



US3AB - US3MB

SURFACE MOUNT ULTRA FAST RECTIFIER DIODES

VOLTAGE RANGE: 50 - 1000V

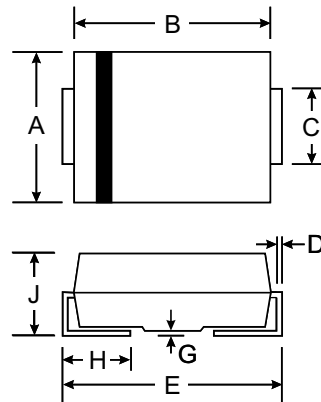
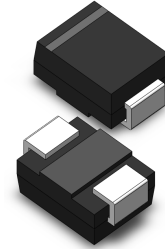
CURRENT: 3.0 A

Features

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Voltage Drop, High Efficiency
- Low Power Loss
- Ultra-Fast Recovery Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O

Mechanical Data

- Case: SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.093 grams (approx.)



SMB(DO-214AA)		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.70
C	1.91	2.21
D	0.15	0.31
E	5.00	5.59
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics T_A = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	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 0.375"(9.5mm) lead length at T _A =55°C	I _(AV)	3.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	100.0							A
Maximum instantaneous forward voltage at 3.0A	V _F	1.0			1.30	1.70			V
Maximum DC reverse current T _A =25°C at rated DC blocking voltage T _A =100°C	I _R	5.0 250.0							μA
Maximum reverse recovery time (NOTE 1)	t _{rr}	50				75			ns
Typical junction capacitance (NOTE 2)	C _J	75							pF
Typical thermal resistance	R _{θJL}	15.0							°C/W
Operating junction and storage temperature range	T _J ,T _{STG}	-65 to +150							°C

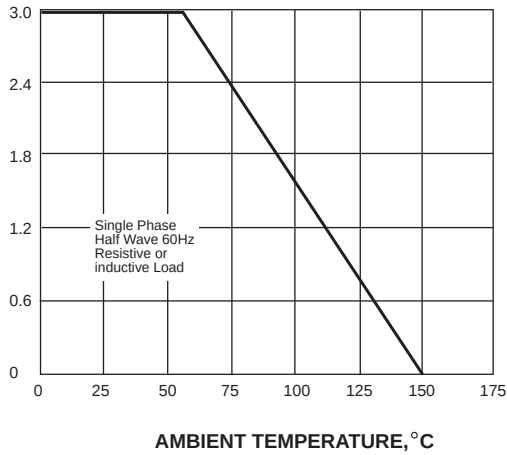
Note: 1.Reverse recovery condition I_F=0.5A, I_R=1.0A, I_{rr}=0.25A
2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.



RATINGS AND CHARACTERISTIC CURVES US3AB THRU US3MB

AVERAGE FORWARD RECTIFIED CURRENT,
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT,
AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

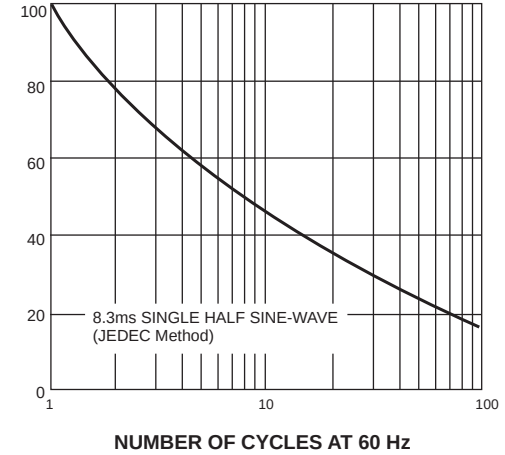
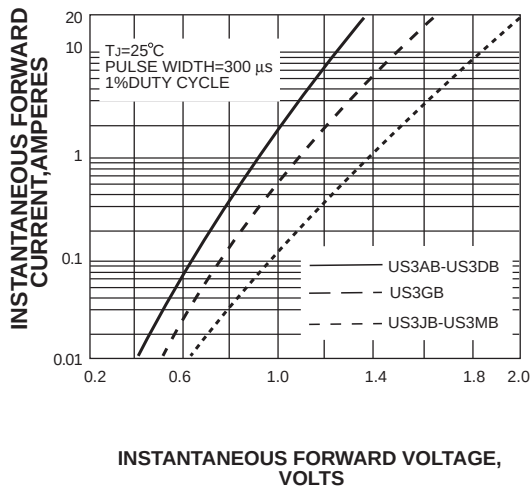


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT,
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

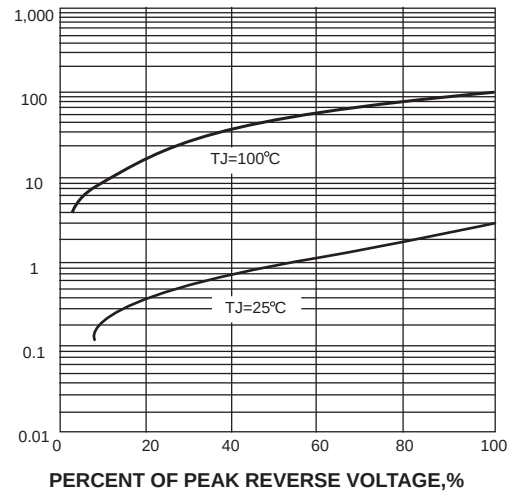
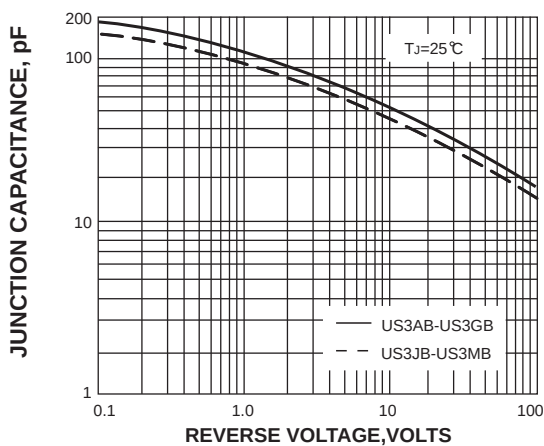


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,
 $^\circ\text{C}/\text{W}$

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

