

**SURFACE MOUNT  
ULTRA FAST RECTIFIER**

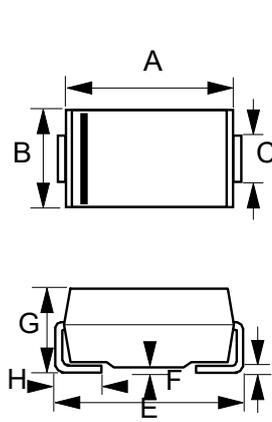
**REVERSE VOLTAGE – 600 to 1000 Volts**  
**FORWARD CURRENT – 1.0 Amperes**

**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	@ $T_L=110^\circ C$ $I_F$	1.0			A
Peak forward surge single half sine-wave	@ $t_p=8.3ms$ $I_{FSM}$	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)	$I_F=1A$ $T_J = 25^\circ C$	$V_F$	1.7	V
Reverse leakage current at Rated DC blocking voltage	$T_J = 25^\circ C$	$I_R$	5.0	uA
	$T_J = 100^\circ C$		100	
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	$I_F=0.5A, I_{r}=0.25A, I_R=1.0A$	$T_{rr}$	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

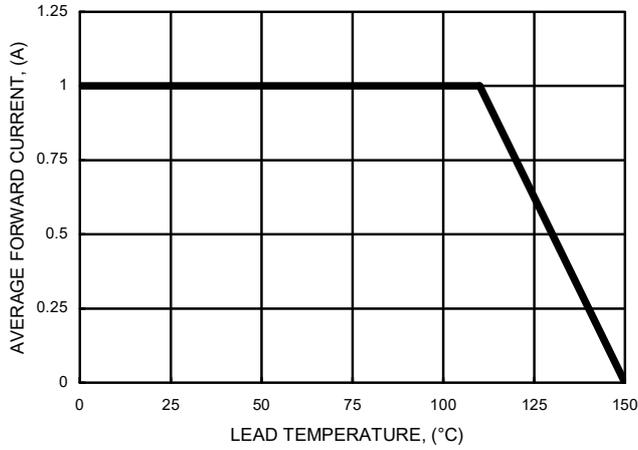
REV.-0, Oct-2019, KSFA03

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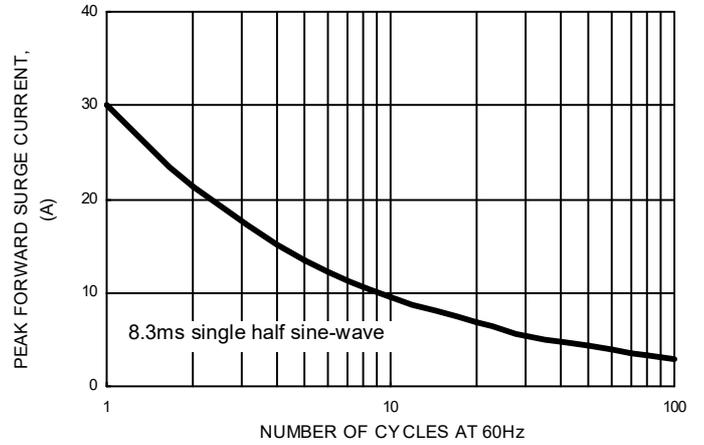
# RATING AND CHARACTERISTIC CURVES US1J thru US1M



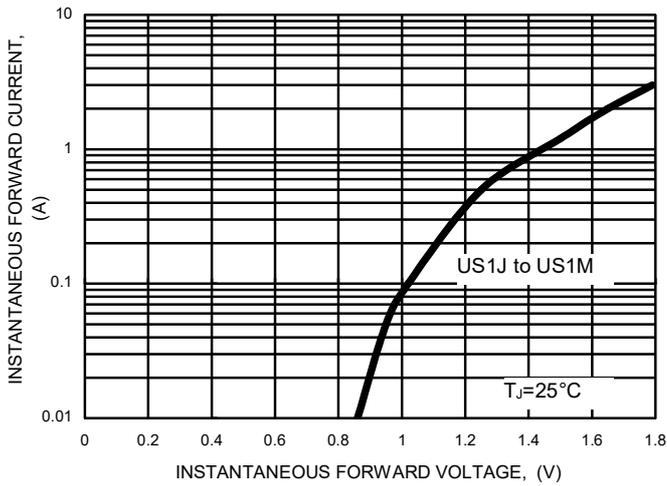
**FIG.1- FORWARD CURRENT DERATING CURVE**



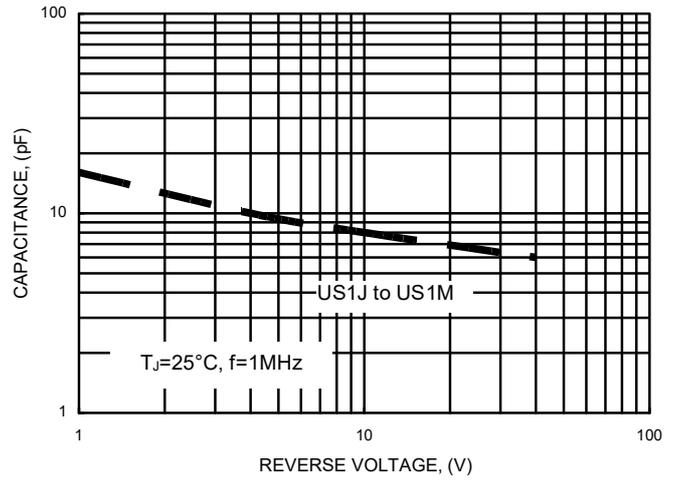
**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**



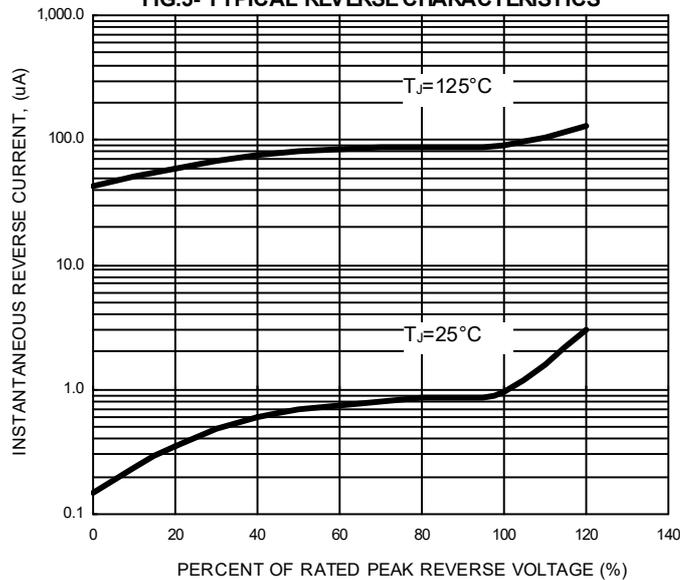
**FIG.3- TYPICAL FORWARD CHARACTERISTICS**



**FIG.4- TYPICAL JUNCTION CAPACITANCE**



**FIG.5- TYPICAL REVERSE CHARACTERISTICS**



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