

Surface Mount Ultrafast Rectifiers

FEATURES

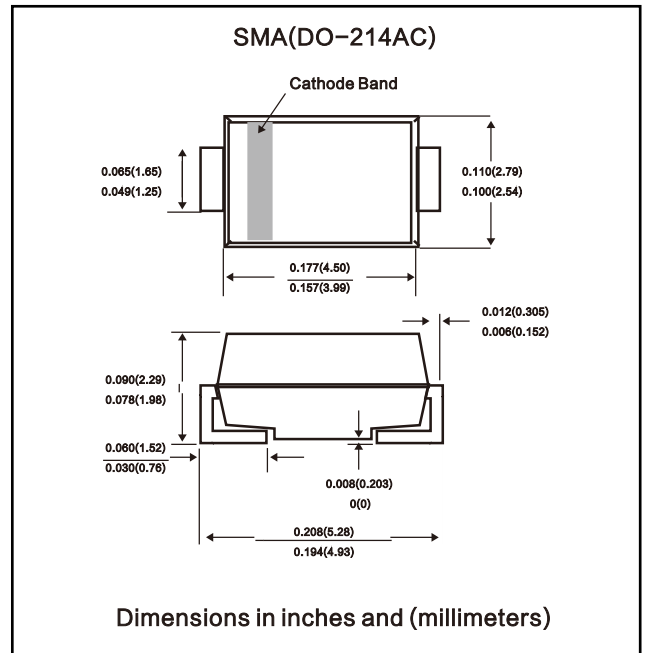
- Plastic package has underwriters laboratories flammability classification 94V0
- For surface mount applications
- Glass passivated chip junctions
- Low profile package
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Low forward voltage, low power loss
- Built-in strain relief, ideal for automated placement
- High temperature soldering:
250°C/10 seconds on terminals

Mechanical Data

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

Polarity: Color band denotes cathode end

Weight: 0.002 ounces, 0.064 gram



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

Device marking code		US2A	US2B	US2D	US2G	US2J	US2K	US2M	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 @ $T_L=90^\circ\text{C}$	$F_{(AV)}$	2.0							A	
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load(JEDEC Method)	F_{SM}	50							A	
Maximum instantaneous forward voltage at 2A	V_F	1.0				1.7			V	
Maximum DC reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	I_R	10					350			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	
Typical junction capacitance at 4.0V, 1MHz	C_J	50				30			pF	
Maximum thermal resistance (NOTE1)	$R_{\theta JA}$ $R_{\theta JL}$	50					18			$^\circ\text{C/W}$
Operating temperature range	T_J	-55 to +150							$^\circ\text{C}$	
Storage temperature range	T_{STG}	-55 to +150							$^\circ\text{C}$	

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

FIG.1 – FORWARD CURRENT DERATING CURVE

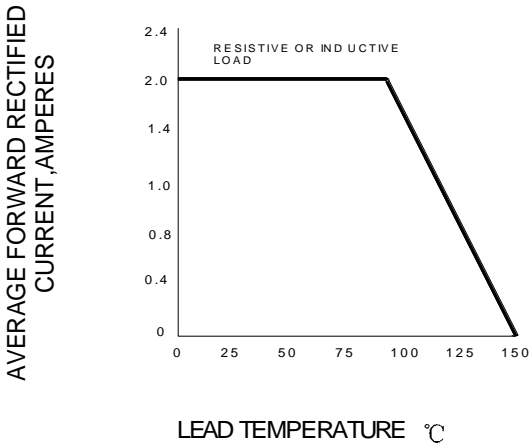


FIG.2 – MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

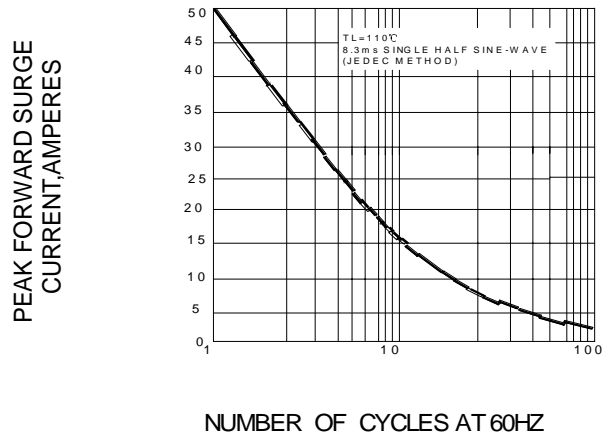


FIG.3 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

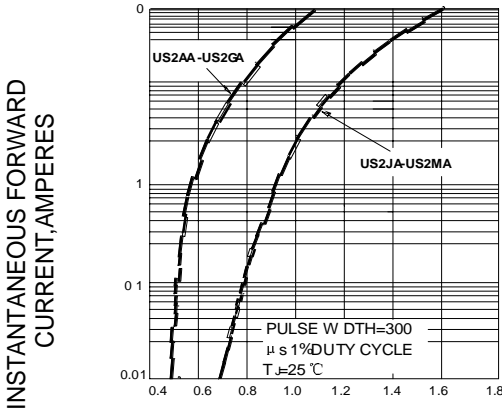
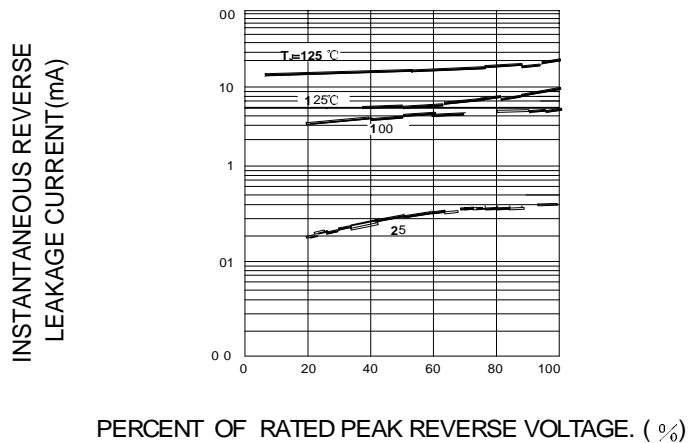


FIG.4 – TYPICAL REVERSE CHARACTERISTICS



INSTANTANEOUS FORWARD VOLTAGE (V)

FIG.5 – TYPICAL JUNCTION CAPACITANCE

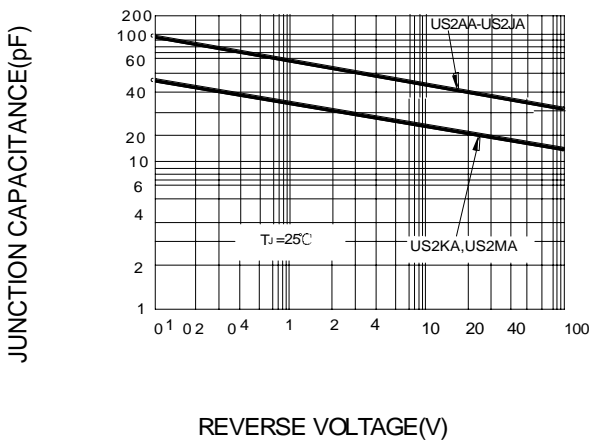


FIG.6 – TYPICAL TRANSIENT THERMAL IMPEDANCE

