

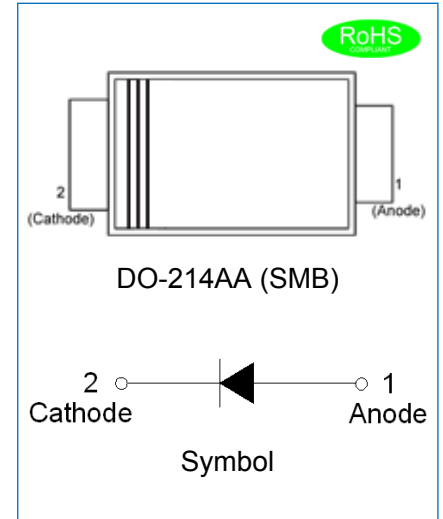


## US3AB~US3MB ULTRA FAST RECOVERY RECTIFIER

Rev.2.4

### DESCRIPTION:

- ✧ Plastic package has underwriters laboratory flammability classification 94V-0
- ✧ For surface mounted applications in order to optimize board space
- ✧ Glass passivated chip junction
- ✧ Lead free in comply with EU RoHS 2011/65/EU directive
- ✧ Ultrafast recovery time for high efficiency



### MECHANICAL DATA

- ✧ Case: JEDEC DO-214AA molded plastic
- ✧ Terminals: Solder plated, solderable per J-STD-002
- ✧ Polarity: Color band denotes cathode end
- ✧ Weight: 0.1 gram

### ABSOLUTE MAXIMUM RATING AND ELECTRICAL CHARACTERISTICS

(Rating at 25°C ambient temperature unless otherwise specified.)

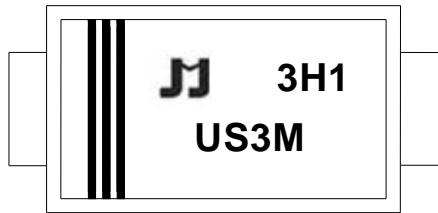
Parameter	Symbol	US3AB	US3BB	US3DB	US3GB	US3JB	US3KB	US3MB	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward current at $T_C=100^\circ\text{C}$	$I_{F(AV)}$	3.0							A
Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	100							A
Maximum forward voltage @ $I_F=3A$	$V_F$	1.0		1.3		1.7		V	
Maximum DC reverse current at rated DC blocking voltage	$T_J=25^\circ\text{C}$	5.0							$\mu\text{A}$
	$T_J=150^\circ\text{C}$	500							$\mu\text{A}$
Typical junction capacitance $V_R=4.0V, f=1\text{MHz}$	$C_J$	45				28			pF
Operating junction and storage temperature range	$T_J, T_{stg}$	-55 to +150							$^\circ\text{C}$
Maximum reverse recovery time $I_F=0.5A, I_R=1A, I_{rr}=0.25A$	$t_{rr}$	50				75			ns

## THERMAL RESISTANCES

Symbol	Parameter	US3AB	US3BB	US3DB	US3GB	US3JB	US3KB	US3MB	Unit
$R_{th(j-L)}$	Junction to lead (note1)	20							$^{\circ}C/W$

Note1: Thermal resistance from junction to lead mounted on P.C.B. with 4.0 mm x 4.0 mm copper pad areas.

## MARKING



U	Ultra Fast Recovery Rectifier
S	Surface Mount
3	$I_{F(AV)}=3A$
M	$V_{RRM}:1000V$

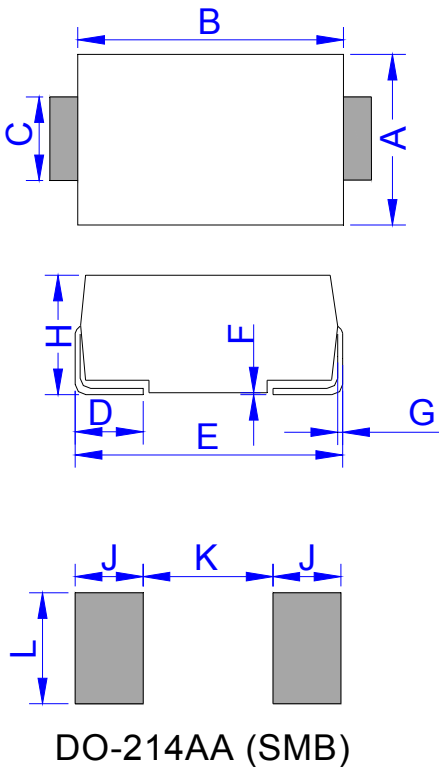
$\underline{x}H1$ : Month, 1、2、3 ~ 9、A、B、C

$3\underline{x}1$ :

2018	2019	2020	2021	2022	2023	2024
H	I	J	K	L	M	N
2025	2026	2027	2028	2029	2030	...
O	P	Q	R	S	T	...

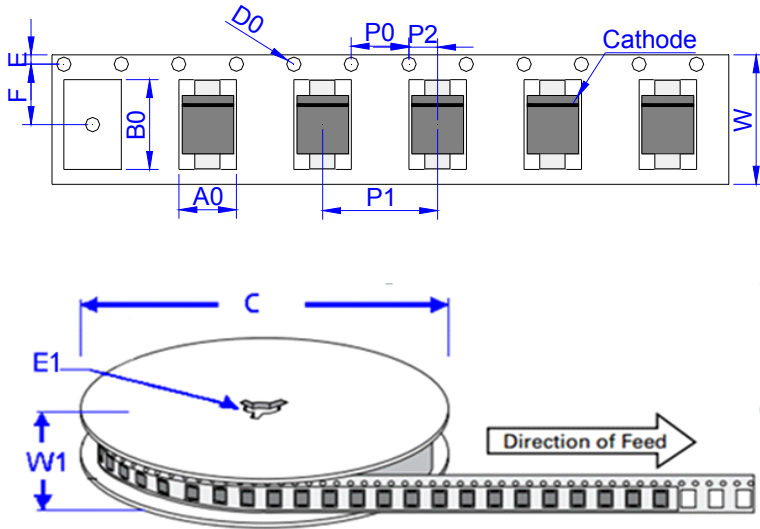
$3H\underline{x}$ : Batch number

## PACKAGE MECHANICAL DATA



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.94	0.130	0.155
B	4.30	4.80	0.169	0.189
C	1.90	2.20	0.075	0.087
D	0.95	1.52	0.037	0.060
E	5.20	5.60	0.205	0.220
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.10	2.40	0.083	0.094
J	2.20		0.087	
K		2.60		0.102
L	2.30		0.091	

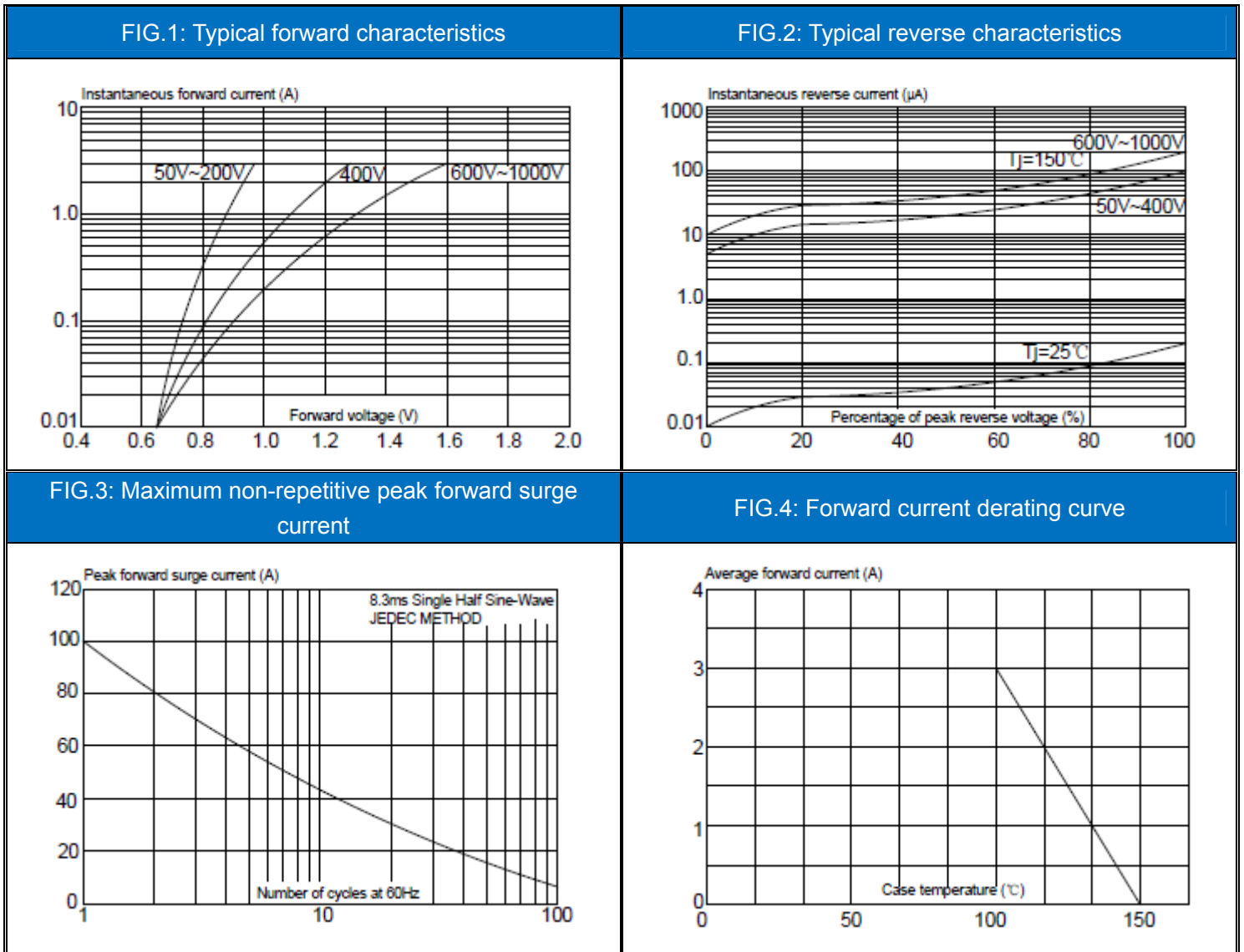
TAPE AND REEL SPECIFICATION-SMB



Ref.	Dimensions	
	Millimeters	Inches
A0	3.76 ± 0.3	0.148 ± 0.012
B0	5.69 ± 0.3	0.224 ± 0.012
C	330.0	13.0
D0	1.55 ± 0.1	0.061 ± 0.004
E	1.75 ± 0.2	0.069 ± 0.008
E1	13.3 ± 0.3	0.524 ± 0.012
F	5.5 ± 0.2	0.217 ± 0.008
P0	4.00 ± 0.2	0.157 ± 0.008
P1	8.00 ± 0.2	0.3145 ± 0.008
P2	2.00 ± 0.2	0.079 ± 0.008
W	12.0 ± 0.2	0.472 ± 0.008
W1	15.7 ± 2.0	0.618 ± 0.079

OUTLINE	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	REEL DIAMETERS (mm)
TAPING	0.1	3,000	48,000	330

CHARACTERITICS CURVE



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