

US3A THRU US3M



Ultra Fast Recovery Rectifiers

Reverse Voltage: 50 to 1000 Volts

Forward Current: 3.0 Ampere

RoHS Device

Halogen Free



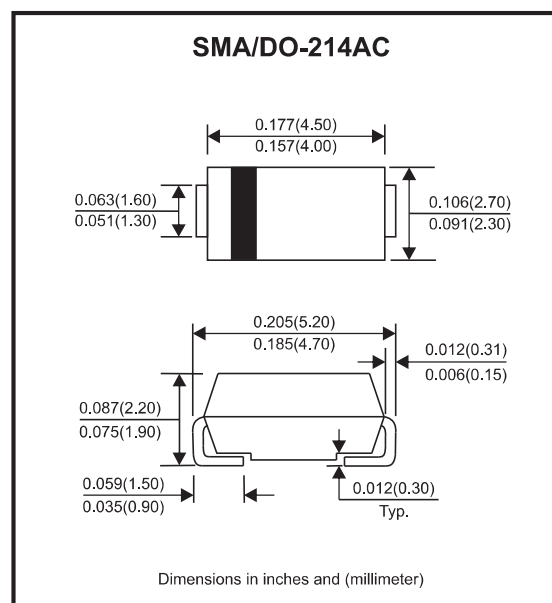
Features

- For surface mounted applications.
- Low profile package.
- Glass passivated chip junction.
- Easy to pick and place.
- High efficiency.

Mechanical data

- Case: SMA
- 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	US3A	US3B	US3D	US3G	US3J	US3K	US3M	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	I _{F(AV)}	3							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	80							A
Max. instantaneous forward voltage at 3A	V _F	1.0			1.3	1.68			V
Maximum DC reverse current T _a = 25°C at rated DC blocking voltage T _a =125°C	I _R	5 100							μA
Maximum reverse recovery time (Note 1)	t _{rr}	50				75			ns
Typical thermal resistance (Note 2)	R _{θJA} R _{θJC}	50 16							°C/W
Operating and storage temperature range	T _J , T _{stg}	-55 ~ +150							°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.

Company reserves the right to improve product design , functions and reliability without notice.

Rev:1.0

Rating and Characteristic Curves

Fig.1 - Max. Average Forward Current Rating

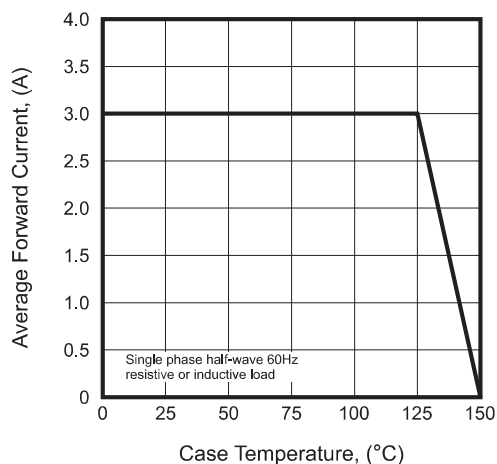


Fig.2 - Typical Reverse Characteristics

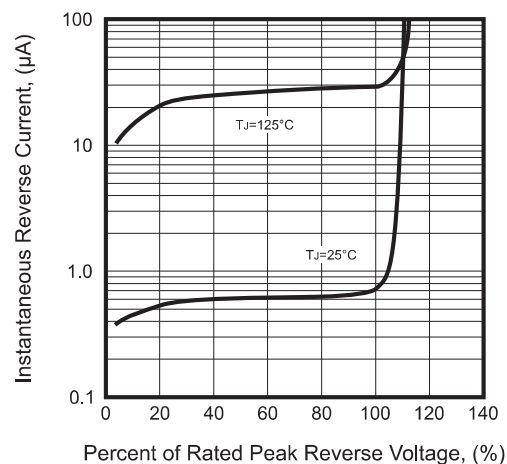


Fig.3 - Typical Forward Characteristic

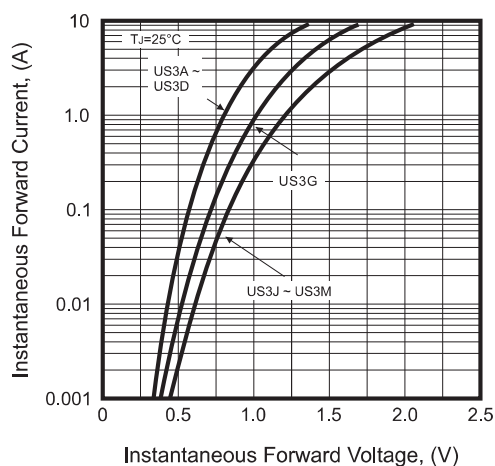
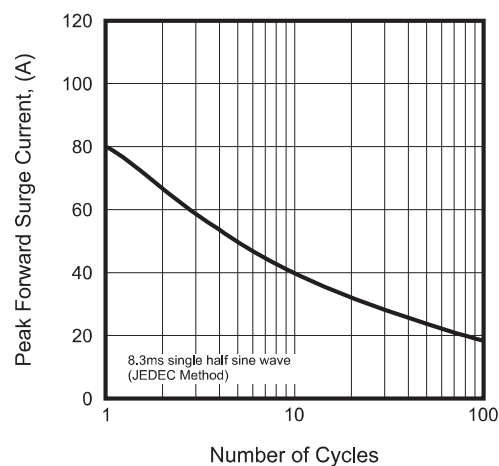
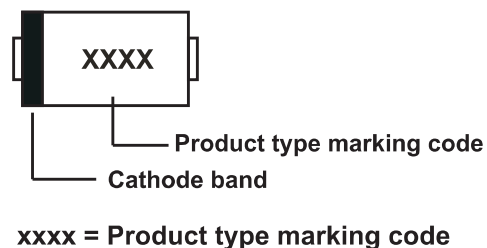


Fig.4 - Maximum Non-Repetitive Peak Forward Surge Current



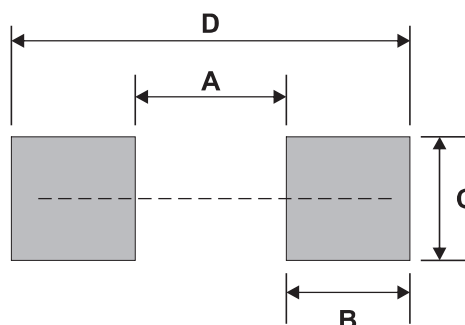
Marking Code

Part Number	Marking Code
US3A	US3A
US3B	US3B
US3D	US3D
US3G	US3G
US3J	US3J
US3K	US3K
US3M	US3M



Suggested PAD Layout

SIZE	DO-214AC (SMA)	
	(mm)	(inch)
A	2.40	0.094
B	1.80	0.071
C	1.80	0.071
D	6.00	0.236



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

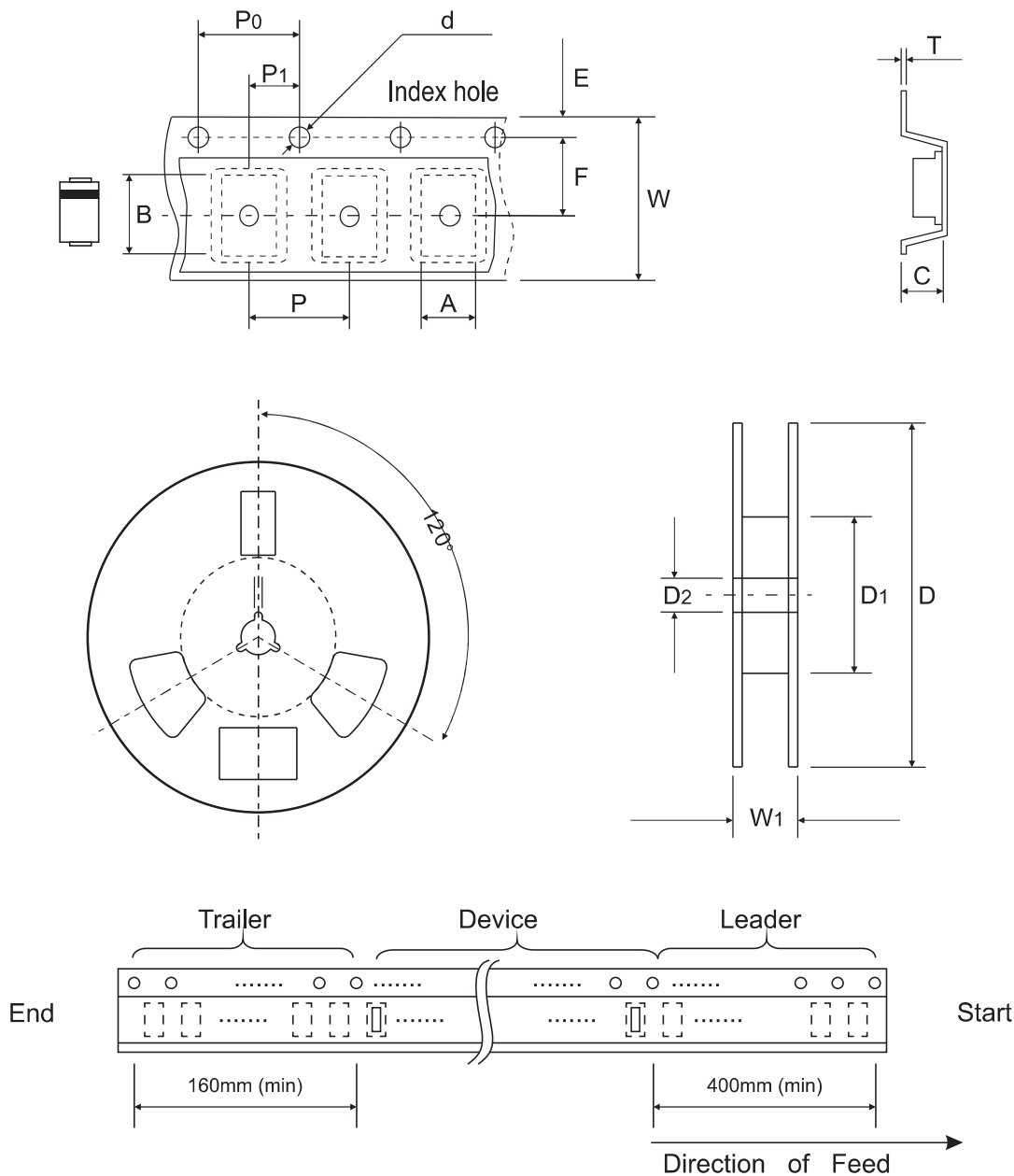
Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
DO-214AC (SMA)	5,000	13

US3A THRU US3M



Reel Taping Specification



DO-214AC (SMA)	SYMBOL	A	B	C	d	D	D ₁	D ₂
	(mm)	2.70 ± 0.10	5.33 ± 0.10	2.35 ± 0.10	1.55 ± 0.05	330 ± 2.00	75.00 ± 1.00	13.00 ± 0.20
	(inch)	0.106 ± 0.004	0.210 ± 0.004	0.093 ± 0.004	0.061 ± 0.002	12.992 ± 0.079	2.953 ± 0.039	0.512 ± 0.008

DO-214AC (SMA)	SYMBOL	E	F	P	P ₀	P ₁	T	W	W ₁
	(mm)	1.75 ± 0.10	5.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.20 ± 0.03	12.00 ± 0.30	14.70 + 2.00 - 1.00
	(inch)	0.069 ± 0.004	0.217 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.008 ± 0.001	0.472 ± 0.012	0.579 + 0.079 - 0.039

Company reserves the right to improve product design , functions and reliability without notice.

Rev:1.0