

### Surface Mount Ultrafast Recovery Rectifier

#### FEATURES:

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Superfast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

#### Circuit Diagram & Pin Configuration:



#### Marking

Type number	Marking code
US5AB	US5A
US5BB	US5B
US5DB	US5D
US5GB	US5G
US5JB	US5J
US5KB	US5K
US5MB	US5M

#### SMB/DO-214AA

##### Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

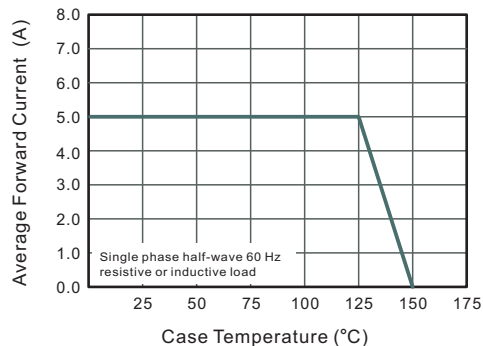
Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

Parameter	Symbols	US5AB	US5BB	US5DB	US5GB	US5JB	US5KB	US5MB	Units
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current	I <sub>F(AV)</sub>	5							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I <sub>FSM</sub>	100							A
Maximum Instantaneous Forward Voltage at 5A	V <sub>F</sub>	1.0			1.3	1.68			V
Maximum DC Reverse Current    T <sub>a</sub> = 25 °C at Rated DC Blocking Voltage    T <sub>a</sub> =125 °C	I <sub>R</sub>	5 100							μA
Maximum Reverse Recovery Time <sup>(1)</sup>	t <sub>rr</sub>	50				75			ns
Typical Thermal Resistance <sup>(2)</sup>	R <sub>θJA</sub> R <sub>θJC</sub>	45 15							°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>stg</sub>	-55 ~ +150							°C

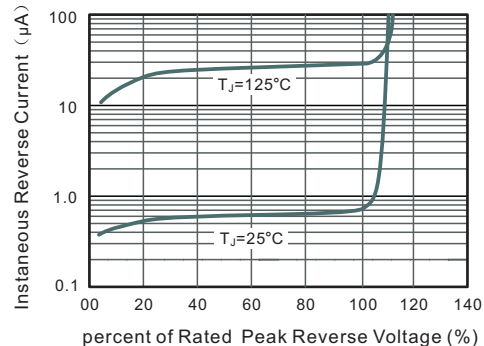
( 1 ) Measured with  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$ .

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

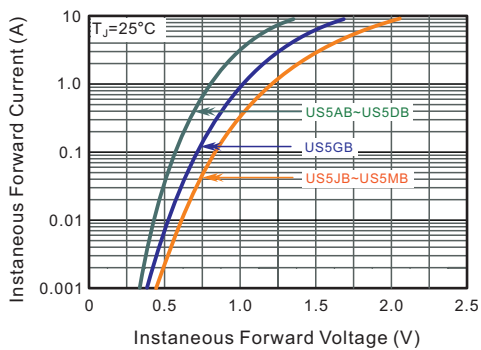
**Fig.1 Maximum Average Forward Current Rating**



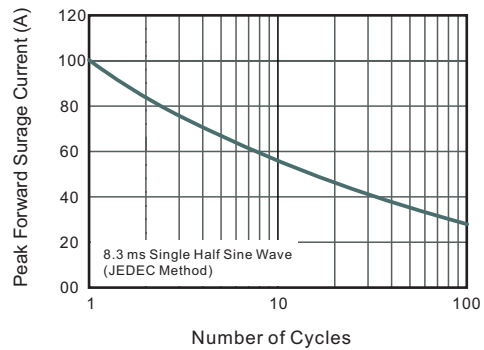
**Fig.2 Typical Reverse Characteristics**



**Fig.3 Typical Forward Characteristics**



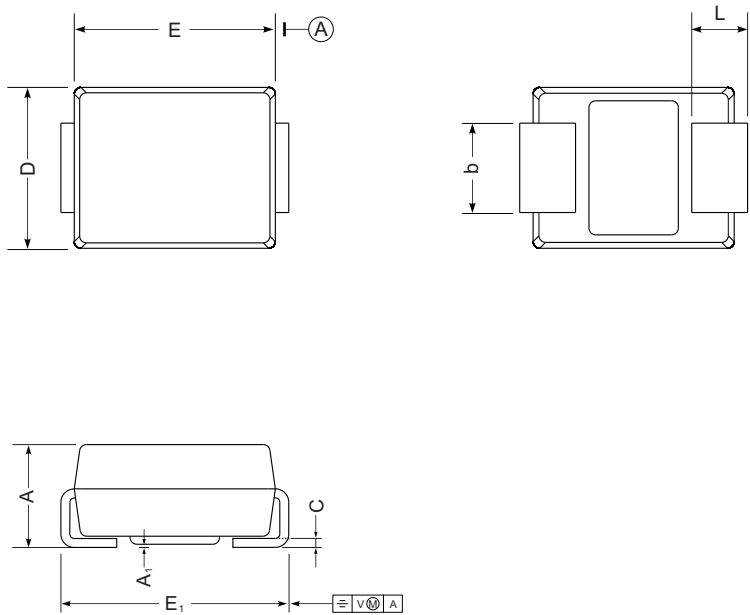
**Fig.4 Maximum Non-Repetitive Peak Forward Surge Current**



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

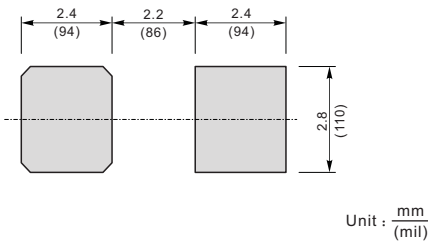
SMB/DO-214AA



SMB mechanical data

UNIT		A	E	D	E <sub>1</sub>	A <sub>1</sub>	L	C	b
mm	max	2.44	4.70	3.94	5.59	0.20	1.5	0.305	2.2
	min	2.13	4.06	3.3	5.08	0.05	0.8	0.152	1.9
mil	max	96	185	155	220	7.9	59	12	87
	min	84	160	130	200	2.0	32	6	75

The recommended mounting pad size



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

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