

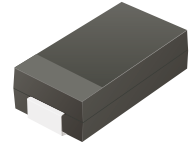
## US5AC-HF Thru. US5MC-HF

Reverse Voltage: 50 to 1000 Volts

Forward Current: 5 Amp

RoHS Device

Halogen Free



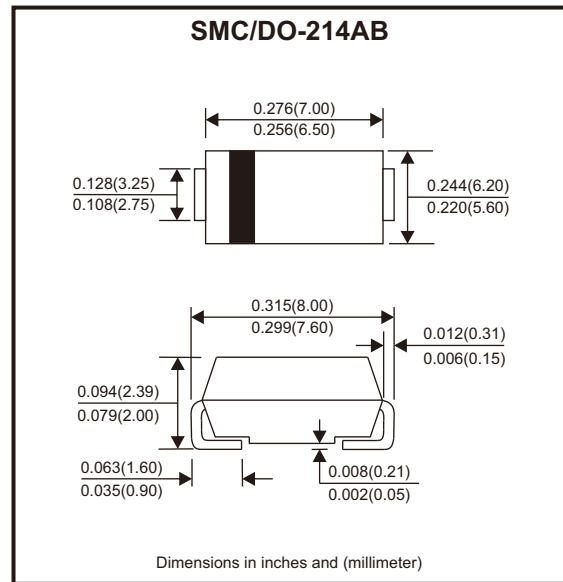
### Features

- For surface mounted applications.
- Low profile package.
- Glass passivated chip junction.

### Mechanical data

- Case: SMC
- Terminals: Solderable per MIL-STD-750, method 2026.

### Circuit Diagram



### Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

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

Parameter	Symbols	US5AC -HF	US5BC -HF	US5DC -HF	US5GC -HF	US5JC -HF	US5KC -HF	US5MC -HF	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 at $T_c = 100^\circ\text{C}$	$I_{F(AV)}$	5							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	120							A
Max. instantaneous forward voltage at 5A	$V_F$	1.0			1.3	1.65		V	
Maximum DC reverse current at rated DC blocking voltage	$I_R$	5 100							$\mu\text{A}$
Typical junction capacitance at $V_R = 4\text{V}$ , $f = 1\text{MHz}$	$C_j$	50							pF
Maximum reverse recovery time (Note 1)	$t_{rr}$	50				75			ns
Typical thermal resistance (Note 2)	$R_{\theta JA}$	35							$^\circ\text{C/W}$
Operating and storage temperature range	$T_j, T_{stg}$	-55 ~ +150							$^\circ\text{C}$

Notes: 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.

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REV:A

## Rating and Characteristic Curves (US5AC-HF Thru. US5MC-HF)

Fig.1 - Max. Average Forward Current Rating

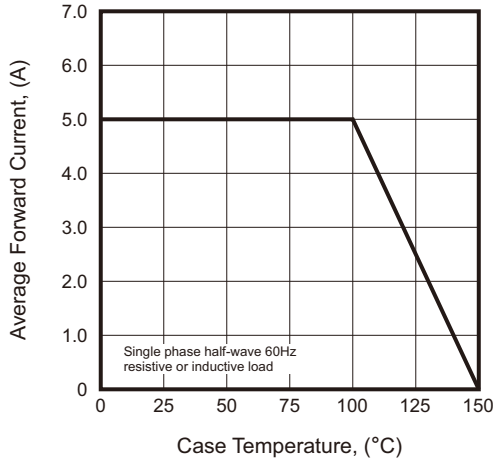


Fig.2 - Typical Reverse Characteristics

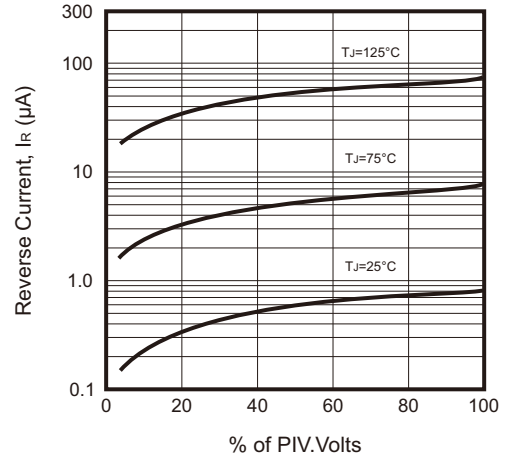


Fig.3 - Typical Forward Characteristic

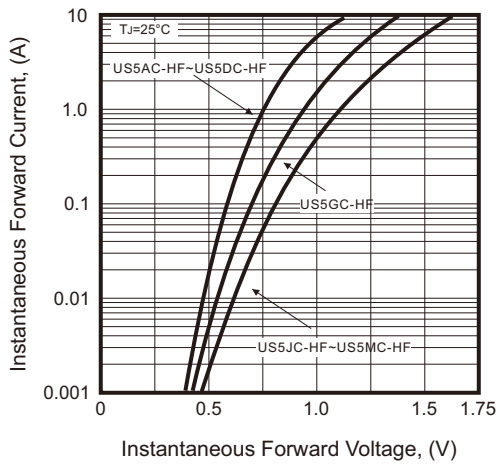


Fig.4 - Typical Junction Capacitance

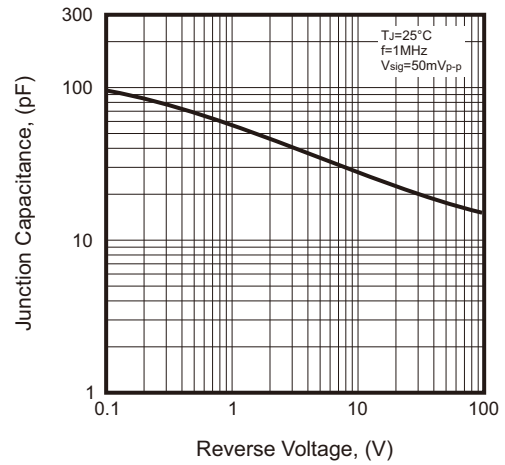
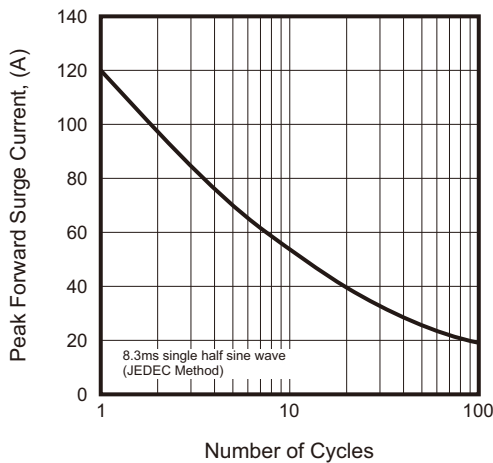


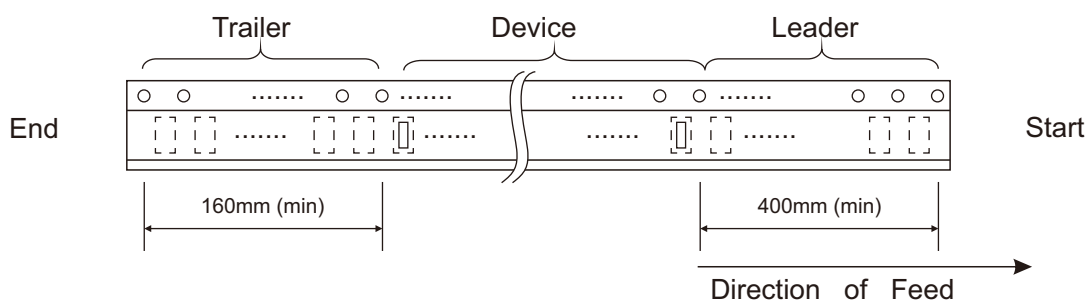
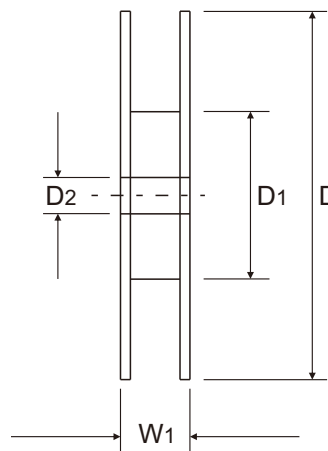
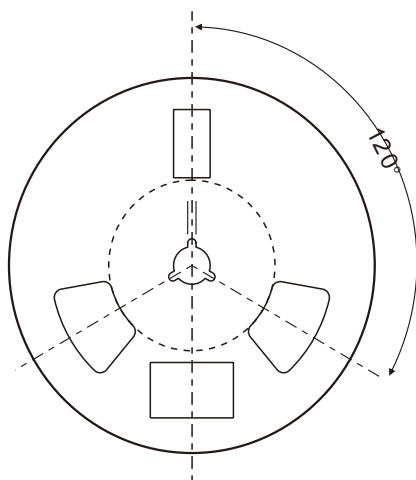
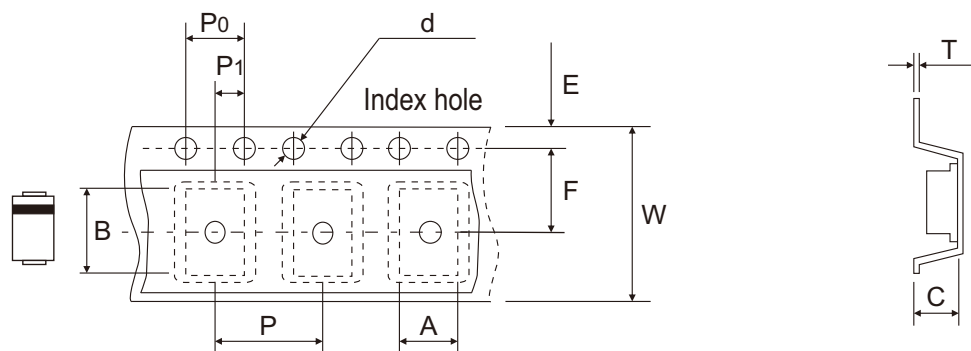
Fig.5 - Maximum Non-Repetitive Peak Forward Surge Current



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## Reel Taping Specification



DO-214AB (SMC)	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	6.22 ± 0.10	8.31 ± 0.10	2.49 ± 0.10	1.55 ± 0.05	330 ± 2.00	100.00 ± 1.00	13.00 ± 0.20
	(inch)	0.245 ± 0.004	0.327 ± 0.004	0.098 ± 0.004	0.061 ± 0.002	12.992 ± 0.079	3.937 ± 0.039	0.512 ± 0.008

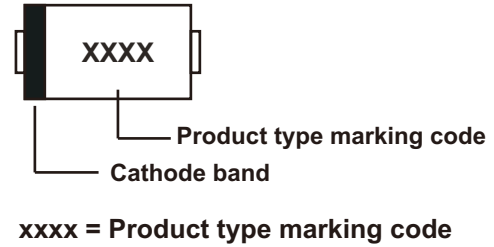
DO-214AB (SMC)	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	7.50 ± 0.10	8.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.28 ± 0.02	16.00 ± 0.30	21.00 + 2.00 - 1.00
	(inch)	0.069 ± 0.004	0.295 ± 0.004	0.315 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.011 ± 0.001	0.630 ± 0.012	0.827 + 0.079 - 0.039

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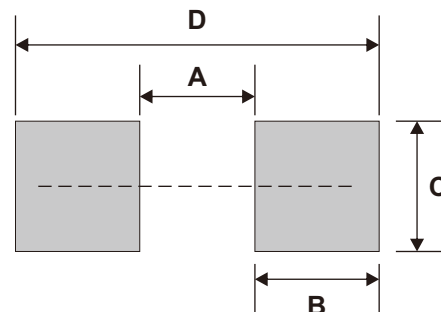
## Marking Code

Part Number	Marking Code
US5AC-HF	US5A
US5BC-HF	US5B
US5DC-HF	US5D
US5GC-HF	US5G
US5JC-HF	US5J
US5KC-HF	US5K
US5MC-HF	US5M



## Suggested PAD Layout

SIZE	DO-214AB (SMC)	
	(mm)	(inch)
A	3.80	0.150
B	4.10	0.161
C	4.30	0.169
D	12.00	0.472



Note: 1. The pad layout is for reference purpose only.

## Standard Packaging

Case Type	REEL PACK	
	REEL ( pcs )	Reel Size (inch)
DO-214AB (SMC)	3,000	13

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