

3.0Amp Ultra Fast Recovery Surface Mounted Rectifiers

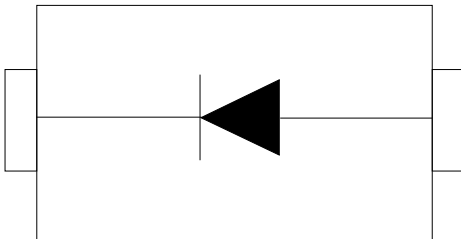
Description

General Application Ultra Fast Recovery Surface Mounted rectifier, encapsulated in a SMB Surface-Mounted Device (SMD) plastic package.

Features

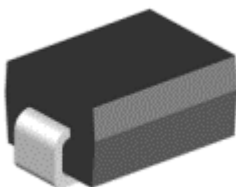
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Idea for printed circuit board
- Glass passivated junction chip
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed 260 °C/10 seconds at terminals

Dimensions and Pin Configuration



Graphic symbol

Package



SMB (Top View)

Mechanical Characteristics

- Case: JEDEC DO-214AA molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Polarity symbol marking on body
- Case Material: “Green” Molding Compound

Applications

- For use in high frequency rectification of power Supplies, inverters, converters, and freewheeling Diodes for consumer and telecommunication

Ordering Informatio

Part Number	Shipping	Reel Size
US3AB	3000/Tape & Reel	13 inch
US3BB	3000/Tape & Reel	13 inch
US3DB	3000/Tape & Reel	13 inch
US3GB	3000/Tape & Reel	13 inch
US3JB	3000/Tape & Reel	13 inch
US3KB	3000/Tape & Reel	13 inch
US3MB	3000/Tape & Reel	13 inch

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

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

Items	Symbol	US3AB	US3BB	US3DB	US3GB	US3JB	US3KB	US3MB	UNIT
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 T _L =100°C	I _(AV)	3.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	100.0							A
Typical thermal resistance	R _{QJA}	60.0							°C/W
Operating junction temperature range	T _J	-55 ~ + 150							°C
Storage temperature range	T _{STG}	-55 ~ +150							°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

Items	Test conditions	Symbol	US3AB	US3BB	US3DB	US3GB	US3JB	US3KB	US3MB	UNIT
Maximum instantaneous forward voltage	I _F =3.0A	V _F	1.0			1.4	1.7			V
Maximum DC reverse current	T _A =25℃	I _R	2							uA
at rated DC blocking voltage	T _A =100℃		200							
Typical junction capacitance(Note 1)		C _j	65							pF
Maxinum reverse recovery time(Note 2)		T _{rr}	50				75			ns

Note:

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Reverse recovery time test condition: I_F=0.5A I_R=1.0A I_{rr}=0.25A.

Typical Performance Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise Specified)

FIG.1-DERATING CURVE OUTPUT RECTIFIED CURRENT

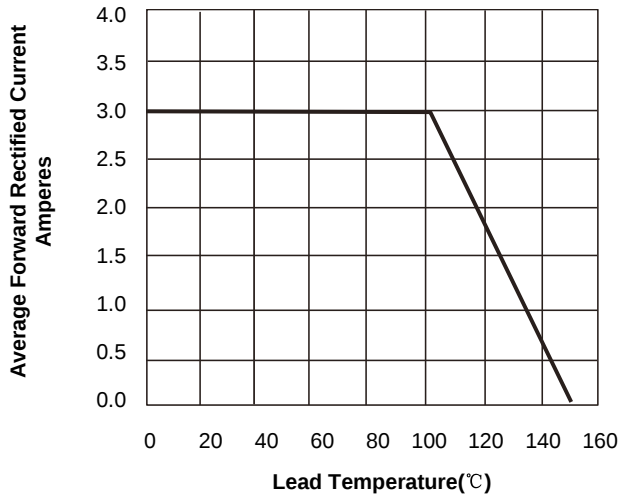


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD

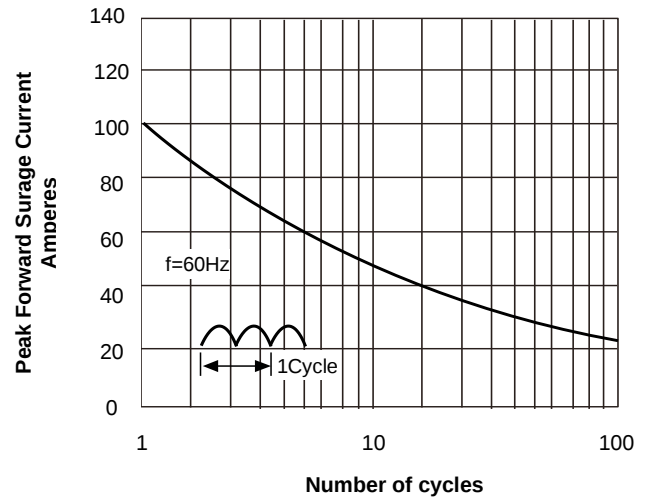


FIG.3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

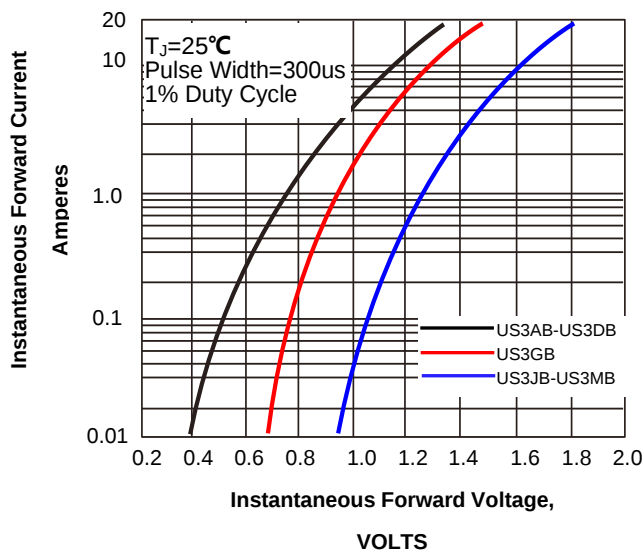
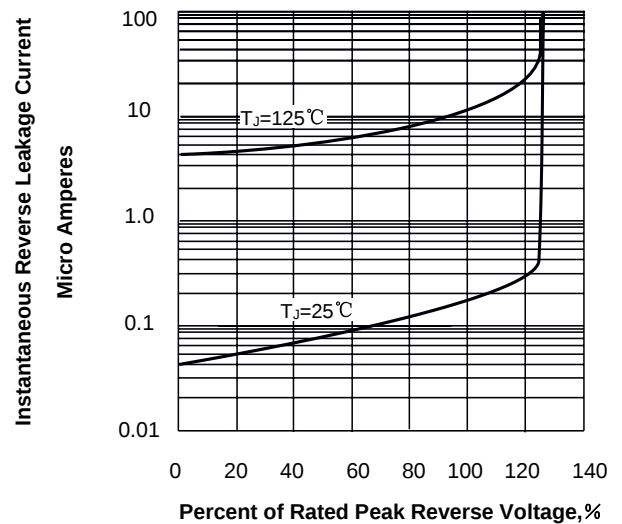
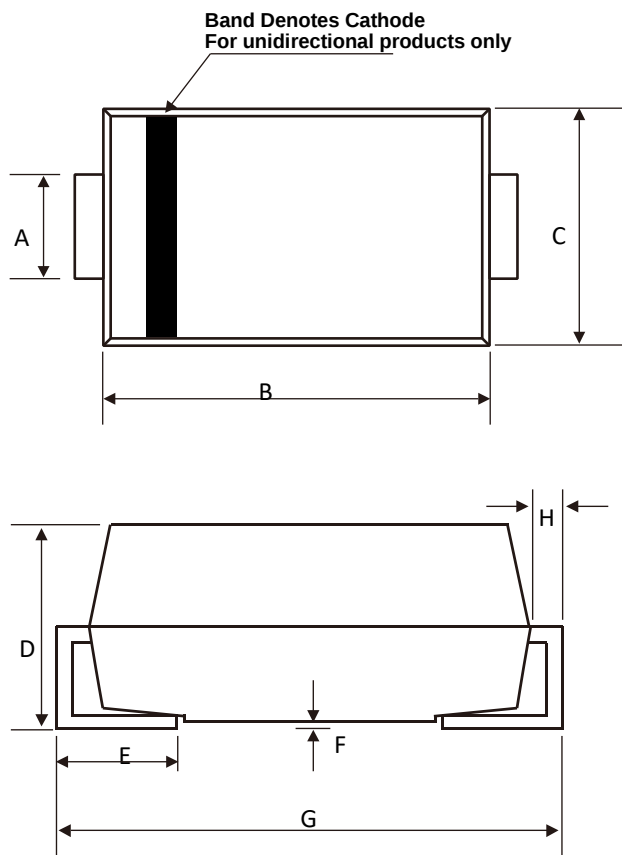


FIG.4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

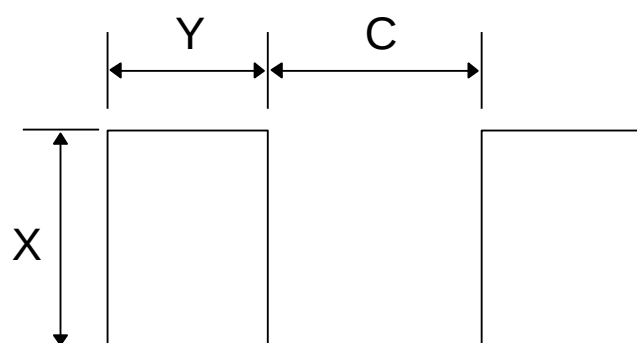


SMB Package Outline Drawing



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	1.80	2.20	0.071	0.087
B	4.06	4.57	0.160	0.180
C	3.30	3.94	0.130	0.155
D	2.13	2.44	0.084	0.096
E	0.76	1.52	0.030	0.060
F	----	0.203	----	0.008
G	5.08	5.59	0.205	0.220
H	0.152	0.305	0.006	0.012

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	2.30	0.091
Y	2.00	0.078
C	2.10	0.083

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