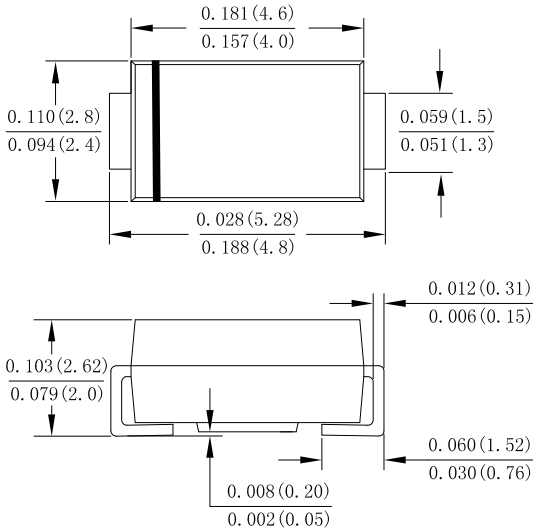
US1A THRU US1M

1.0AMP Ultra Fast Recovery Silicon Rectifier

Features

- Low Power Loss, High Efficiency
- Ideally Suited for Automatic Assembly
- Guard Ring Die Construction
- Plastic Case Material has UL Flammability Classification Rating 94V- 0

Case: SMA(DO-214AC)



Dimensions in inches and (millimeters)

Mechanical Data

- Case: Molded plastic SMA
- Terminals: Plated leads solderable per MIL-STD-750,Method 2026 guaranteed
- Polarity: Color band dentes cathode end
- Mounting Position: Any
- Making: Type Number

Maximum Ratings and Electrical Characteristics

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

Type Number	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
Average Rectified Output Current @T_L =100℃	$I_{F(AV)}$	1.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed On Rated Load (JEDEC Method) @$T_{j=25}$ ℃ / @$T_{j=125}$ ℃	I_{FSM}	30 / 24							A
Non-Repetitive Peak Forward Surge Current 1.0ms Single half sine-wave Superimposed On Rated Load (JEDEC Method) @$T_{j=25}$ ℃ / @$T_{j=125}$℃	I_{FSM}	60 / 48							A
10000 times of the wave surge current (time width 1ms, time interval 3s)	I_{FSM}	22.5							A
Rating for fusing (t<8.3ms)	I^2t	3.74							A^2s
Forward Voltage @IF=1.0A	V_{FM}	1.0			1.3		1.7		V
Peak Reverse Current @T_A =25℃	I_R	5.0							uA
At Rated DC Blocking Voltage @T_A =125℃		200							
Maximum Reverse Recovery Time (Note 1)	Trr	50					75		ns
Typical Junction Capacitance (Note 2)	C_J	8							pF
Typical Thermal Resistance	$R_{\theta JL}$ / $R_{\theta JA}$	27 / 70							℃/W
Operating and Storage Temperature Range	T_J,T_{STG}	-55 to+150							℃

Note: 1.Reverse Recovery Test Conditions:IF=0.5A,IR=1.0A,IRR=0.25A.
2. Measured at 1.0 MHz and Applied reverse Voltage of 4.0V D.C

Fig. 1 Forward Current Derating Curve

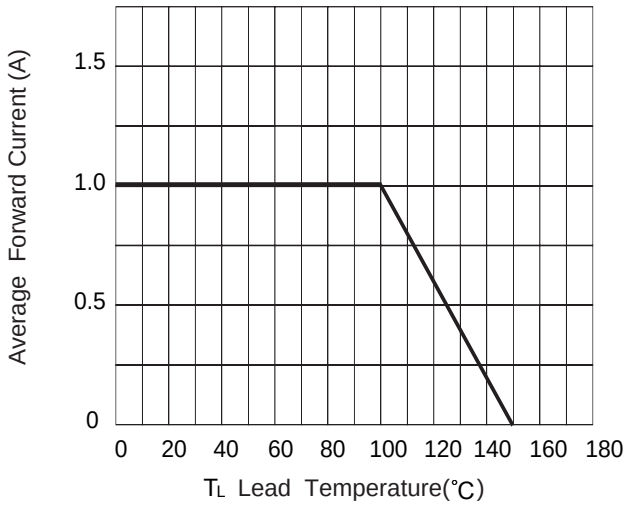


Fig. 2 Typ. Forward Characteristics

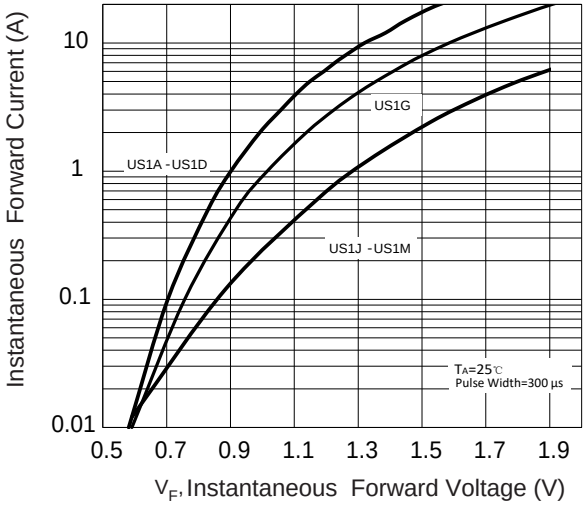


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

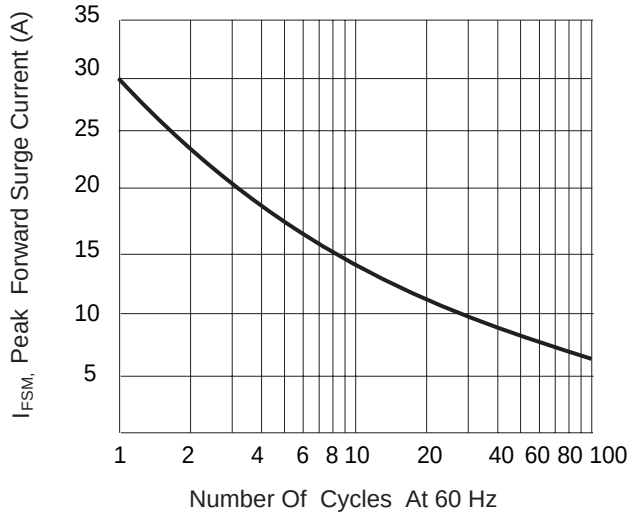


Fig.4 Typical Junction Capacitance

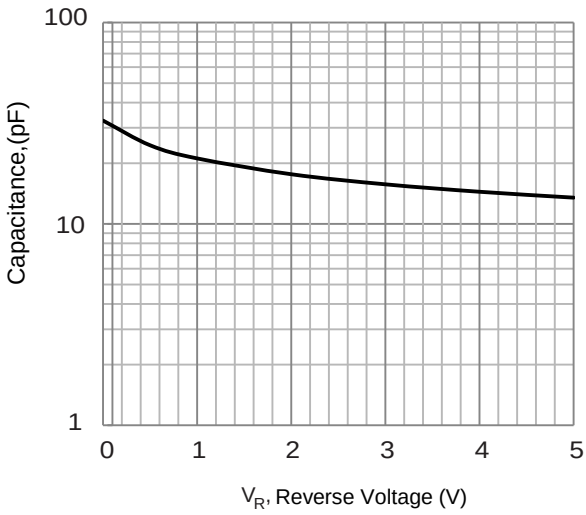


Fig.5 Typical Reverse Chracteristics

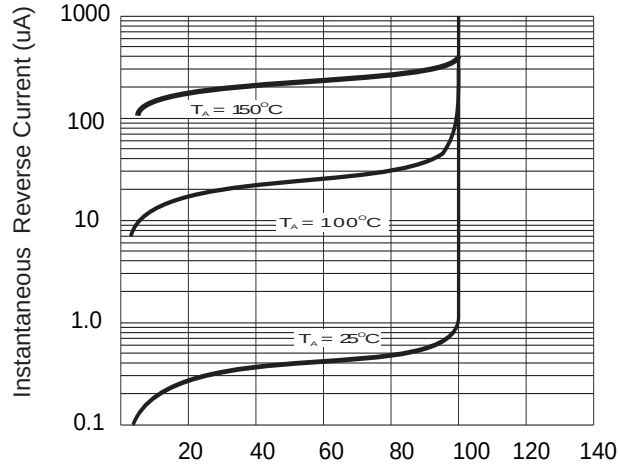
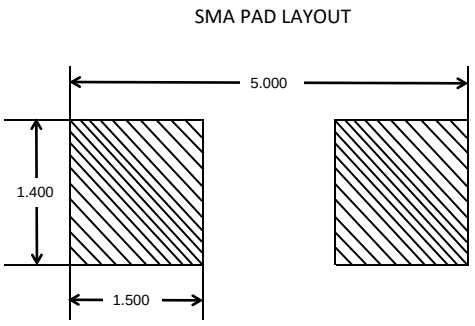


Fig.6 Mounting PAD Layout



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