

SURFACE MOUNT ULTRA FAST RECTIFIERS

REVERSE VOLTAGE - 50 to 1000 Volts
FORWARD CURRENT - 1.0 Ampere

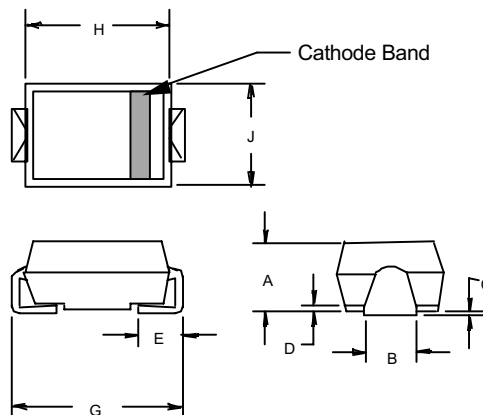
FEATURES

- Plastic passivated Junction
- Ultra fast switching for high efficiency
- For surface mounted applications
- Low forward voltage drop and high current capability
- Low reverse leakage current
- Plastic material has UL flammability classification 94V-0

MECHANICAL DATA

- Case : Molded plastic
- Polarity : Indicated by cathode band
- Weight : 0.002 ounces, 0.064 grams

SMAE



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.081	.089	2.05	2.25	
B	.059	.075	1.50	1.90	
C	.002	.010	0.05	0.25	
D	--	.008	--	.20	
E	.030	.052	0.76	1.32	
G	.189	.209	4.80	5.30	
H	.159	.167	4.05	4.25	
J	.094	.102	2.40	2.60	

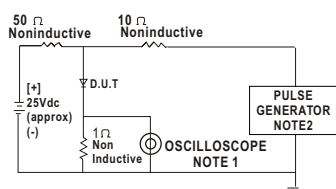
MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%

CHARACTERISTICS	SYMBOL	US1A	US1B	US1D	US1G	US1J	US1K	US1M	UNIT
Maximum Recurrent 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 Forward Rectified Current @T _L =75°C	I(AV)	1.0							A
Peak Forward Surge Current 8.3ms single half sine-wave super imposed on rated load (JEDEC METHOD)	I _{FSM}	30							A
Maximum forward Voltage at 1.0A DC	V _F	1.0		1.3		1.7		V	
Maximum DC Reverse Current at Rated DC Blocking Voltage @T _J =25°C @T _J =100°C	I _R	5.0				100			uA
Maximum Reverse Recovery Time (Note 1)	T _{RR}	50				75			ns
Typical Junction Capacitance (Note 2)	C _J	20				17			pF
Typical Thermal Resistance (Note 3)	R _{θJL}	30							°C/W
Operating Temperature Range	T _J	-55 to +150							°C
Storage Temperature Range	T _{STG}	-55 to +150							°C

NOTES : 1.Reverse Recovery Test Conditions :I_F=0.5A,I_R=1.0A,I_{RR}=0.25A.
2.Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
3.Thermal Resistance junction to Lead.

RATNG AND CHARACTERISTIC CURVES



NOTE:1. Rise TIME=7ns max
 Input Impedance = 1 megohm. 22 pF
 2. Rise Time = 10ns max
 Source Impedance = 50Ohms

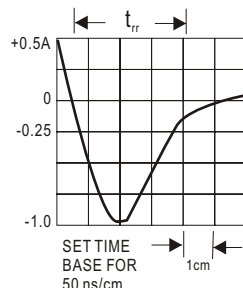


Fig. 1 - REVERSE FRCOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

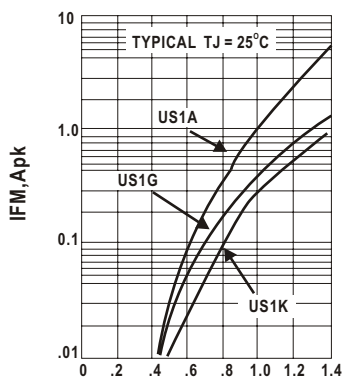


FIG. 2- FORWARD CHARACTERISTICS

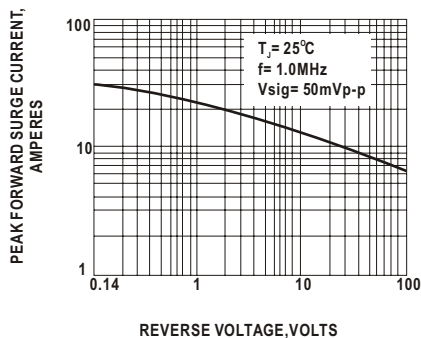


FIG.3- TYPICAL JUNCTION CAPACITANCE

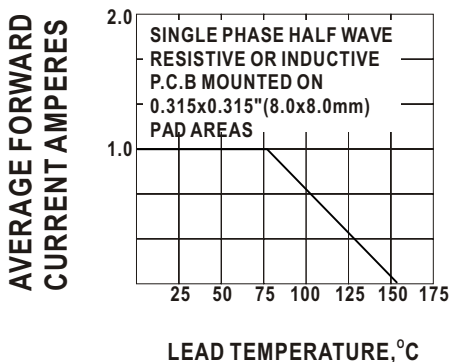


FIG. 4 - FORWARD CURRENT DERATING CURVE

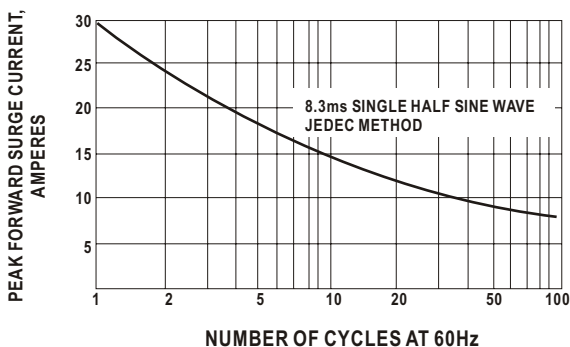


FIG. 5 - PEAK FORWARD SURGE CURRENT