

**SURFACE MOUNT
ULTRA FAST RECTIFIER**

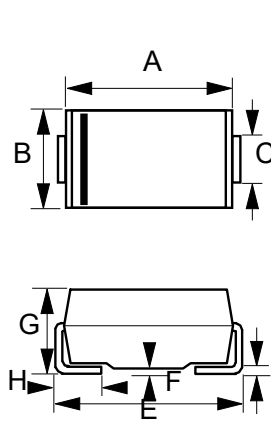
REVERSE VOLTAGE – 600 to 1000 Volts
FORWARD CURRENT – 1.0 Amperes

FEATURES

- Glass passivated chip
- Ultra fast switching for high efficiency
- Low forward voltage drop and high current capability
- Low reverse leakage current
- Qualified according AEC-Q101 Rev_C

MECHANICAL DATA

- Case : Molded plastic
- Case Material: "Green" Molding compound, UL flammability classification 94V- 0,"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	US1J	US1K	US1M	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	600	800	1000	V
Maximum RMS voltage	V_{RMS}	420	560	700	V
Maximum DC Blocking voltage	V_{DC}	600	800	1000	V
Maximum Average rectified forward current	@ $T_L=110\text{ }^\circ\text{C}$	1.0			A
Peak forward surge single half sine-wave	@ $t_p=8.3\text{ms}$	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	1.7	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	5.0 100	μA
Typical junction capacitance(Note 2)		C_j	10	pF

THERMAL PERFORMANCE

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	$I_F=0.5\text{A}, I_{r1}=0.25\text{A}, I_{r2}=1.0\text{A}$	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.-0, Oct-2019, KSFA03

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RATING AND CHARACTERISTIC CURVES US1J thru US1M



FIG.1- FORWARD CURRENT DERATING CURVE

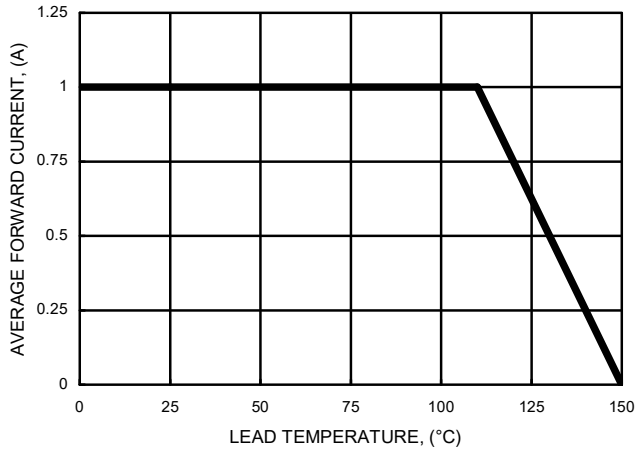


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

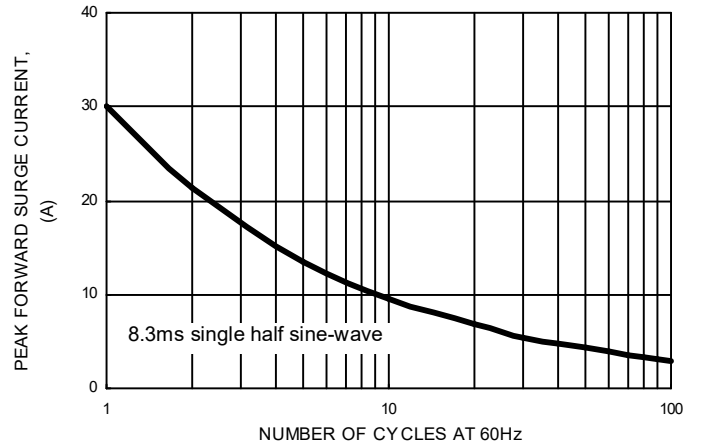


FIG.3- TYPICAL FORWARD CHARACTERISTICS

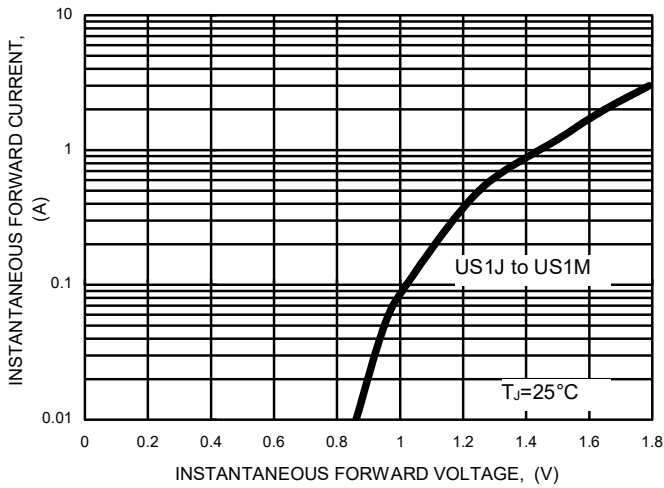


FIG.4- TYPICAL JUNCTION CAPACITANCE

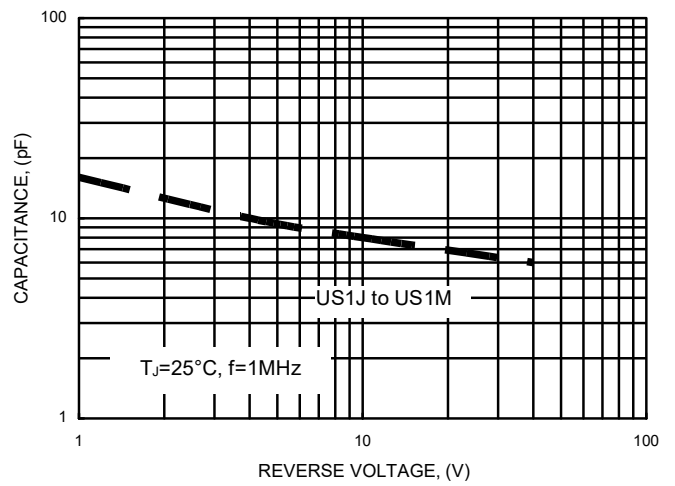
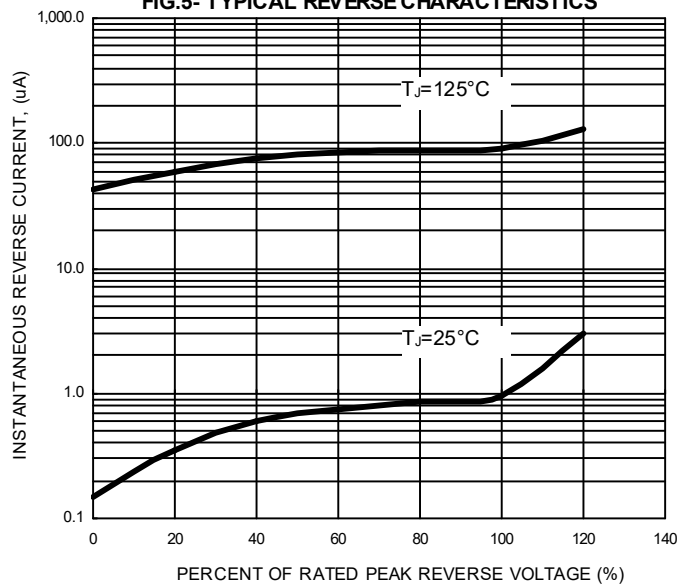


FIG.5- TYPICAL REVERSE CHARACTERISTICS



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