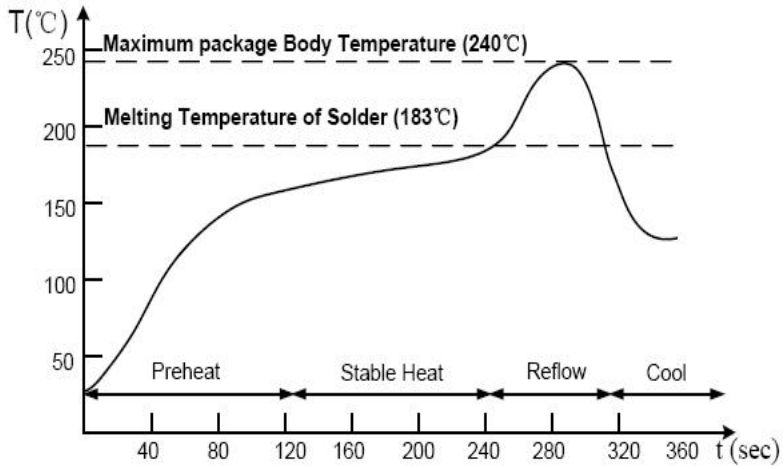


Symbol	Unit (mm)	Unit (inch)
A	1.8	0.071
B	2.0	0.078
C	5.50	0.216
D	9.15	0.360
E	2.6	0.102
F	7.35	0.289

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Suggested Soldering Temperature Profile

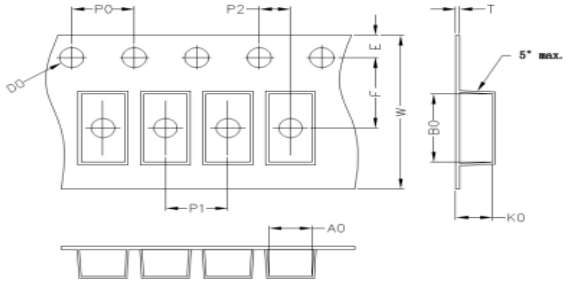


Note

- Recommended reflow methods: IR, vapor phase oven, hot air oven, wave solder.
- The device can be exposed to a maximum temperature of 265°C for 10 seconds.
- Devices can be cleaned using standard industry methods and solvents.
- If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Package Information

Carrier Dimension(mm)



A0	B0	K0	D0	E	F
6.90	8.60	1.65	1.55	1.75	7.50
P0	**P1**	**P2**	**T**	**W**	**Tolerance**
4.0	12.0	2.0	0.30	16	0.1

Package Specifications

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
MSBL	13'	330	3	338	6	365*365*360	48

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