

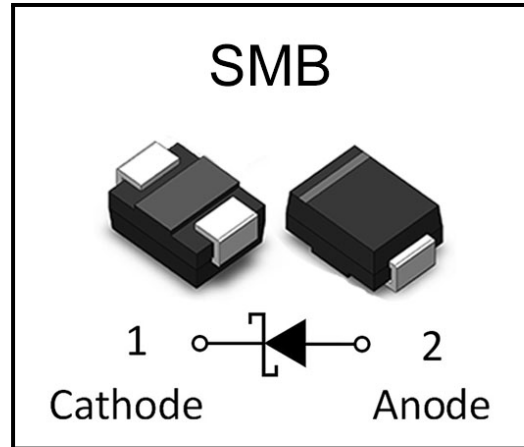
US3A-US3M

Fast Recovery
Rectifier Diode

Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Super fast reverse recovery time
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

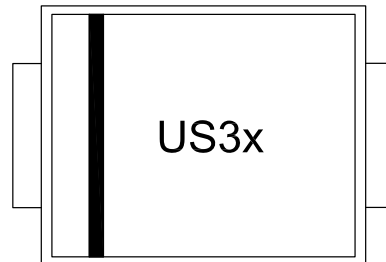
Package



Description

- Package: DO-214AA (SMB)
- Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: Cathode line denotes the cathode end

Making Code



Ordering information

Part Number	US3A	US3B	US3D	US3F	US3G	US3J	US3K	US3M
Marking	US3A	US3B	US3D	US3F	US3G	US3J	US3K	US3M
Base qty	3K	3K	3K	3K	3K	3K	3K	3K



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Maximum Ratings and Electrical Characteristics@T_A=25°C unless otherwise noted

Symbol	Parameters	US 3A	US 3B	US 3D	US 3F	US 3G	US 3J	US 3K	US 3M	Units
V _{RRM}	Maximum Recurrent Peak Reverse Voltage	50	100	200	300	400	600	800	1000	V
V _{RMS}	Maximum RMS Voltage	35	70	140	210	280	420	560	700	V
V _{DC}	Maximum DC Blocking Voltage	50	100	200	300	400	600	800	1000	V
I _{AV}	Maximum Average Forward Rectified Current	3.0								A
I _{FSM}	Forward Surge Current @60Hz Half-sine wave, 1 cycle, T _j =25°C	100								A
	Forward Surge Current@1ms, quare wave, 1 cycle, T _j =25°C	200								
V _F	Maximum Forward Voltage@I _{FM} =3.0A	1.0		1.3		1.7				V
I _R	Maximum DC reverse current@T _j =25°C	5								uA
	Maximum DC reverse current@T _j =125°C	100								
I ² t	Current squared time @1ms≤t≤8.3ms, T _j =25°C	41.5								A ² s
t _{rr}	Maximum reverse recovery time @I _F =0.5A, I _R =1.0A, I _{rr} =0.25A	50				75				ns
C _j	Typical junction capacitance Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	60		40		24				pF
R _{θJA} ⁽¹⁾	Typical Thermal Resistance	65								°C/W
T _J	Operating JunctionTemperature Range	-55 to +150								°C
T _{STG}	Storage TemperatureRange	-55 to +150								°C

Note: (1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas



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Typical Performance Characteristics ($T_J = 25^\circ\text{C}$, unless otherwise noted)

Figure 1: $I_{AV}-T_L$ Curve

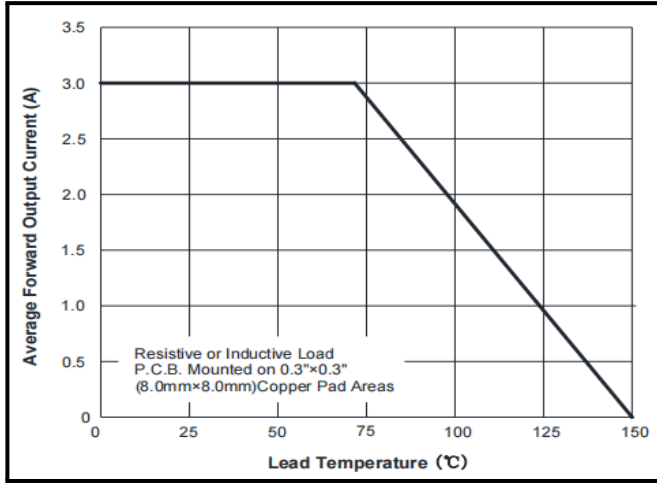


Figure 2: Surge Forward Current Capability

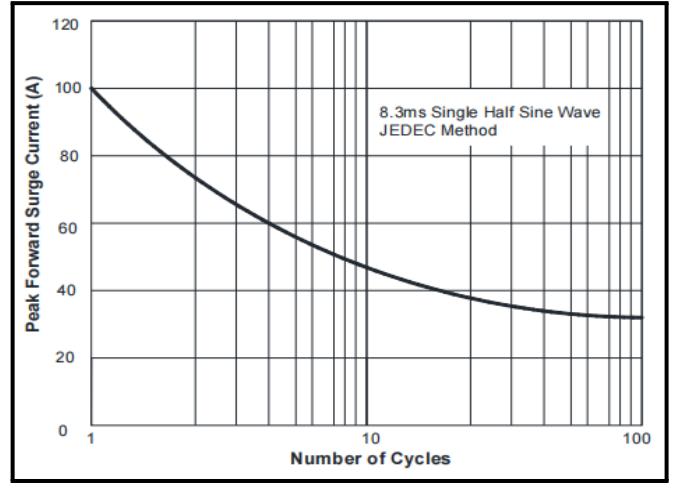


Figure 3: Typical Forward Voltage

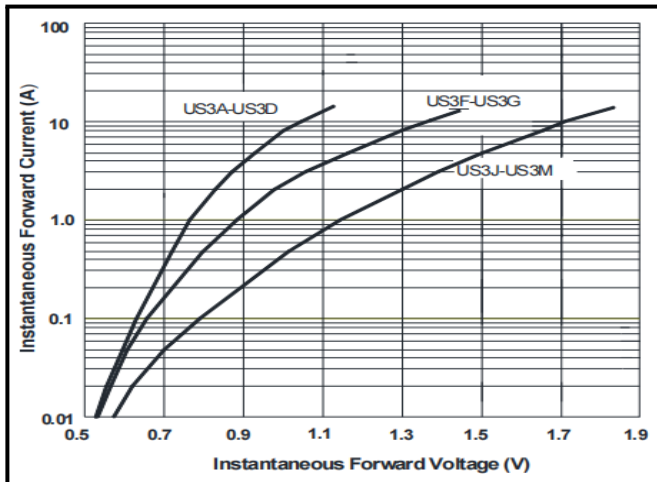
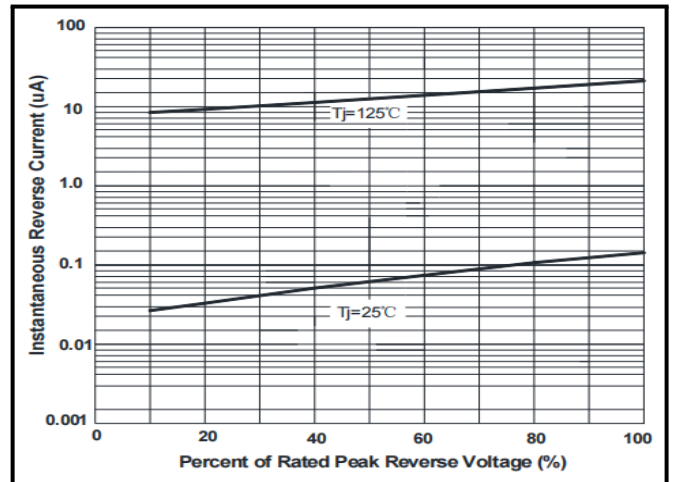


Figure 4: Typical Reverse Characteristics

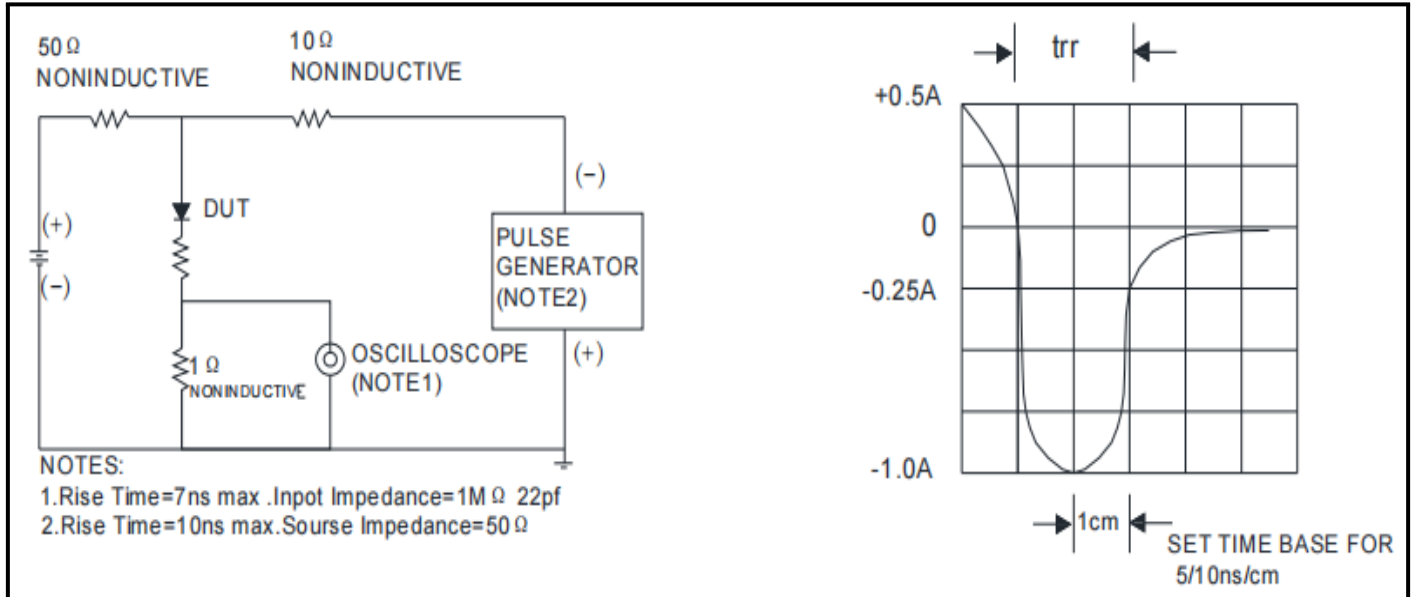


US3A-US3M

Fast Recovery Rectifier Diode

Typical Performance Characteristics ($T_J = 25^\circ\text{C}$, unless otherwise noted)

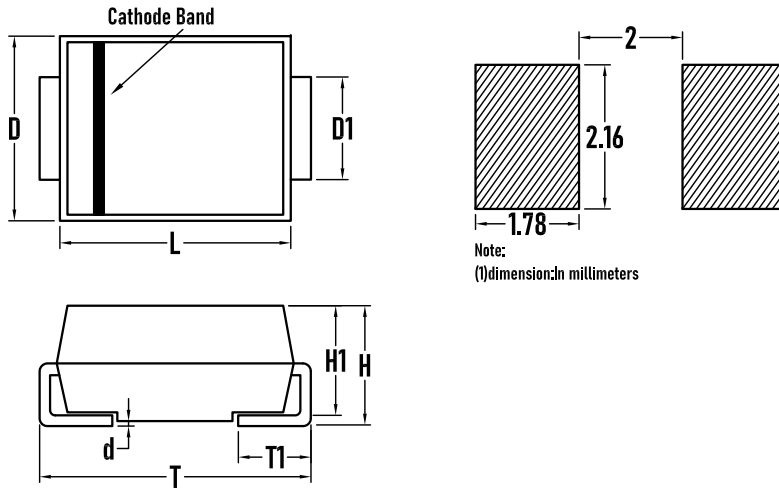
Figure 5: Diagram of circuit and Testing wave form of reverse recovery time



US3A-US3M

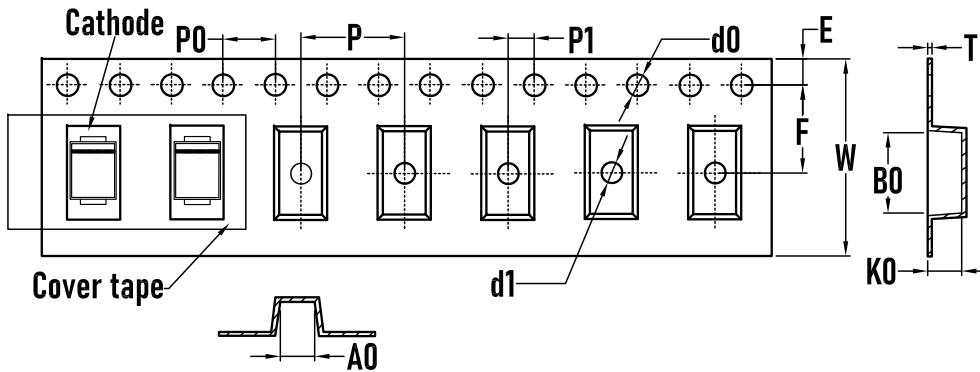
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Outline Drawing - SMB



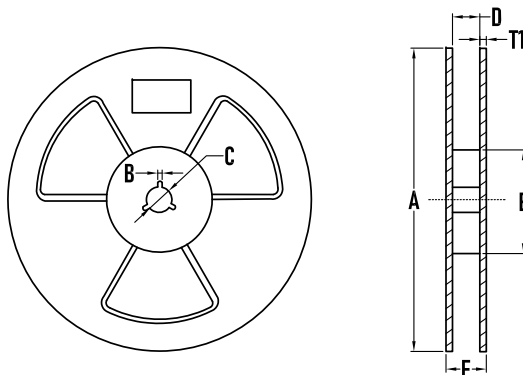
SYMBOL	MILLIMETER	
	MIN	MAX
D	3.40	3.80
D1	1.70	2.30
T	5.10	5.70
T1	0.80	1.40
d	0.00	0.30
H1	2.00	2.40
H	2.10	2.50
L	4.30	4.70

Packaging Tape - SMB



SYMBOL	MILLIMETER
A0	3.60±0.1
B0	5.45±0.1
d0	1.50±0.1
d1	1.50±0.1
E	1.75±0.1
F	5.50±0.1
K0	2.30±0.1
P	8.00±0.1
P0	4.00±0.1
P1	2.00±0.1
W	12.00±0.1
T	0.22±0.02

Packaging Reel



SYMBOL	MILLIMETER
A	323±2
B	3.0±0.2
C	15.0±0.5
D	13±2
E	73±2
T1	2.2±0.2
Quantity	3000PCS

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Specifications are subject to change without notice.

Please refer to <http://www.born-tw.com> for current information.

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