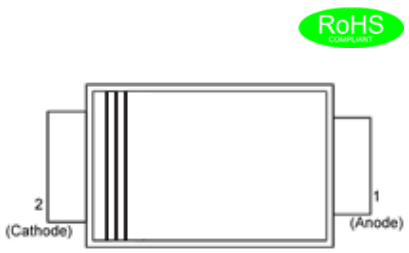
US2A~US2M

ULTRA FAST RECOVERY RECTIFIER

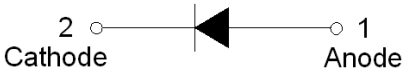
Rev.2.3

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



DO-214AA (SMB)



Symbol

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℃ ambient temperature unless otherwise specified.)

Parameter		Symbol	US2A	US2B	US2D	US2G	US2J	US2K	US2M	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_L=115℃		$I_{F(AV)}$	2.0							A
Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load		I_{FSM}	60				50			A
Maximum forward voltage @ I_F=2A		V_F	1.0			1.3	1.7			V
Maximum DC reverse current at rated DC blocking voltage	T_j=25℃	I_R	5.0							μA
	T_j=150℃		300							μA
Typical junction capacitance V_R=4.0V, f=1MHz		C_J	32				12			pF
Operating junction and storage temperature range		T_j,T_{stg}	-55 to +150							℃
Maximum reverse recovery time I_F=0.5A, I_R=1A, I_{rr}=0.25A		t_{rr}	50				75			ns

THERMAL RESISTANCES

Symbol	Parameter	US2A	US2B	US2D	US2G	US2J	US2K	US2M	Unit
$R_{th(j-L)}$	Junction to lead (note1)	20							℃/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
2	$I_{F(AV)}$=2A
G	V_{RRM}: 400V

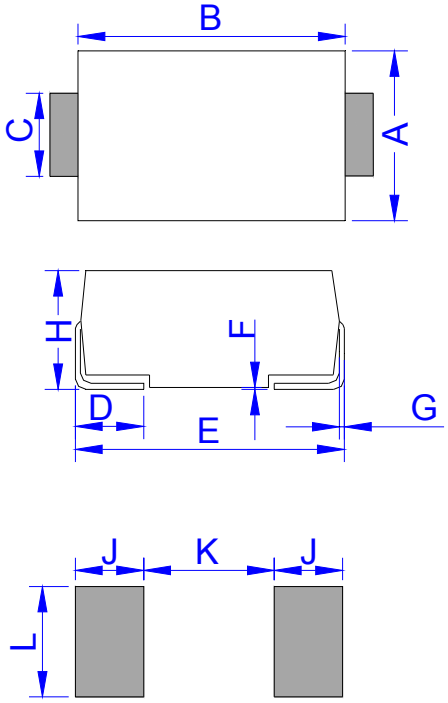
xH1：Month，1、2、3 ～ 9、A、B、C

3**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**x**：Batch number

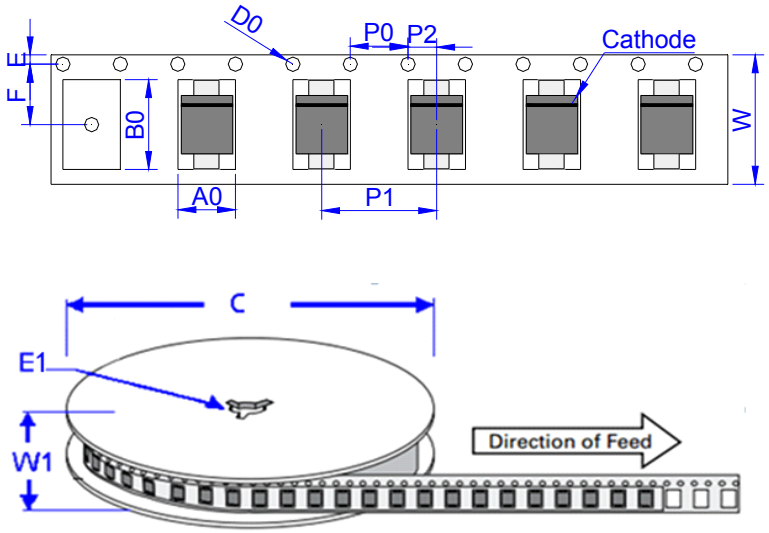
PACKAGE MECHANICAL DATA



DO-214AA (SMB)

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

FIG.1: Typical forward characteristics (25℃)

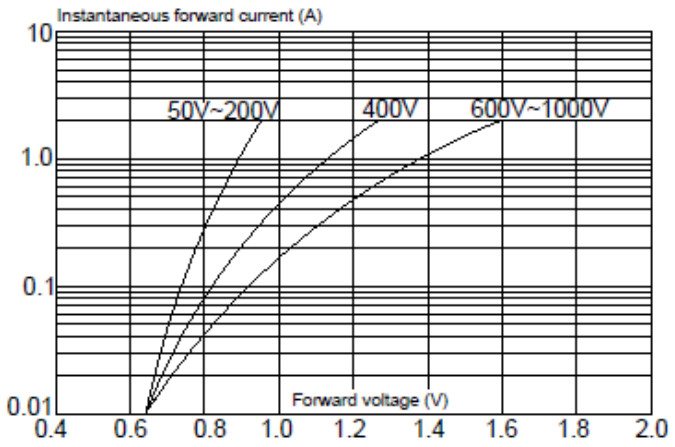


FIG.2: Typical reverse characteristics

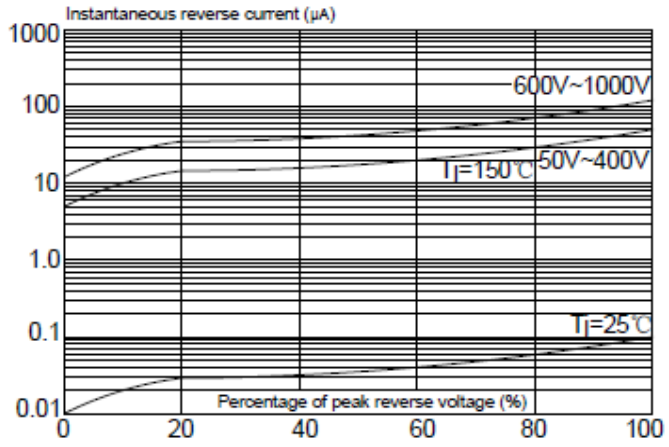


FIG.3: Maximum non-repetitive peak forward surge current

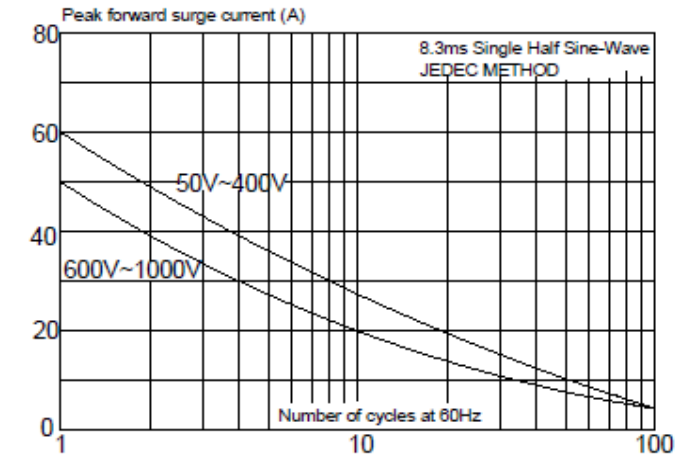
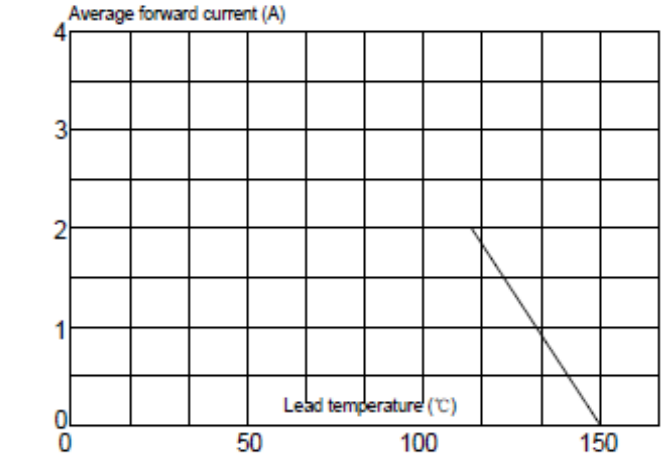


FIG.4: Forward current derating curve



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