

**SURFACE MOUNT
ULTRA FAST RECTIFIER**

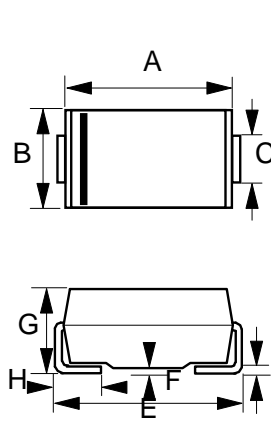
REVERSE VOLTAGE – 50 to 1000 Volts
FORWARD CURRENT – 1.0 Amperes

FEATURES

- Glass passivated chip
- Ultra fast switching for high efficiency
- Low forward voltage drop and high current capability
- Low reverse leakage current

MECHANICAL DATA

- Case : Molded plastic
- Case Material: "Green" Molding compound, UL flammability classification 94V- 0, (No Br. Sb. Cl.) "Halogen-free"
- Polarity : Indicated by cathode band
- Weight: 0.002 ounces , 0.069 grams (Approximate)



SMA

SMA		
DIM	MIN	MAX
A	4.06	4.57
B	2.29	2.92
C	1.27	1.63
D	0.15	0.31
E	4.83	5.59
F	0.05	0.20
G	2.01	2.40
H	0.76	1.52
All Dimensions in millimeter		

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ABSOLUTE RATINGS

PARAMETER	SYMBOL	US1A	US1B	US1D	US1G	US1J	US1K	US1M	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 rectified forward current	@ $T_L=110\text{ }^\circ\text{C}$ I_F	1.0							A
Peak forward surge single half sine-wave	@ $t_p=8.3\text{ms}$ I_{FSM}	30							A
Operating and Storage temperature range	T_J, T_{STG}	-55 ~ +150							°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITION	SYMBOL	MAX			UNIT
Forward voltage (Note 1)	$I_F=1\text{A}$ $T_J=25\text{ }^\circ\text{C}$	V_F	1.0	1.3	1.7	V
Reverse leakage current at Rated DC blocking voltage	$T_J=25\text{ }^\circ\text{C}$ $T_J=100\text{ }^\circ\text{C}$	I_R	5.0 50			uA
Typical junction capacitance(Note 2)		C_j	20		10	pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP		UNIT
Typical thermal resistance(Note 3)	R_{thJA}	60		°C/W
	R_{thJL}	22		
	R_{thJC}	18		

DYNAMIC ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	MAX		UNIT	
Reverse recovery time	$I_F=0.5\text{A}, I_{rr}=0.25\text{A}, I_R=1.0\text{A}$	T_{rr}	50	75	nS

Note :

- (1) 300us pulse with, 2% duty cycle
- (2) Measured at 1.0MHz and reverse voltage of 4.0V DC.
- (3) Thermal resistance junction to Ambient, Lead and Case

REV. 10, Jun-2015, KSFA01

RATING AND CHARACTERISTIC CURVES US1A thru US1M



FIG.1- FORWARD CURRENT DERATING CURVE

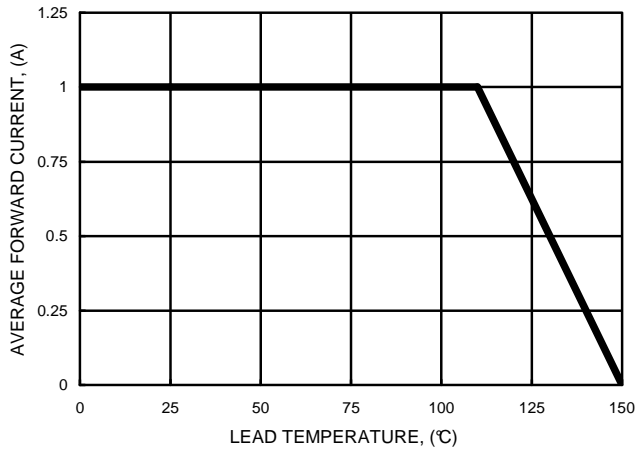


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

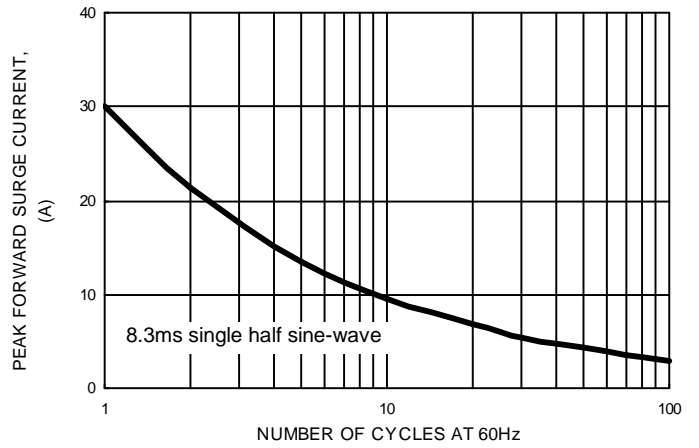


FIG.3- TYPICAL FORWARD CHARACTERISTICS

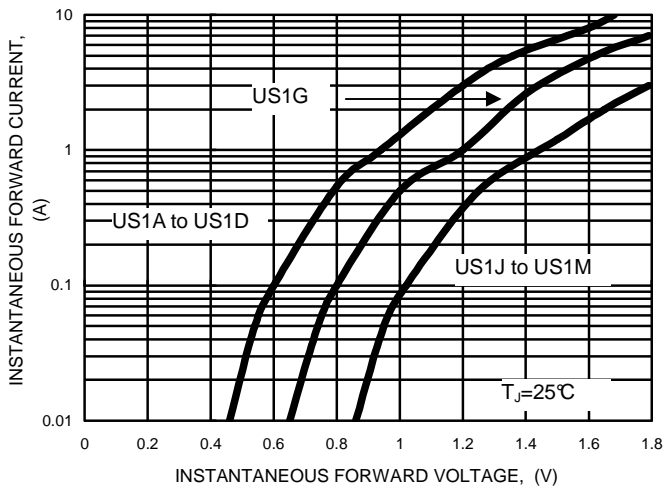


FIG.4- TYPICAL JUNCTION CAPACITANCE

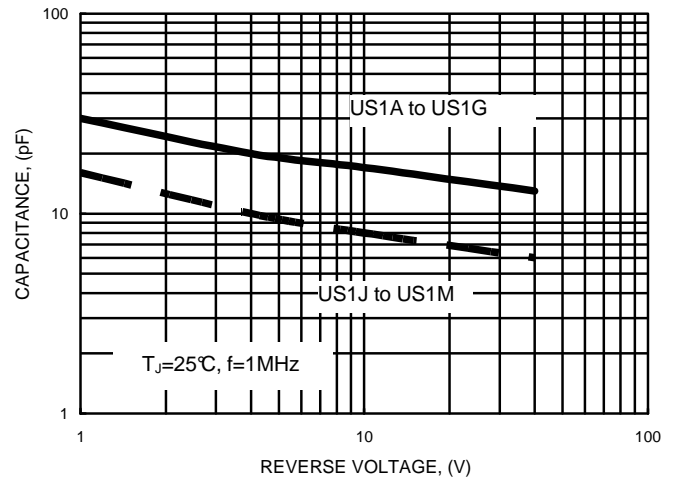
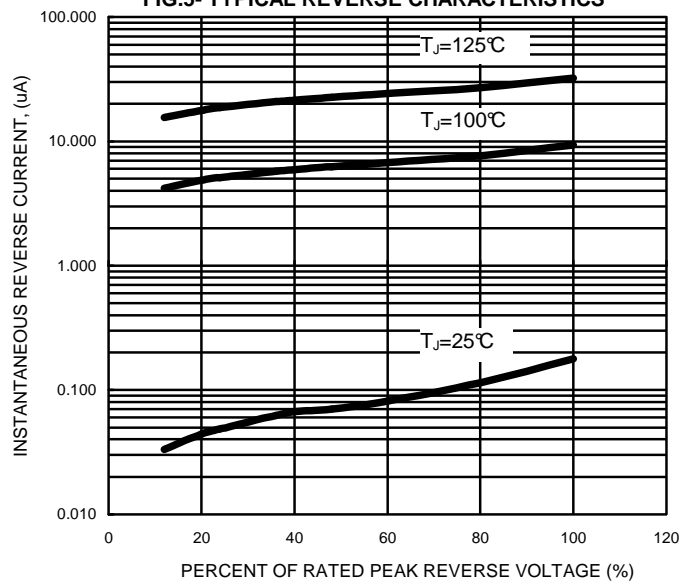


FIG.5- TYPICAL REVERSE CHARACTERISTICS



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