

Surface Mount Rectifiers

US3AB--US3MB

FEATURES

- For surface mount applications
- Low profile package
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Low forward voltage, low power loss
- Built-in strain relief, ideal for automated placement
- High temperature soldering: 250°C/10 seconds on terminals
- Plastic package has underwriters laboratories flammability classification 94V-0



Lead-free



MECHANICAL DATA

- Case: JEDEC DO-214AA, molded plastic body over passivated chip
- Terminals: Solder Plated, solderable per MIL-STD-750, Method 2026
- Weight: 0.003 ounces, 0.093 gram

Maximum Ratings (@TA = 25°C unless otherwise specified)

Characteristic	Symbol	US3AB	US3BB	US3DB	US3GB	US3JB	US3KB	US3MB	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RWS}	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 $T_L=110^\circ\text{C}$	$I_{F(AV)}$	3.0							A
Peak forward surge current 8.3ms single half sine-wave super imposed on rated load (JEDEC Method)	I_{FSM}	100							A

Thermal Characteristics

Characteristic	Symbol	US3AB	US3BB	US3DB	US3GB	US3JB	US3KB	US3MB	UNITS
Typical junction capacitance at 4.0V, 1MHz	C_J	70				50			pF
Maximum thermal resistance (NOTE 1)	$R_{\theta JA}$	25							°C/W
Operating temperature range	T_J	-55----+150							°C
Storage temperature range	T_{STG}	-55----+150							°C

Electrical Characteristics (@TA = 25°C unless otherwise specified)

Characteristic	Symbol	US3AB	US3BB	US3DB	US3GB	US3JB	US3KB	US3MB	UNITS	
Maximum instantaneous forward voltage at 3.0A	V_F	1.0			1.25	1.7			V	
Maximum DC reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=125^\circ\text{C}$	I_R	10.0				500				μA
Maximum reverse recovery time at $I_F=0.5\text{A}$ $I_R=1.0\text{A}$ $I_{rr}=0.25\text{A}$	t_{rr}	50				75				ns

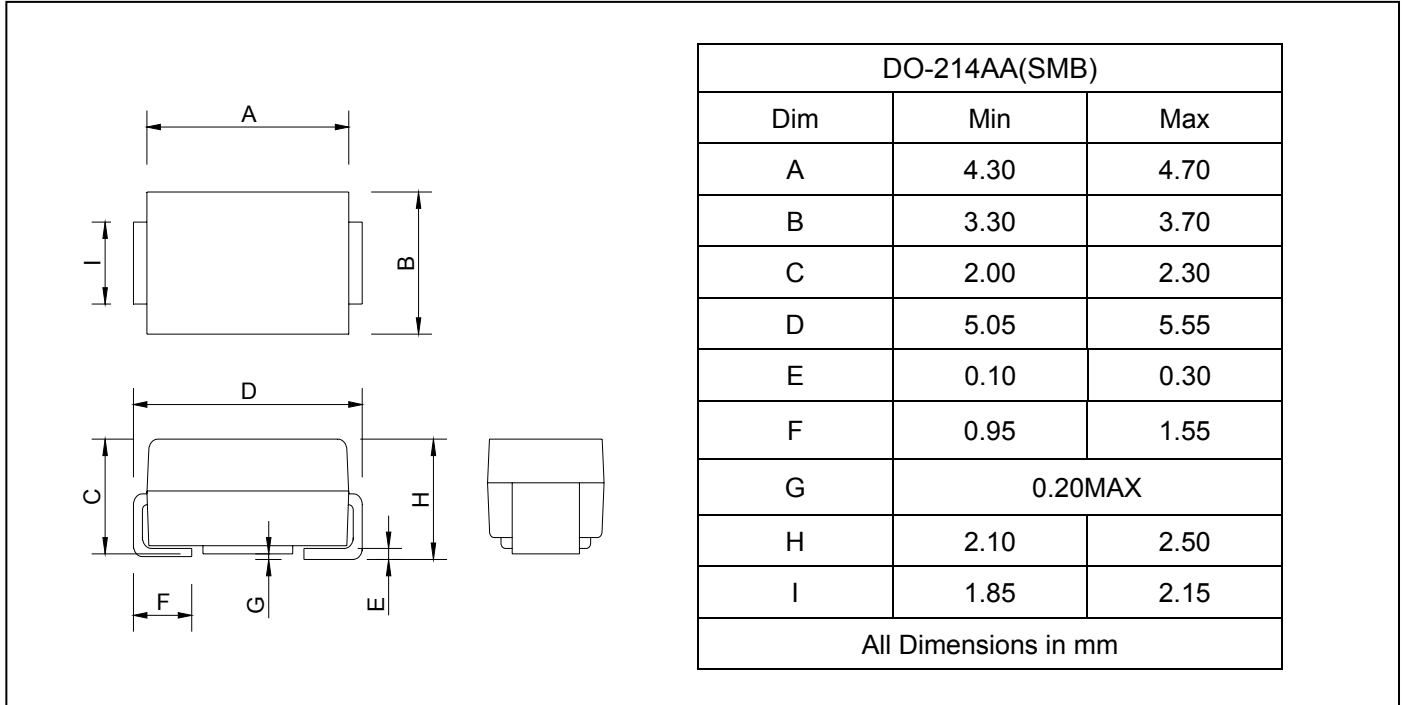
NOTE: 1.P.C.B.mounted on 0.2X0.2"(5.0X5.0mm) copper pad area



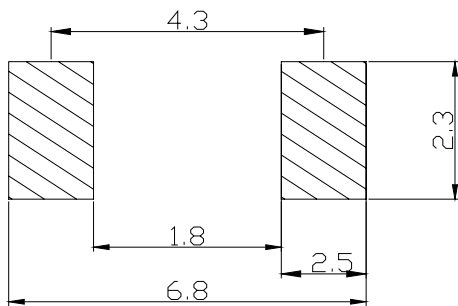
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PACKAGE OUTLINE DIMENSIONS



SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
US3AB--US3MB	DO-214AA(SMB)	3000/Tape&Reel

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FIG.1 – FORWARD CURRENT DERATING CURVE

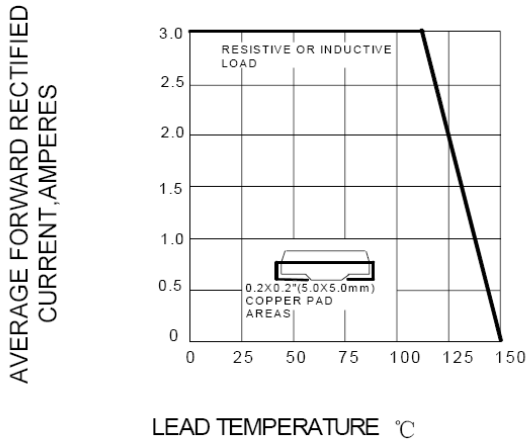


FIG.2 – MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

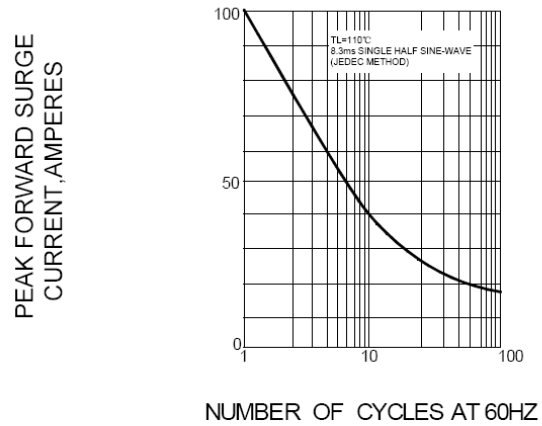


FIG.3 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

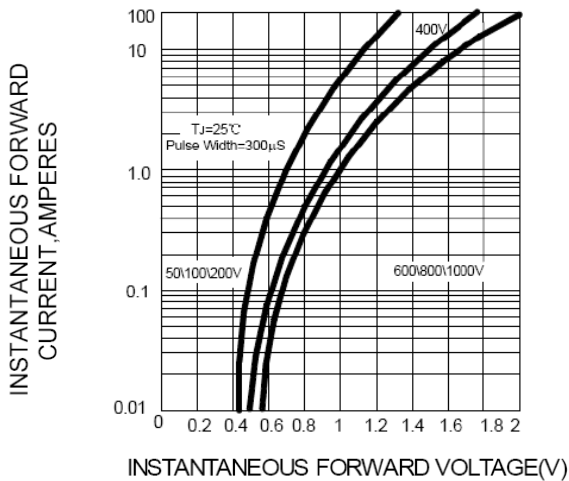


FIG.4 – TYPICAL REVERSE CHARACTERISTICS

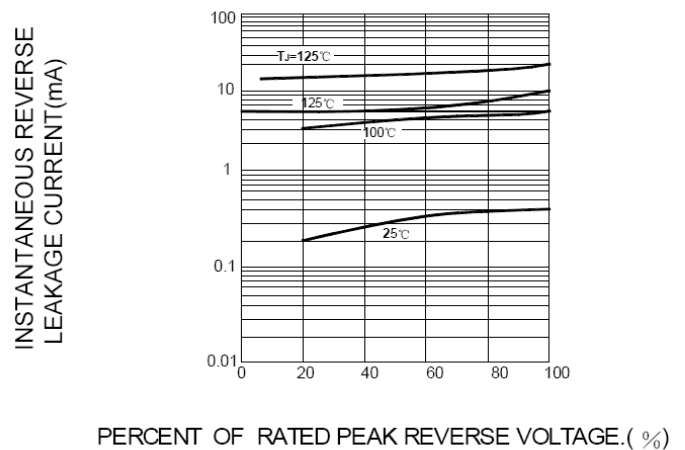


FIG.5 – TYPICAL JUNCTION CAPACITANCE

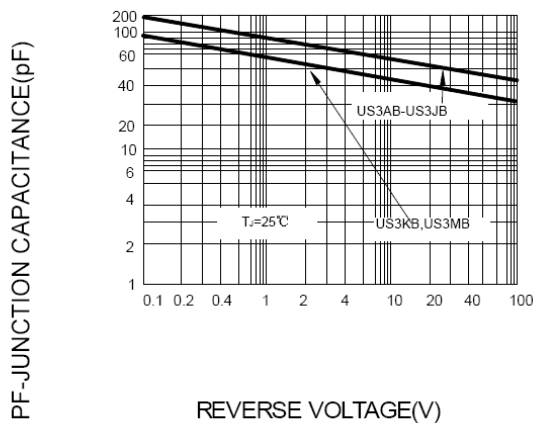


FIG.6 – TYPICAL TRANSIENT THERMAL IMPEDANCE

