



TAYCHIPST Surface Mount Ultrafast Rectifiers

US3AB THRU US3MB

50V-1000V 3.0A

FEATURES

- Plastic package has underwriters laboratories flammability classification 94V-0
- For surface mount applications
- Glass passivated chip junctions
- 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

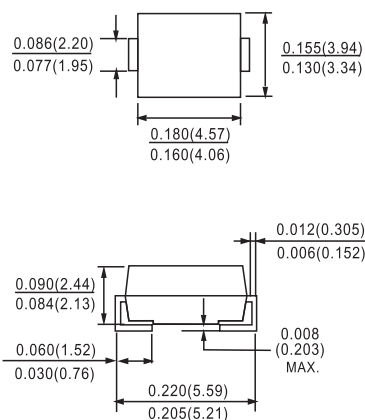
Mechanical Data

Case: JEDEC DO-214AA, molded plastic body over passivated chip

Polarity: Color band denotes cathode end

Weight: 0.002 ounces, 0.064 gram

DO-214AA(SMB)



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 C ambient temperature unless otherwise specified

Device marking code		US3AB	US3BB	US3DB	US3GB	US3JB	US3KB	US3MB	UNITS
Maximum repetitive 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 superimposed on rated load(JEDEC Method)	I_{FSM}	100.0							A
Maximum instantaneous forward voltage at 3A	V_F	1.0				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 $I_F=0.5\text{A}$ $I_R=1.0\text{A}$ $I_T=0.25\text{A}$	t_{rr}	50				75			ns
Typical junction capacitance at 4.0V, 1MHz	C_J	70				50			pF
Maximum thermal resistance (NOTE1)	R_{JA}	25							$^\circ\text{C/W}$
Operating temperature range	T_J	-55-----+150							$^\circ\text{C}$
Storage temperature range	T_{STG}	-55-----+150							$^\circ\text{C}$

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



RATINGS AND CHARACTERISTIC CURVES US3AB THRU US3MB

FIG.1 – FORWARD CURRENT DERATING CURVE

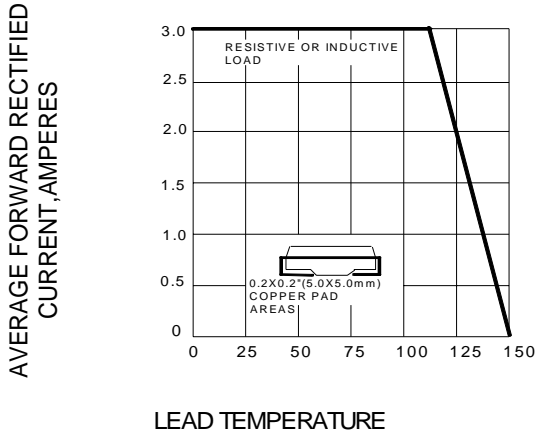


FIG.2 – MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

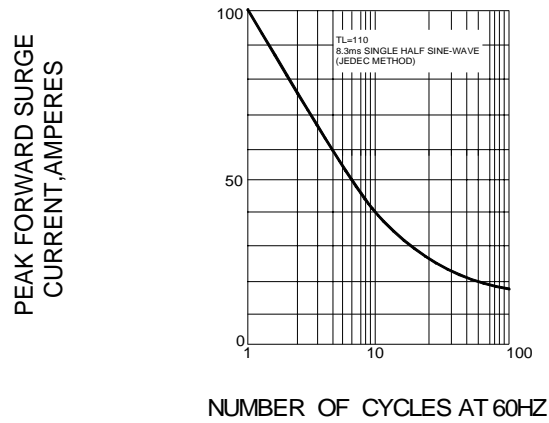


FIG.3 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

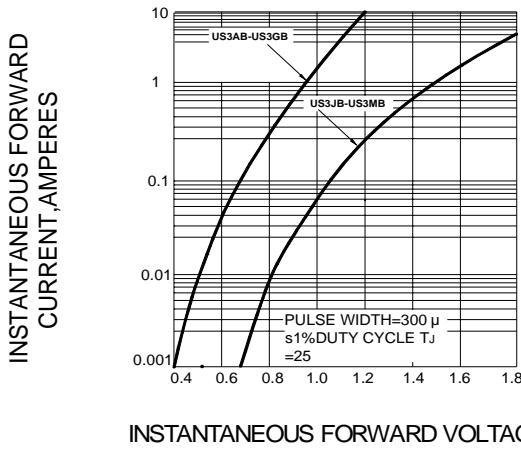


FIG.4 – TYPICAL REVERSE CHARACTERISTICS

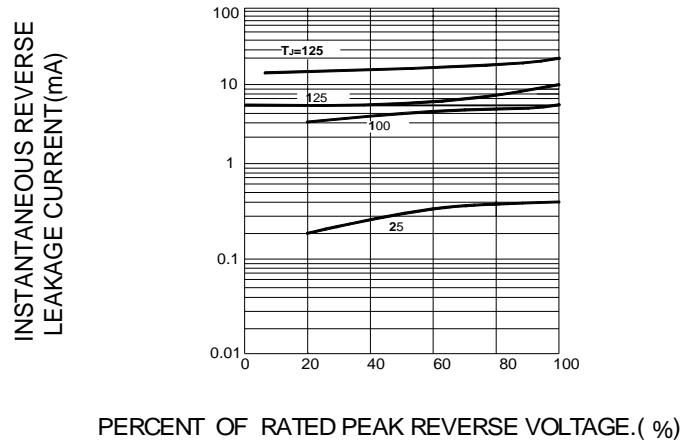


FIG.5 – TYPICAL JUNCTION CAPACITANCE

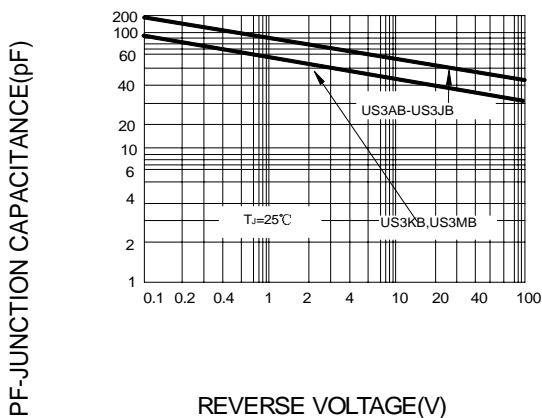


FIG.6 – TYPICAL TRANSIENT THERMAL IMPEDANCE

