AiT Semiconductor Inc.
www.ait-ic.com

US1AA~US1MA

SURFACE MOUNT ULTRAFAST RECOVERY RECTIFIER
REVERSE VOLTAGE 50V TO 1000V FORWARD CURRENT 1A

DESCRIPTION

The US1AA~US1MA are available in SMA package

FEATURES

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- High efficiency
- Available in SMA package

ORDERING INFORMATION

Package Type	Part Number
SMA	US1AA
	US1BA
	US1DA
	US1GA
	US1JA
	US1KA
	US1MA
Note	SPQ: 5,000pcs/Reel
AiT provides all RoHS Compliant Products	

MECHANICAL DATA

Case: SMA

Terminals: Solderable per MIL-STD-750,
Method 2026

Approx. Weight: 0.055g / 0.002oz

PIN DESCRIPTION

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

Parameter	Symbol	US1AA	US1BA	US1DA	US1GA	US1JA	US1KA	US1MA	Unit
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 at T_C=125°C	$I_{F(AV)}$	1.0							A
Peak Forward Surge Current 8.3ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	35							A
Maximum Instantaneous Forward Voltage at 1A	V_F	1.0			1.3	1.65			V
Maximum DC Reverse Current at Rated DC Blocking Voltage T_A=25°C	I_R	5.0							μA
T_A=125°C		100							
Maximum Reverse Recovery Time^{NOTE1}	t_{rr}	50				75			ns
Typical Thermal Resistance^{NOTE2}	$R_{θJA}$	75							°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 ~150							°C

NOTE1: Measured with I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A

NOTE2: P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

TYPICAL CHARACTERISTICS

Figure. 1 Forward Current Derating Curve

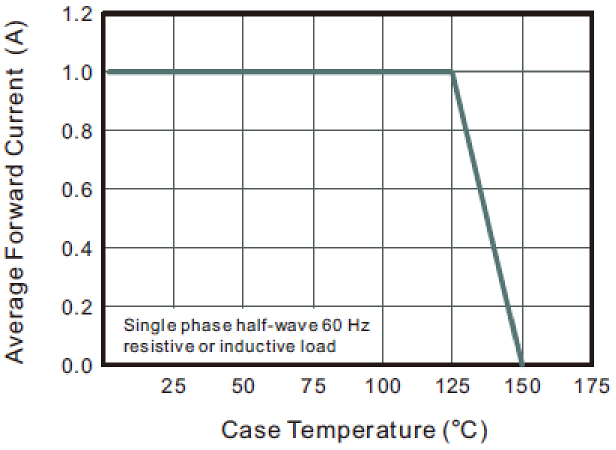


Figure. 2 Typical Reverse Characteristics

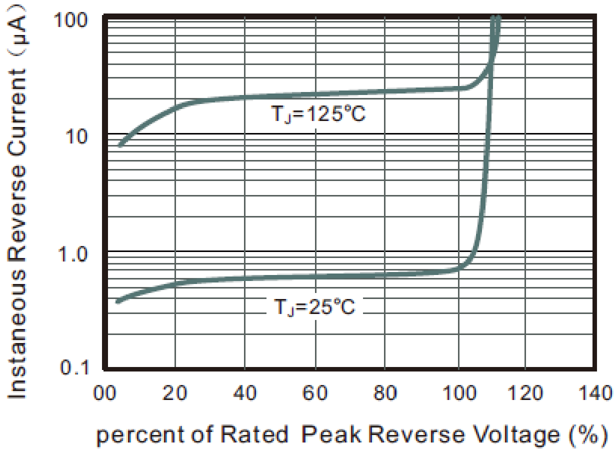


Figure. 3 Typical Forward Characteristics

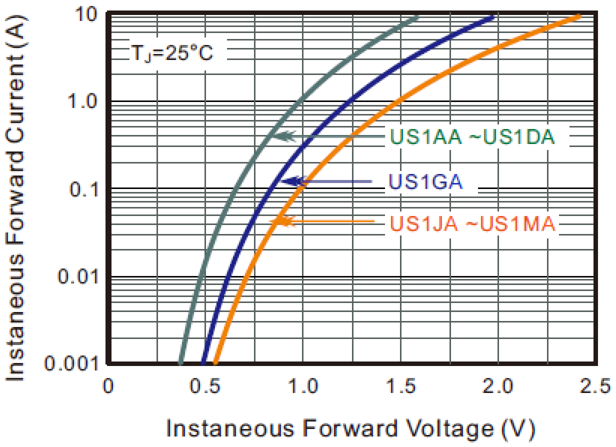
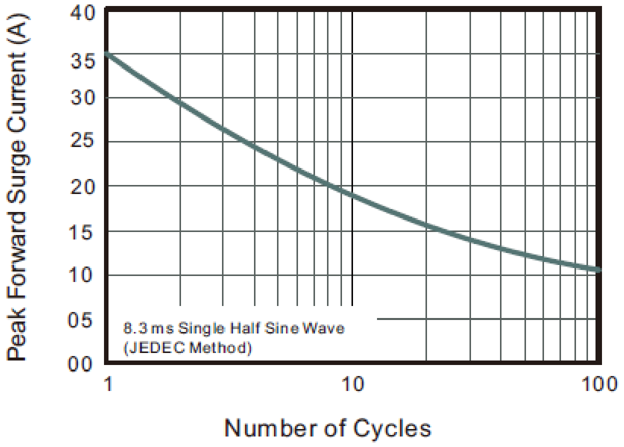


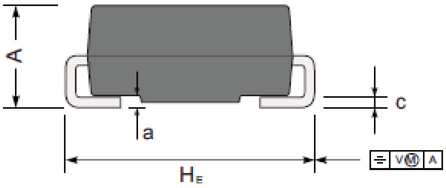
Figure. 4 Maximum Non-Repetitive Peak
Forward Surge Current

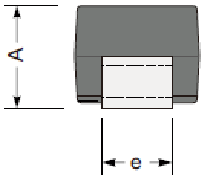


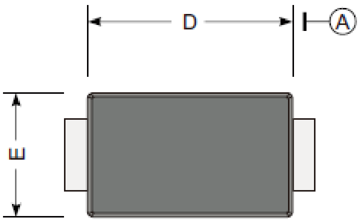
PACKAGE INFORMATION

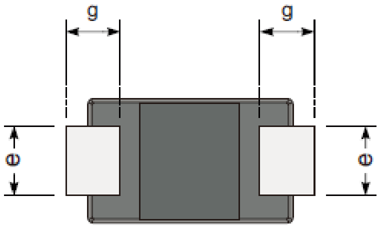
Dimension in SMA (Unit: mm)

Plastic surface mounted package; 2 leads

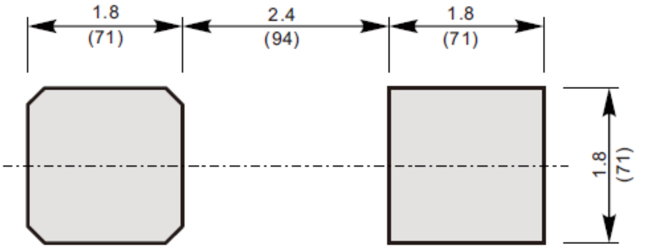








The recommended mounting pad size



Unit : $\frac{\text{mm}}{\text{(mil)}}$

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

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