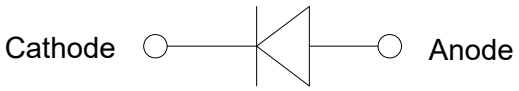
Surface Mount Fast Recovery Rectifier

US1A~US1M
SMA

Top View

Bottom View



Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- Fast switching for fast recovery
- High forward surge capability

Mechanical Data

- Package: SMA
- Lead: lead solderable per MIL-STD-202, method 208 guaranteed
- Polarity: Color band denotes cathode end

■Maximum Ratings (T_a=25℃ Unless otherwise specified）

Parameter	Symbols	US1A	US1B	US1D	US1G	US1J	US1K	US1M	Units
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 Forward Rectified Current	$I_{(AV)}$	1.0							A
Reverse Recovery Time. IF=0.5A,IR=1A,IRR=0.25A	Trr	50				75			ns
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	30							A
I^2t rating for fusing (1ms< t < 8.3ms)	I^2t	3.7							A^2S
Maximum Forward Voltage at 1.0A and 25℃	V_F	1.0			1.3	1.7			V
Maximum DC Reverse Current @TA=25 °C at Rated DC Blocking Voltage @TA=100 °C	I_R	5 100							μA
Typical Junction Capacitance（Note1）	C_j	20				10			pF
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							°C
Typical thermal resistance (Note 2)	RθJ-A	30							°C/W

Note: 1. Measured at 1MHz and applied reverse voltage of 4 VDC.
2. Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 3mm*3mm copper pad areas.

RATINGS AND CHARACTERISTICS CURVES (TA = 25 °C unless otherwise noted)

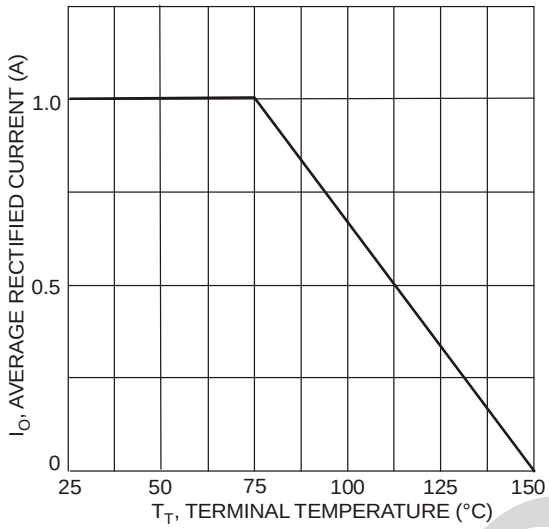


Fig. 1 Forward Current Derating Curve

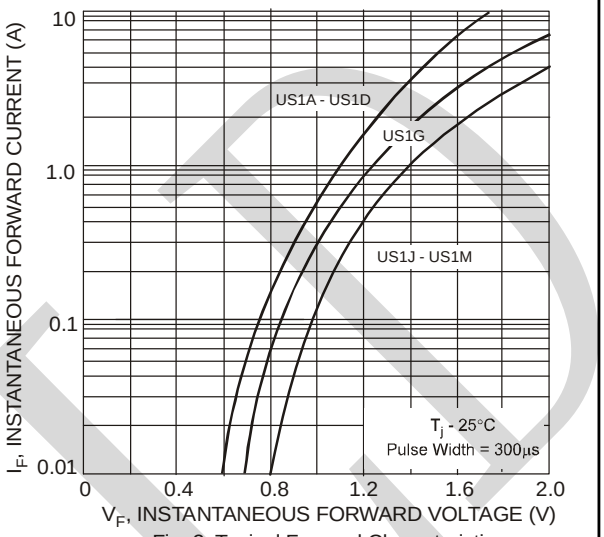


Fig. 2 Typical Forward Characteristics

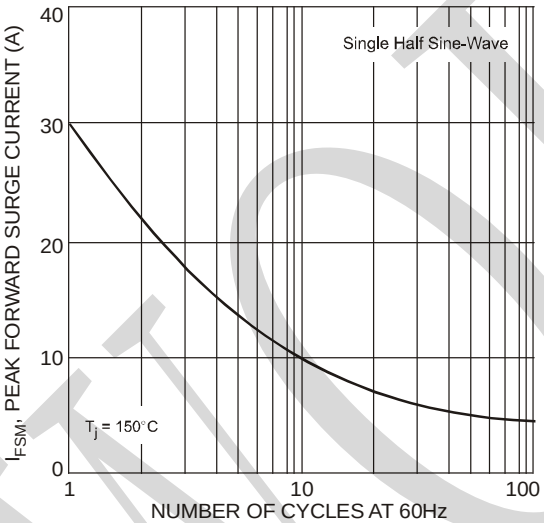


Fig. 3 Forward Surge Current Derating Curve

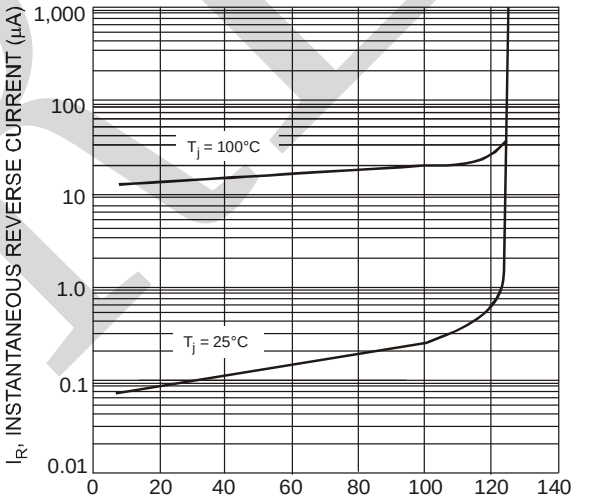
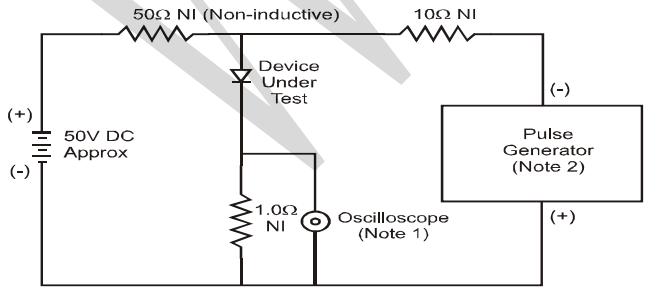
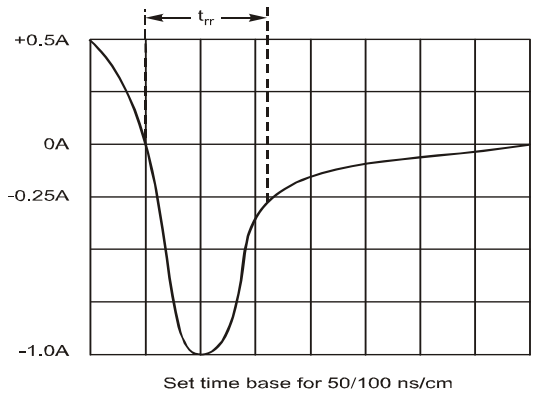


Fig. 4 Typical Reverse Characteristics



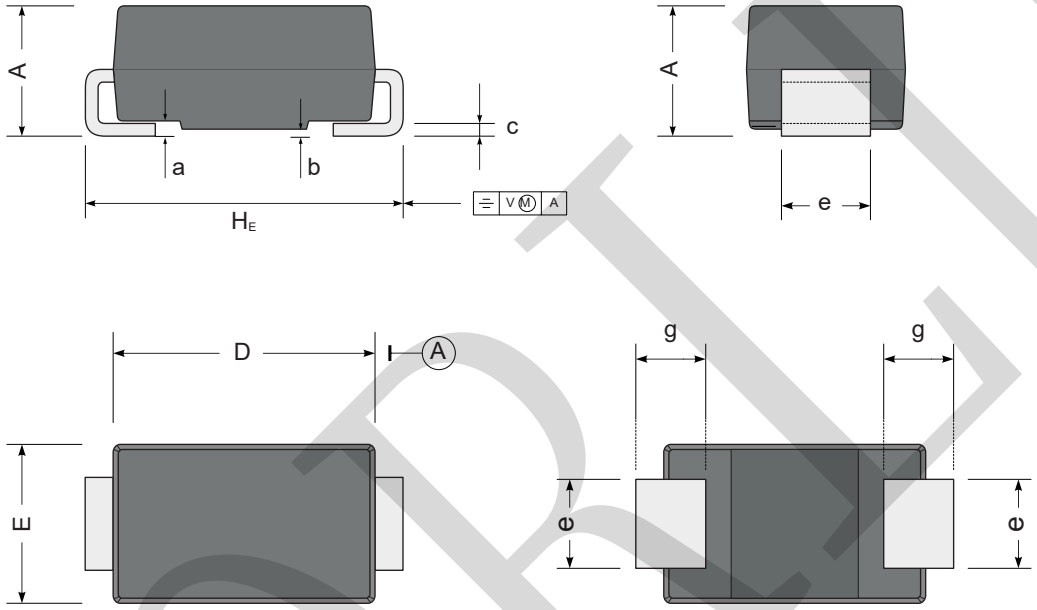


Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
2. Rise Time = 10ns max. Input Impedance = 50Ω.

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

PACKAGE OUTLINE DIMENSIONS

SMA



UNIT		A	D	E	H_E	c	e	g	b	a
mm	max	2.2	4.5	2.7	5.2	0.31	1.6	1.5	0.2	0.3
	min	1.9	4.0	2.3	4.7	0.15	1.3	0.9	0.05	
mil	max	87	181	106	205	12	63	59	7.9	12
	min	75	157	91	185	6	51	35	2	