

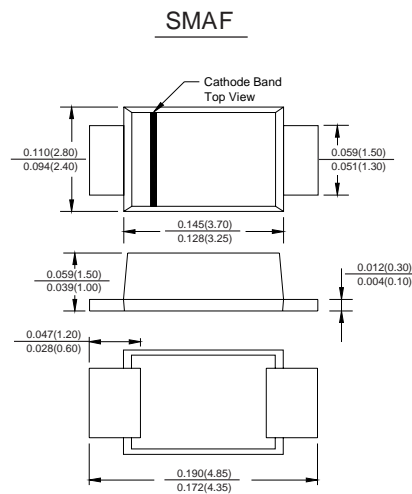


FEATURES

- ✧ 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: 260°C/10 seconds on terminals
- ✧ Plastic package has underwriters laboratories flammability classification 94V-0

MECHANICAL DATA

- ✧ Case: JEDEC SMAFL, molded plastic body over passivated chip
- ✧ Terminals: Solder Plated, solderable per MIL-STD-750, Method 2026
- ✧ Polarity: Color band denotes cathode end



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

Parameter	Symbol	US1AAF	US1BAF	US1DAF	US1GAF	US1JAF	US1KAF	US1MAF	
Marking code		US1A	US1B	US1D	US1G	US1J	US1K	US1M	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 $T_L=110^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load(JEDEC Method)	I_{FSM}	30							A

Thermal Characteristics

Characteristic	Symbol	US1AAF	US1BAF	US1DAF	US1GAF	US1JAF	US1KAF	US1MAF	UNITS
Typical junction capacitance at 4.0V,1MHZ	C_J	20				15			p F
Maximum thermal resistance (NOTE1)	$R_{\theta JA}$ $R_{\theta JL}$	55				20			$^\circ\text{C}/\text{W}$
Operating temperature range	T_J	-55----- +150							$^\circ\text{C}$
Storage temperature range	T_{STG}	-55----- +150							$^\circ\text{C}$

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

Characteristic	Symbol	US1AAF	US1BAF	US1DAF	US1GAF	US1JAF	US1KAF	US1MAF	UNITS
Maximum instantaneous forward voltage at 1.0A	V_F	1.0			1.30	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	5.0				100.0			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

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



FIG.1 – FORWARD CURRENT DERATING CURVE

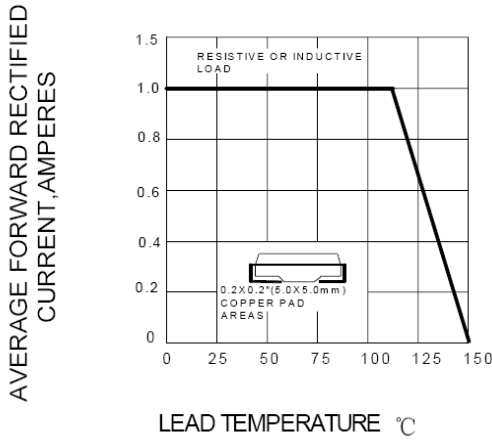


FIG.2 – MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

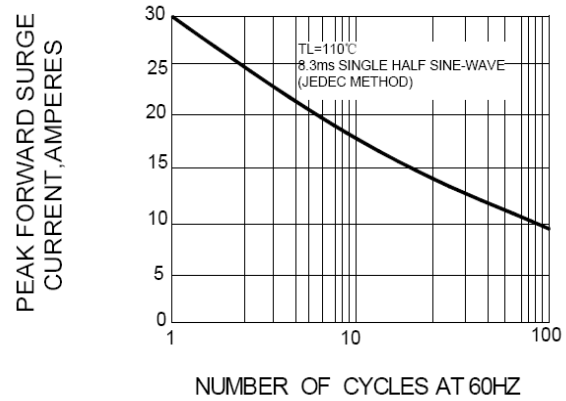


FIG.3 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

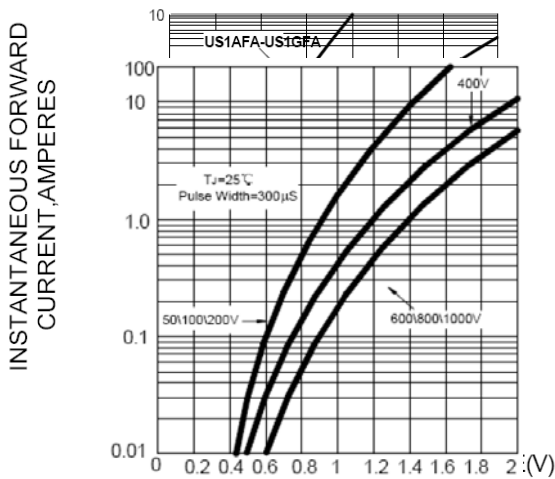


FIG.4 – TYPICAL REVERSE CHARACTERISTICS

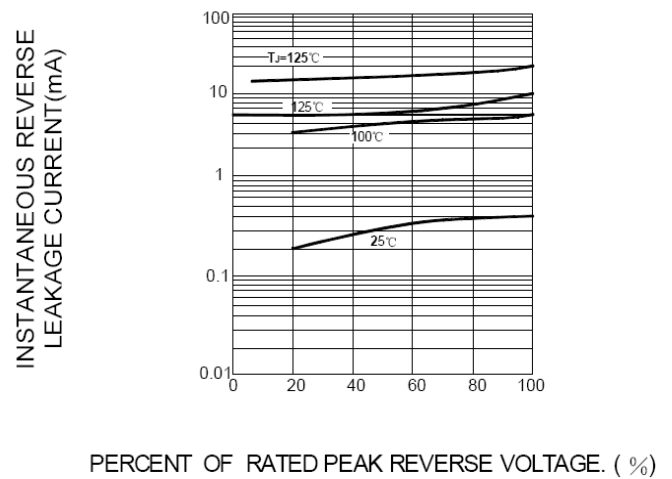


FIG.5 – TYPICAL JUNCTION CAPACITANCE

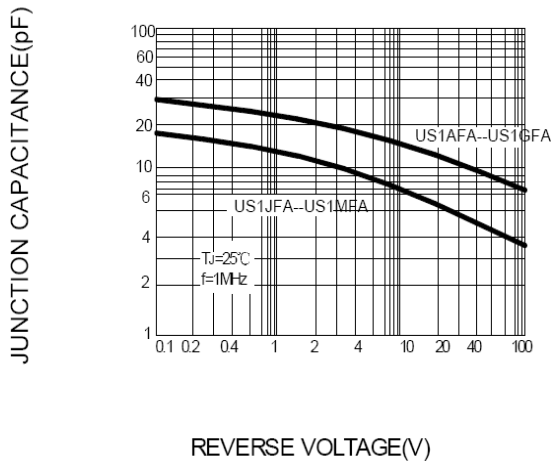
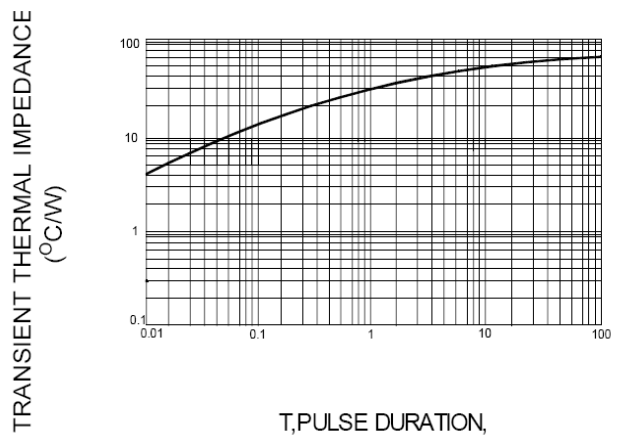


FIG.6 – TYPICAL TRANSIENT THERMAL IMPEDANCE



PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
SMA	5000/REEL	80000	36X30.6X31	12.00	11.00