

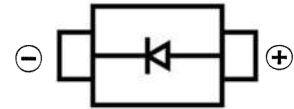
1.0A SURFACE MOUNT FAST RECOVERY RECTIFIER

FEATURES

- Fast recovery time for high efficiency
- Surge overload rating to 30A peak



SMB



MECHANICAL DATA

- Case: SMB(DO-214AA)
- Case material: Molded plastic,UL flammability
- Classification rating: 94V-0
- Terminals: Tin plated,solderable per MIL-STD-202, Method 208
- Weight: 0.088 grams (approximate)

MAXIMUM RATINGS AND CHARACTERISTICS (T_A=25°C unless otherwise specified)

Parameter	Symbol	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M	Unit	
Peak repetitive reverse voltage	V _{RRM}									
Working peak reverse voltage	V _{RWM}	50	100	200	400	600	800	1000	V	
DC blocking voltage (note 1)	V _R									
RMS reverse voltage	V _{R(RMS)}	35	70	140	280	420	560	700	V	
Average rectified output current @ T _T =120°C	I _O	1.0								A
Non-repetitive peak forward surge current, 8.3ms Single half sine-wave superimposed on rated load	I _{FSM}	30								A
Typical thermal resistance, junction to terminal (Note 2)	R _{θJT}	20								°C/W
Operating and storage temperature range	T _J ,T _{STG}	-65 ~ +150								°C

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

Parameter	Symbol	Max.	Unit	Conditions
Forward voltage drop	V _{FM}	1.3	V	I _F =1.0A
Peak reverse current	I _{RM}	5.0	μA	T _A =25°C
		200		T _A =125°C, V=V _R
Reverse recovery time (note 3)	t _{rr}	RS1A&RS1B&RS1D&RS1G: 150 RS1J: 250 RS1K&RS1M: 500	ns	
Typical total capacitance (note 4)	C _T	15	pF	

Note:

1. Short duration pulse test used to minimize self-heating effect.
2. Valid provided that terminals are kept at ambient temperature.
3. Reverse recovery test conditions: I_F=0.5A, I_R=1.0A, I_{rr}=0.25A. See figure 5.
4. Measured at 1.0MHz and applied reverse voltage of 4.0VDC.

**1.0A SURFACE MOUNT FAST RECOVERY RECTIFIER
TYPICAL CHARACTERISTICS**

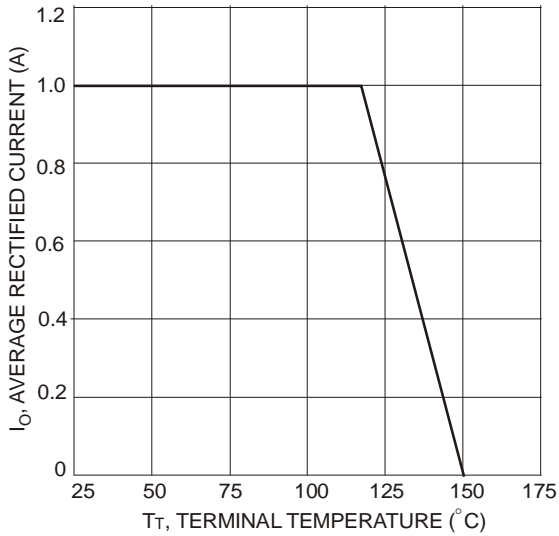


Fig. 1 Forward Current Derating Curve

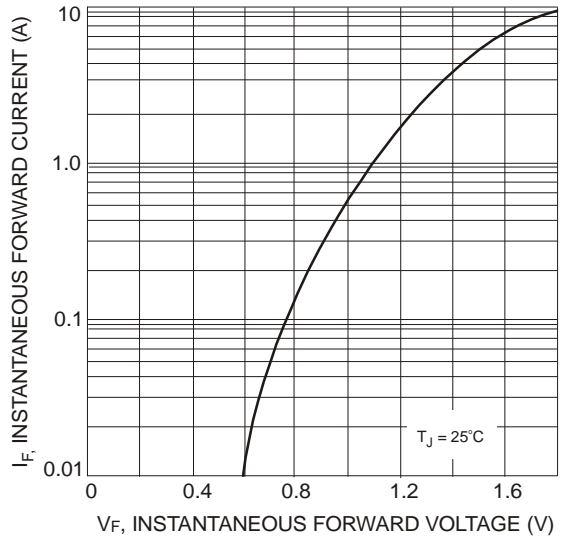


Fig. 2 Typical Forward Characteristics

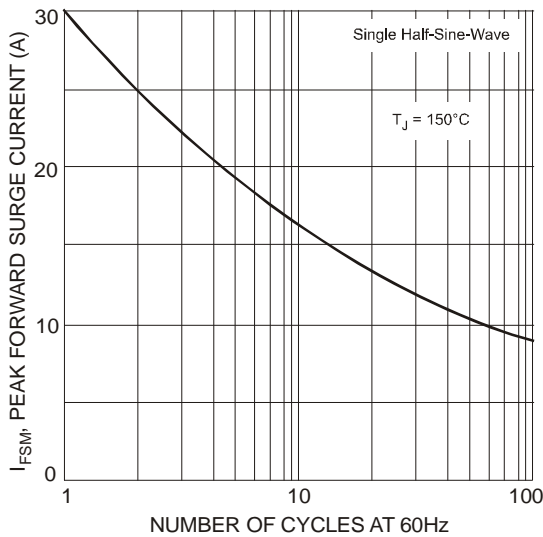


Fig. 3 Forward Surge Current Derating Curve

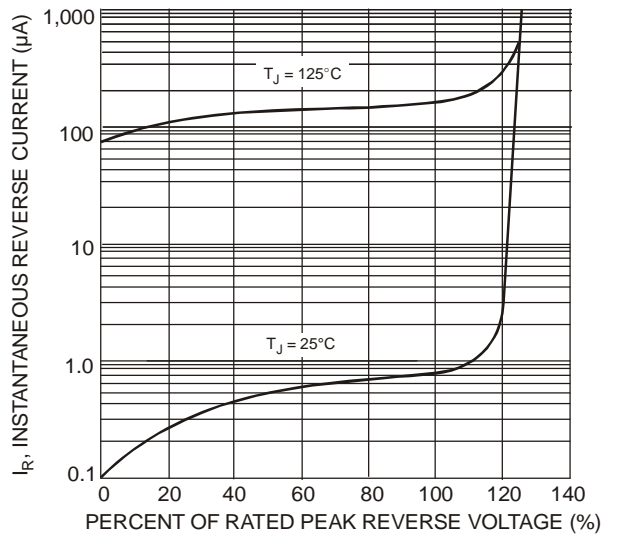
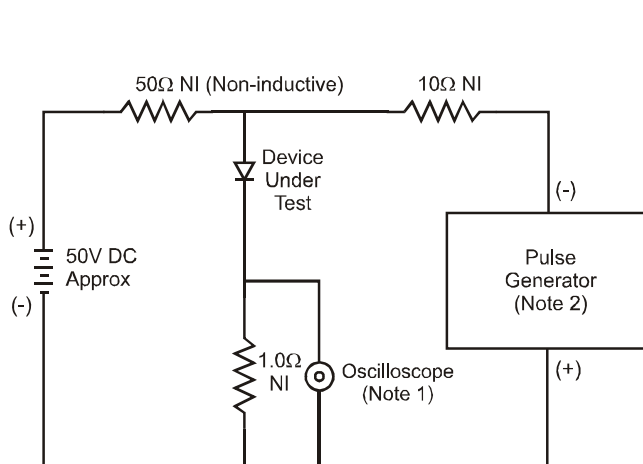
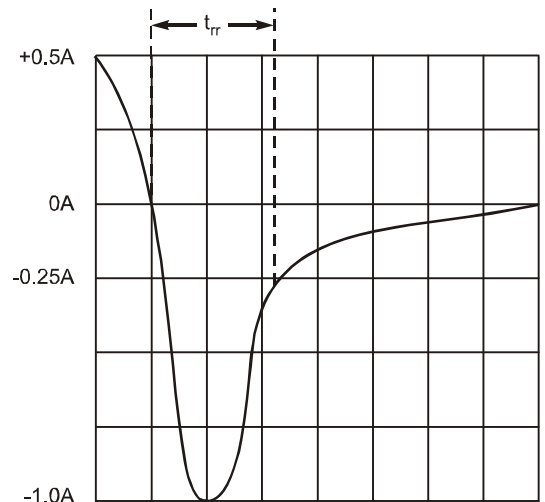


Fig. 4 Typical Reverse Characteristics



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
 2. Rise Time = 10ns max. Input Impedance = 50Ω.

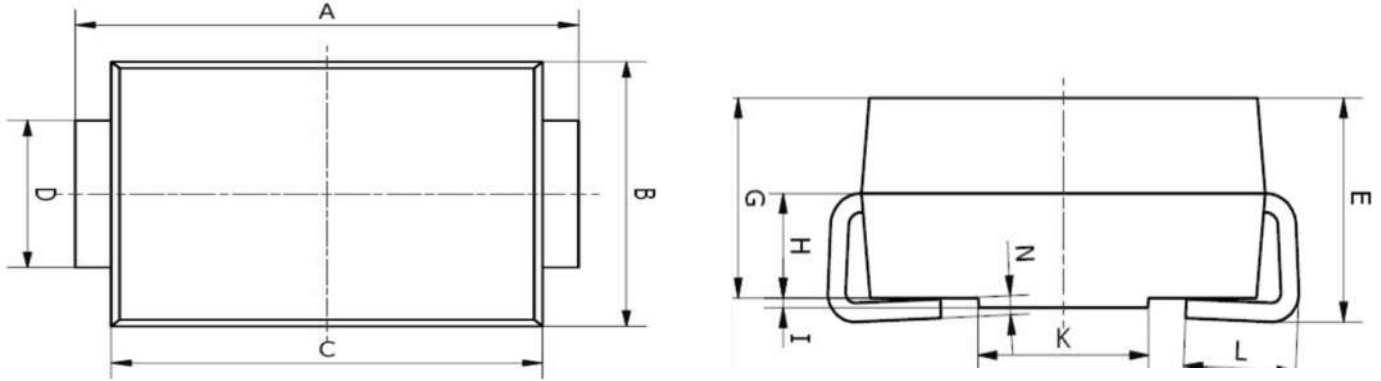
Fig. 5 Reverse Recovery Time Characteristic and Test Circuit



Set time base for 50/100 ns/cm

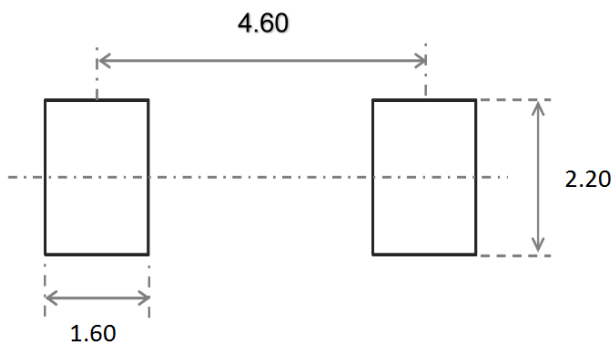
1.0A SURFACE MOUNT FAST RECOVERY RECTIFIER

SMB PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	5.00	5.45	0.197	0.215
B	3.20	4.00	0.126	0.157
C	4.30	4.70	0.169	0.185
D	1.80	2.20	0.071	0.087
E	2.20	2.50	0.087	0.098
G	1.90	2.30	0.075	0.090
H	0.95	1.25	0.037	0.049
I	0.05	0.15	0.002	0.006
K	1.70	2.10	0.067	0.083
L	0.90	1.60	0.035	0.063
N	0.10	0.30	0.004	0.012

SMB SUGGESTED PAD LAYOUT



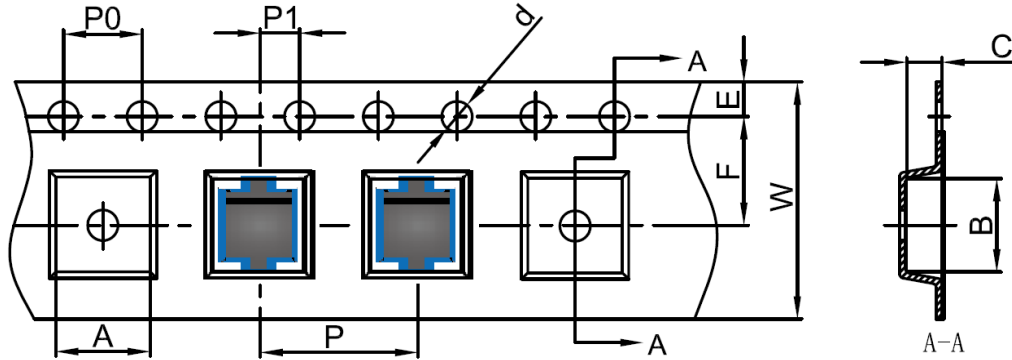
Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

1.0A SURFACE MOUNT FAST RECOVERY RECTIFIER

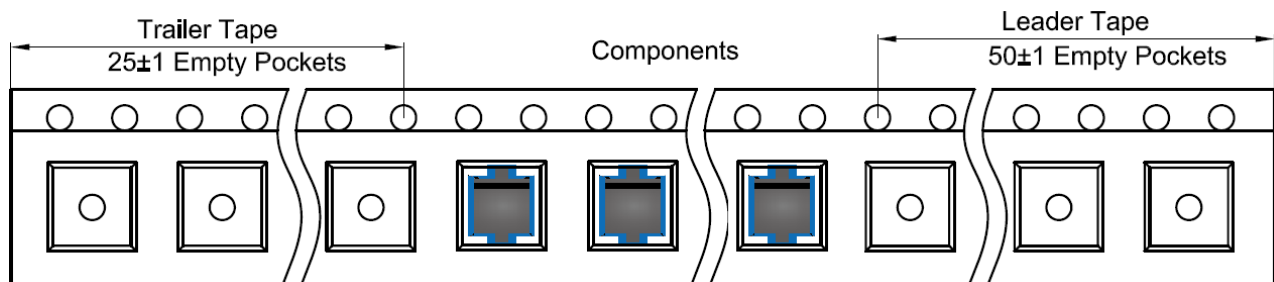
SMB TAPE AND REEL

SMB Embossed Carrier Tape

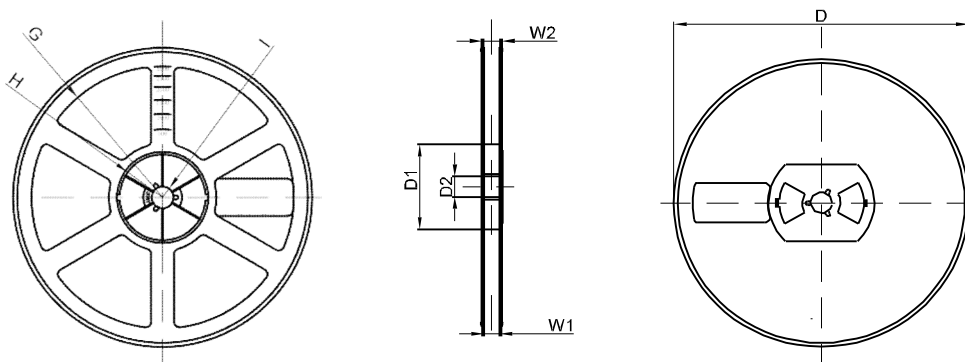


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SMB	4.10	5.50	2.58	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SMB Tape Leader and Trailer



SMB Reel



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
13" DIA	Ø330	75.0	13.00	R165	R37.50	R6.50	12.40	17.60
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1