

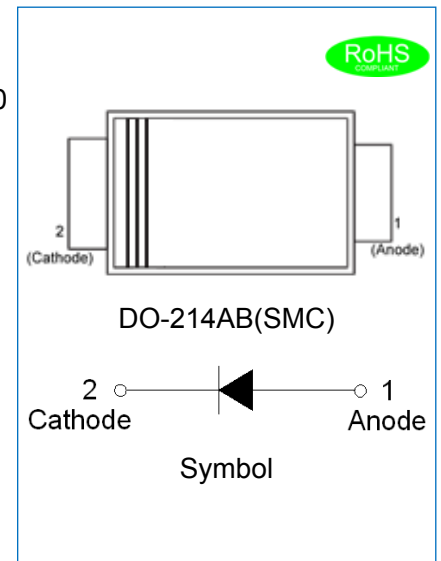


US5A~US5M ULTRA FAST RECOVERY RECTIFIER

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 directives
- ◇ Ultrafast recovery time for high efficiency



MECHANICAL DATA

- ◇ Case: JEDEC DO-214AB molded plastic
- ◇ Terminals: Solder plated, solderable per J-STD-002
- ◇ Polarity: Color band denotes cathode end
- ◇ Weight: 0.26 gram

ABSOLUTE MAXIMUM RATING AND ELECTRICAL CHARACTERISTICS

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

Parameter	Symbol	US5A	US5B	US5D	US5G	US5J	US5K	US5M	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 $T_C=100^\circ C$	$I_{F(AV)}$	5.0							A
Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	150				125			A
Maximum forward voltage @ $I_F=5A$	V_F	1.0		1.3		1.7			V
Maximum DC reverse current at rated DC blocking voltage	$T_j=25^\circ C$	5.0							μA
	$T_j=150^\circ C$	500							μA
Typical junction capacitance $V_R=4.0V, f=1MHz$	C_J	50				35			pF
Operating junction and storage temperature range	T_j, T_{stg}	-55 to +150							$^\circ C$
Maximum reverse recovery time $I_F=0.5A, I_R=1A, I_{rr}=0.25A$	t_{rr}	50				75			ns

THERMAL RESISTANCES

Symbol	Parameter	US5A	US5B	US5D	US5G	US5J	US5K	US5M	Unit
$R_{th(j-L)}$	Junction to lead(note1)	15							$^{\circ}C/W$

Note1: Thermal resistance from junction to lead mounted on P.C.B. with 8.0 mm x 8.0 mm copper pad areas.

MARKING



U	Ultra Fast Recovery Rectifier
S	Surface Mount
5	$I_{F(AV)}=5A$
M	$V_{RRM}:1000V$

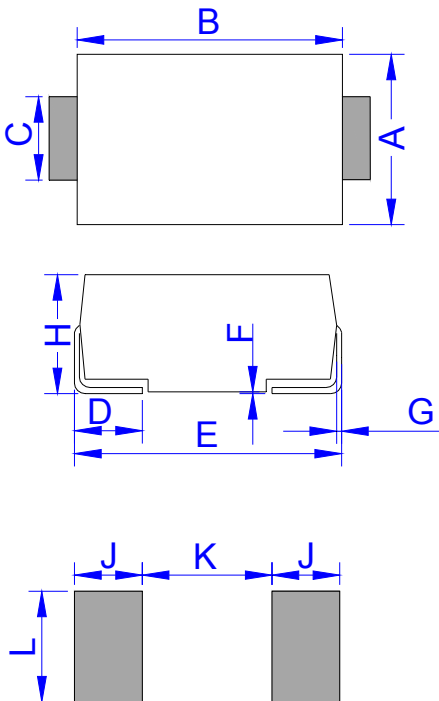
$xH1$: Month, 1、2、3 ~ 9、A、B、C

$3x1$:

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	...

$3Hx$: Batch number

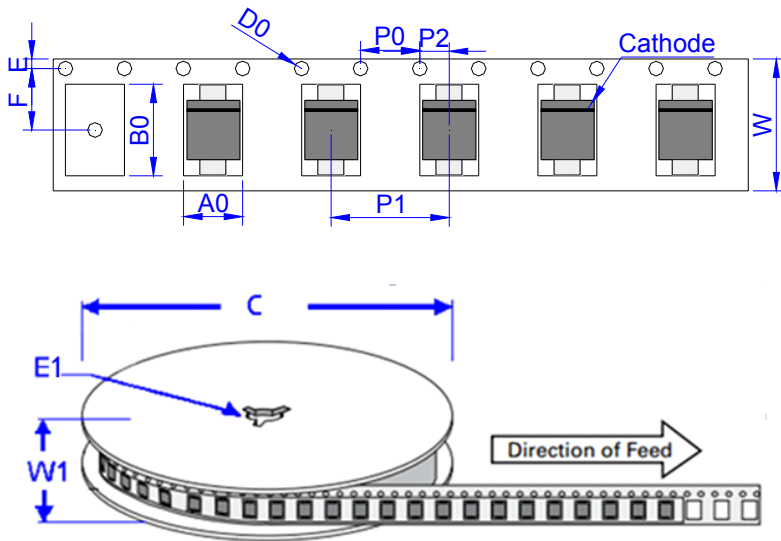
PACKAGE MECHANICAL DATA



DO-214AB (SMC)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	5.75	6.25	0.226	0.246
B	6.90	7.40	0.272	0.291
C	2.75	3.25	0.108	0.128
D	0.95	1.52	0.037	0.060
E	7.70	8.20	0.303	0.323
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.15	2.62	0.085	0.103
J	2.40		0.094	
K		4.20		0.165
L	3.30		0.130	

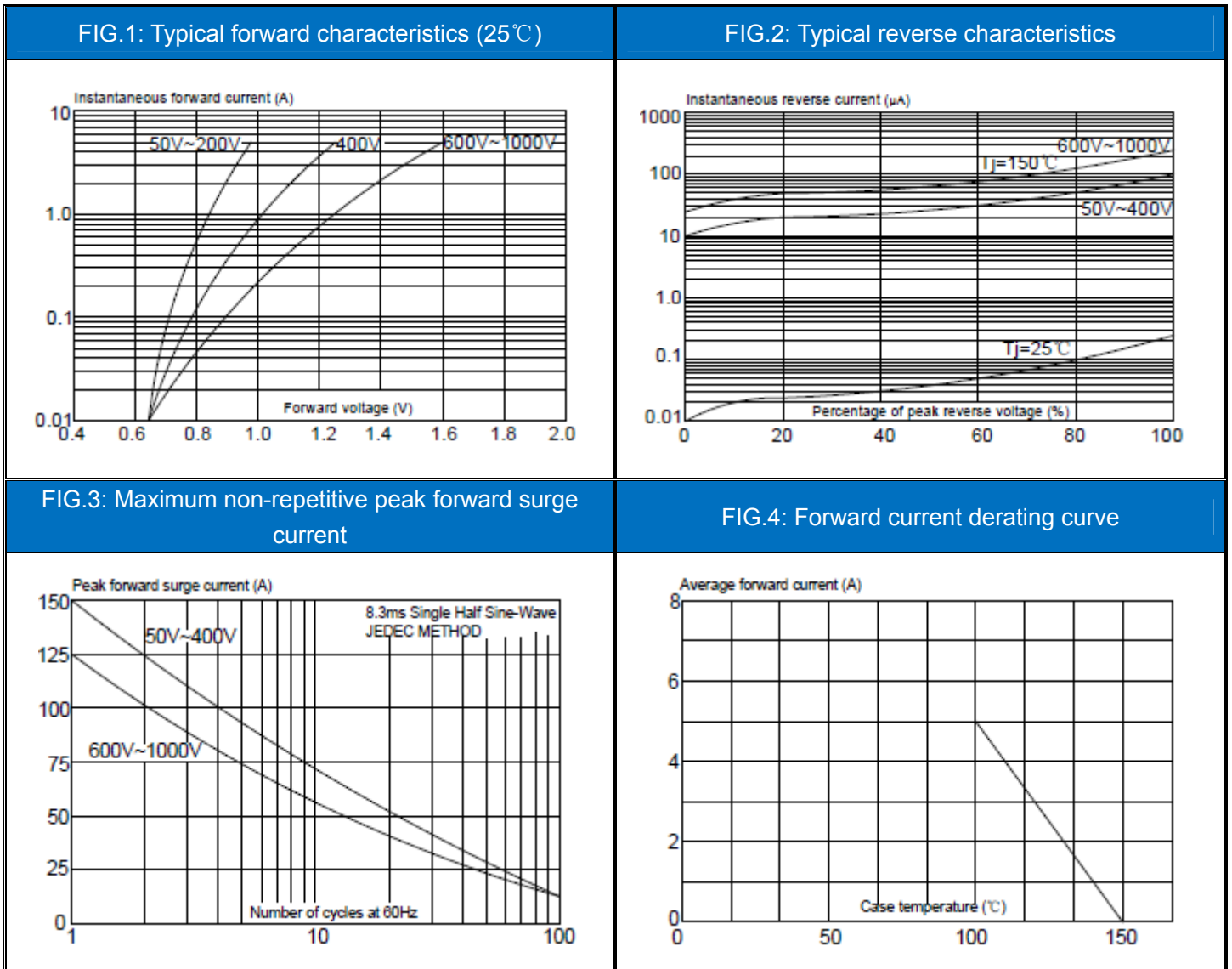
TAPE AND REEL SPECIFICATION-SMC



Ref.	Dimensions	
	Millimeters	Inches
A0	6.05 ± 0.3	0.238 ± 0.012
B0	8.31 ± 0.3	0.327 ± 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	7.50 ± 0.2	0.295 ± 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	16.0 ± 0.2	0.630 ± 0.008
W1	19.7 ± 2.0	0.776 ± 0.079

OUTLINE	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	REEL DIAMETERS (mm)
TAPING	0.26	3,000	48,000	330

CHARACTERISTICS CURVE



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