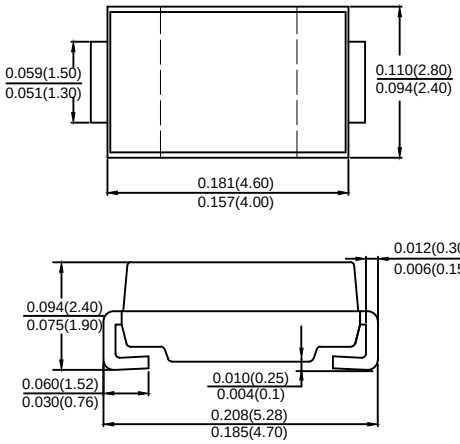
US1A-US1M

Surface Mount Ultra Fast Rectifiers

Features

- Low profile space
- Ideal for automated placement
- Glass passivated chip junctions
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering:
  260℃/10 seconds at terminals
- Component in accordance to
  RoHS 2002/95/1 and WEEE 2002/96/EC

SMA/DO-214AC



Dimensions in inches and (millimeters)

Mechanical Date

- **Case:** JEDEC DO-214AC (SMA) molded plastic body over glass passivated chip
- **Terminals:** Solder plated, solderable per J-STD-002B and JESD22-B102D
- **Polarity:** Laser band denotes cathode end

Maximum Ratings & Thermal 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℃	IF(AV)	1.0							A
Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30							A
Rating for fusing (t<8.3ms)	I^2t	3.74							A^2s
Forward Voltage @IF=1.0A	V_{FM}	1.0			1.25	1.65			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	17							pF
Typical Thermal Resistance Junction to Ambient (Note 3)	$R_{\theta JA}$	75							℃/W
Operating Temperature Range	T_J	-55 to+150							℃
Storage Temperature Range	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
3. 8.0MM² (.013mm Thick) Land Areas.

Characteristic Curves (T_A=25 ℃ unless otherwise noted)

Fig.1 Forward Current Derating Curve

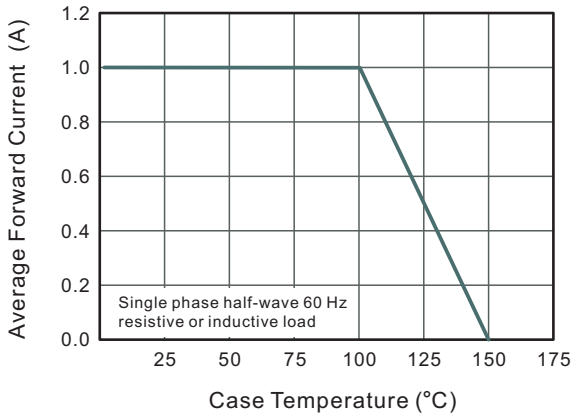


Fig.2 Typical Reverse Characteristics

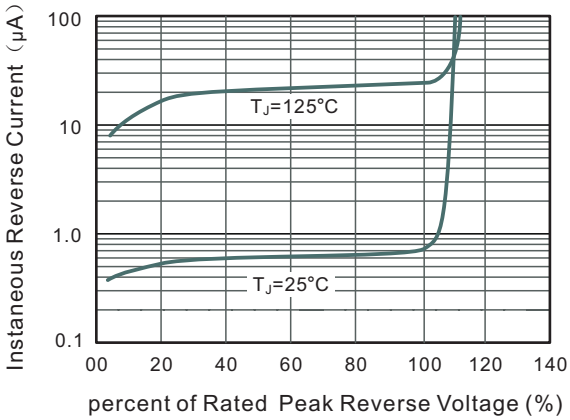


Fig.3 Typical Forward Characteristics

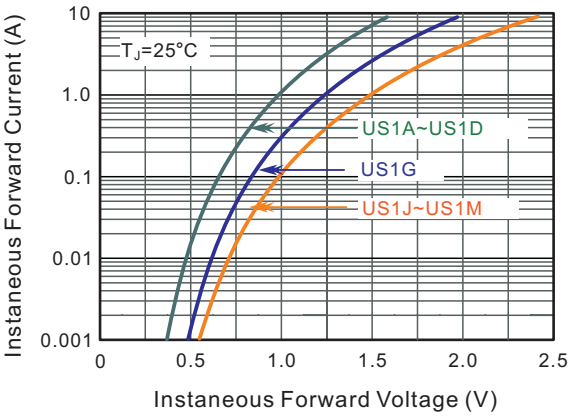
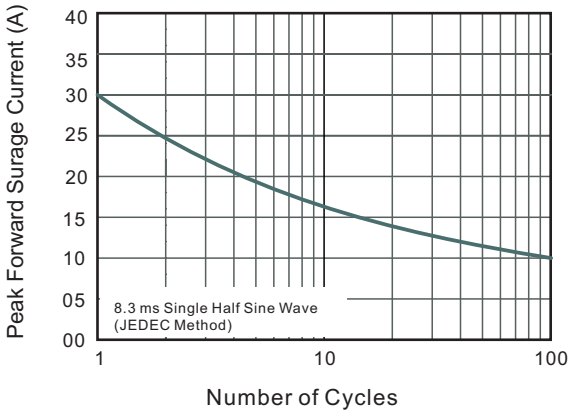
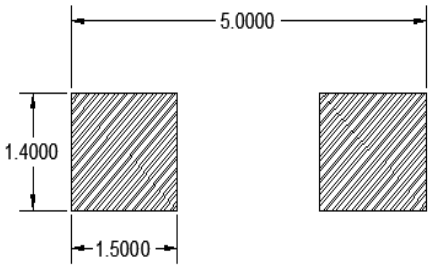


Fig.4 Maximum Non-Repetitive Peak Forward Surage Current



SMA PAD LAYOUT



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