

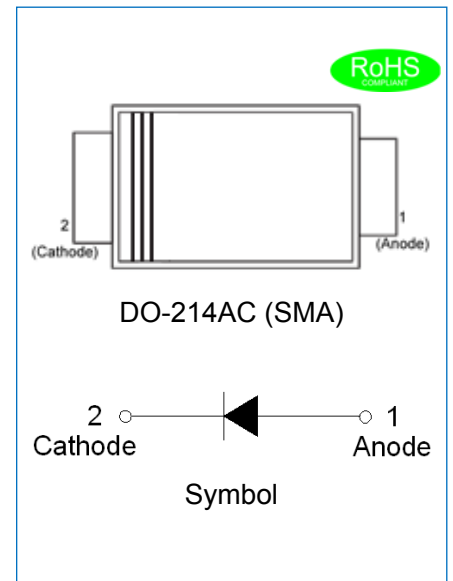


US1J~US1M ULTRA FASTRE COVERY RECTIFIER

Rev.3.0

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-214AC molded plastic
- ◇ Terminals: Solder plated, solderable per J-STD-002
- ◇ Polarity: Color band denotes cathode end
- ◇ Weight: 0.06599gram

ABSOLUTE MAXIMUM RATING AND ELECTRICAL CHARACTERISTICS

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

Parameter	Symbol	US1J	US1K	US1M	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	600	800	1000	V
Maximum RMS voltage	V_{RMS}	420	560	700	V
Maximum DC blocking voltage	V_{DC}	600	800	1000	V
Maximum average forward current at $T_A=75^\circ\text{C}$	$I_{F(AV)}$	1.0			A
Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	30			A
Maximum forward voltage @ $I_F=1\text{A}$	V_F	1.7			V
Maximum DC reverse current at rated DC blocking voltage	$T_J=25^\circ\text{C}$	I_R	5		μA
	$T_J=100^\circ\text{C}$		50		μA
Typical junction capacitance $V_R=4.0\text{V}$, $f=1\text{MHz}$	C_J	7			pF
Maximum reverse recovery time $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{rr}=0.25\text{A}$	t_{rr}	75			ns
Operating junction and storage temperature range	T_J, T_{stg}	-55 to +150			$^\circ\text{C}$

THERMAL RESISTANCES

Symbol	Parameter	US1J	US1K	US1M	Unit
$R_{th(j-a)}$	Junction to ambient (note1)	50			°C/W

Note1: Thermal resistance from junction to ambient mounted on P.C.B. with 5.0 mm x 5.0 mm copper pad areas.

MARKING



U	Ultra Fast Recovery Rectifier
S	Surface Mount
1	$I_{F(AV)}=1A$
J	$V_{RRM}:600V$

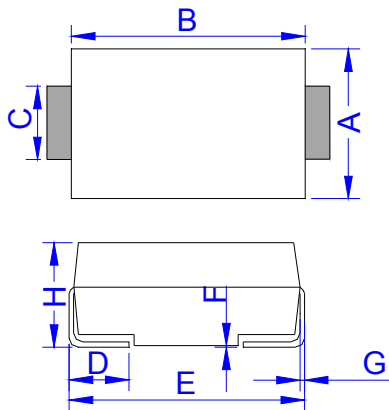
xH1: Month, 1、2、3 ~ 9、A、B、C

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

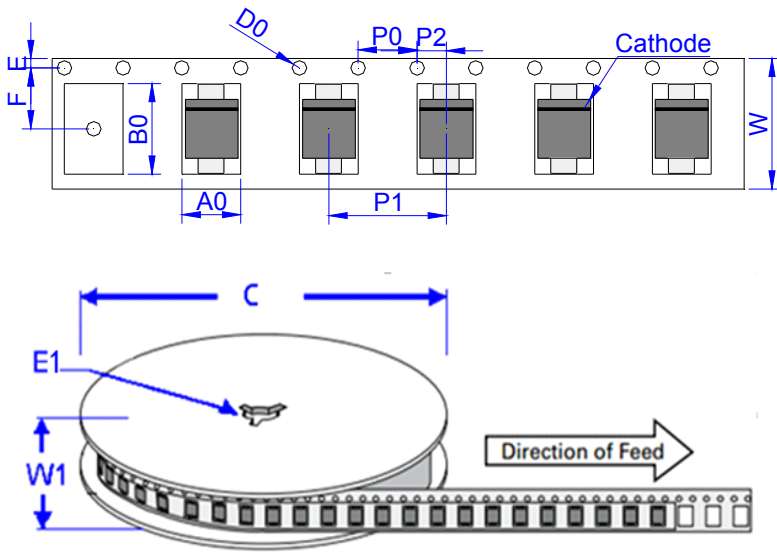
PACKAGE MECHANICAL DATA



DO-214AC (SMA)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.18	2.90	0.086	0.114
B	3.99	4.57	0.157	0.180
C	1.10	2.21	0.043	0.087
D	0.76	1.52	0.030	0.060
E	4.70	5.69	0.185	0.224
F		0.203		0.008
G	0.152	0.305	0.006	0.012
H	1.70	2.45	0.067	0.096

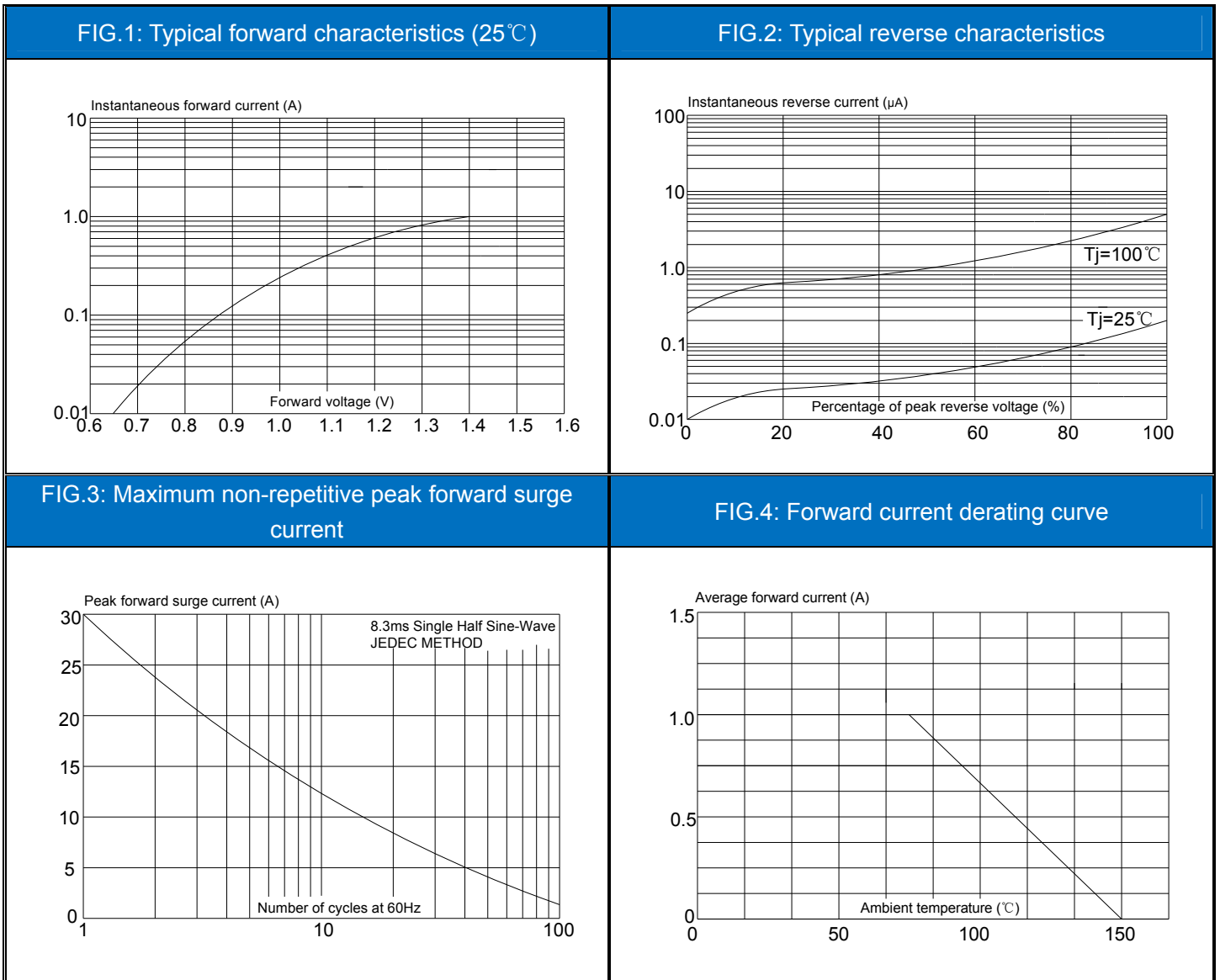
TAPE AND REEL SPECIFICATION-SMA



Ref.	Dimensions	
	Millimeters	Inches
A0	2.79 ± 0.3	0.110 ± 0.012
B0	5.33 ± 0.3	0.210 ± 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	4.00 ± 0.2	0.157 ± 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	0.06599	7,500	120,000	330

CHARACTERISTICS CURVE



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