

### VOLTAGE 20V ~ 100V

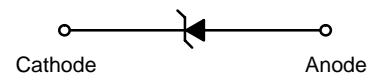
### 5.0AMP Surface Mount Schottky Barrier Rectifiers

## FEATURES

- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- \* Low power loss,high efficiency
- \* For use in low voltage high frequency inverters, free wheeling,and polarity protection applications
- \* Guardring for over voltage protection
- \* High temperature soldering guaranteed: 260°C/10 seconds at terminals

DO- 214AA

SMB



## MECHANICAL DATA

- \* Case: Molded plastic
- \* Epoxy: UL 94V- 0 rate flame retardant
- \* Lead: Axial leads, solderable per MIL- STD- 202, method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 0.11 grams

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.  
Single phase half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

TYPE NUMBER	SM520B	SM530B	SM540B	SM550B	SM560B	SM580B	SM5100B	UNITS
Maximum Recurrent Peak Reverse Voltage	20	30	40	50	60	80	100	V
Maximum RMS Voltage	14	21	28	35	42	56	70	V
Maximum DC Blocking Voltage	20	30	40	50	60	80	100	V
Maximum Average Forward Rectified Current See Fig. 1	5.0							A
Peak Forward Surge Current, 8.3 ms single half sine- wave superimposed on rated load (JEDEC method)	120							A
Maximum Instantaneous Forward Voltage at 5.0A	0.55		0.70		0.85			V
Maximum DC Reverse Current Ta=25 C	5.0							mA
at Rated DC Blocking Voltage Ta=100 C	50							mA
Typical Junction Capacitance (Note1)	380							pF
Typical Thermal Resistance RJA (Note 2)	10							°C/W
Operating Temperature Range T	-50 ~ +125							°C
Storage Temperature Range Tg	-65 ~ +150							°C

#### NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Thermal Resistance Junction to Ambient.



# SM520B thru SM5100B

## RATING AND CHARACTERISTIC CURVES (SM520B Thru SM5100B)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

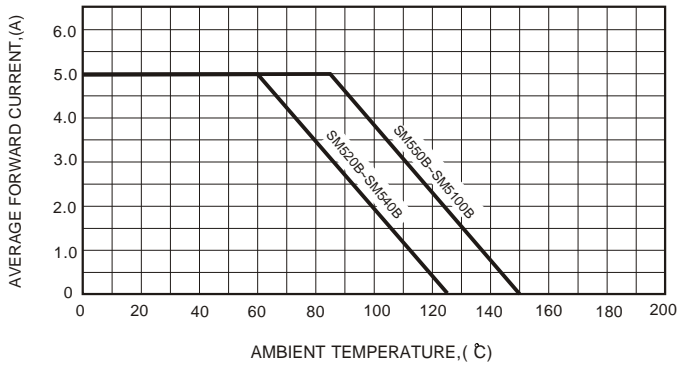


FIG.2 - TYPICAL FORWARD CHARACTERISTICS

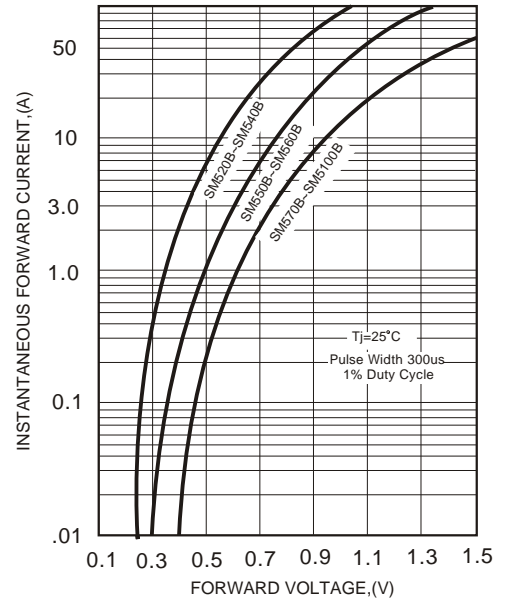


FIG.3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

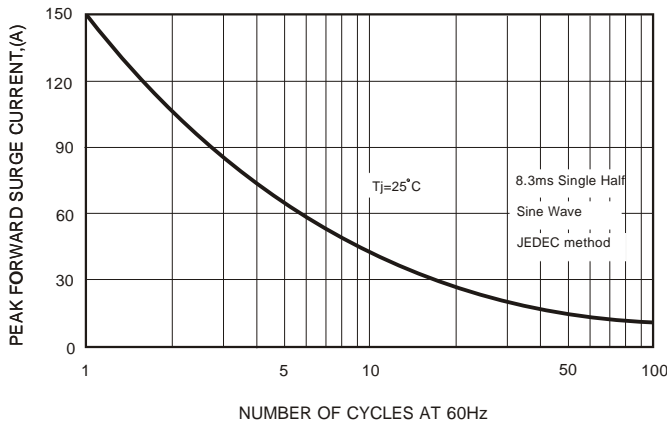


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

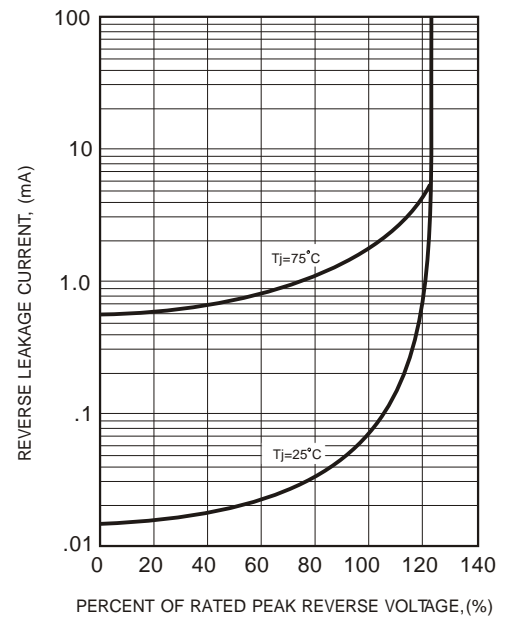
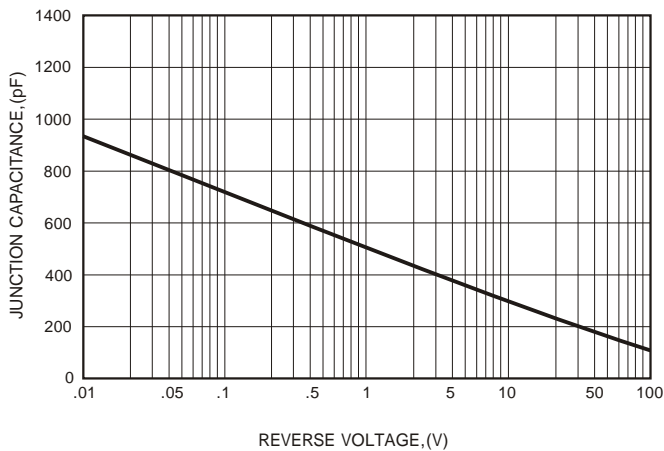


FIG.4 - TYPICAL JUNCTION CAPACITANCE

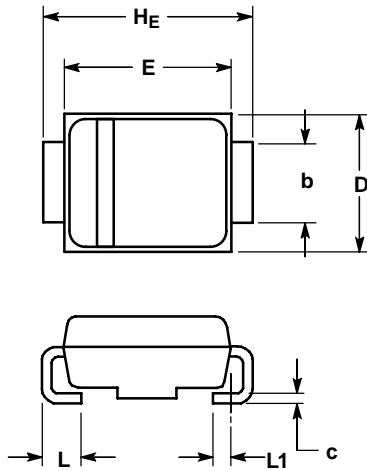




# SM520B thru SM5100B

## PACKAGE DIMENSIONS

### SMB DO-214AA

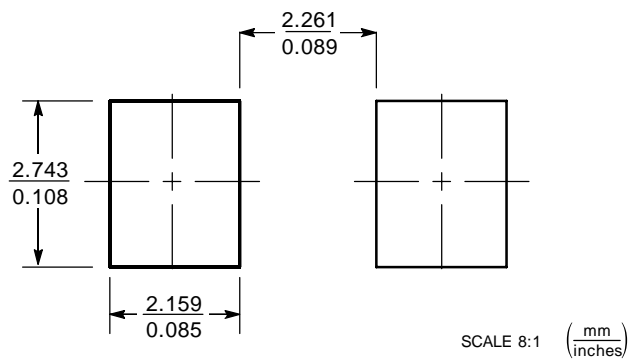


NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. D DIMENSION SHALL BE MEASURED WITHIN DIMENSION P.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.90	2.13	2.45	0.075	0.084	0.096
A1	0.05	0.10	0.20	0.002	0.004	0.008
b	1.96	2.03	2.20	0.077	0.080	0.087
c	0.15	0.23	0.31	0.006	0.009	0.012
D	3.30	3.56	3.95	0.130	0.140	0.156
E	4.06	4.32	4.60	0.160	0.170	0.181
HE	5.21	5.44	5.60	0.205	0.214	0.220
L	0.76	1.02	1.60	0.030	0.040	0.063
L1	0.51 REF			0.020 REF		

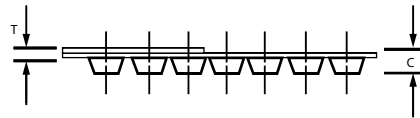
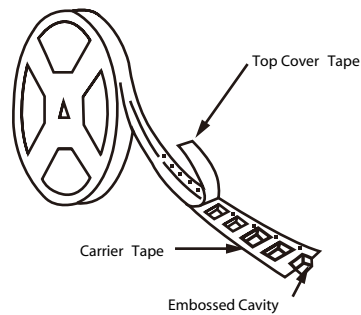
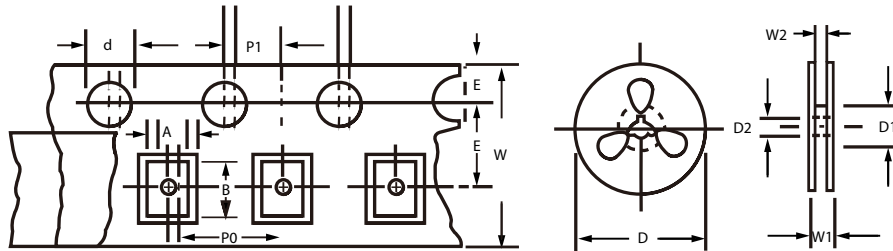
### SOLDERING FOOTPRINT\*



## Surface Mount Packaging

### Packing

DEVICE TYPE	Q'TY/REEL (PCS)	REEL DIA. (mm)	BOX SIZE (mm)	Q'TY/BOX (PCS)	CARTON / SIZE (mm)	Q'TY / CARTON (PCS)
SMB	3K	330	337x337x39	6K	380x220x370	30K



### Reel Taping Specifications for Surface Mount Devices

Item	Symbol	SMA	SMB	SMC
Carrier width	A	2.7 (max)	4.0 (max)	2.7 (max)
Carrier length	B	5.3 (max)	5.9 (max)	5.3 (max)
Carrier depth	C	2.66 (max)	3.0 (max)	2.66 (max)
Sprocket hole	d	1.50 ± 0.1 DIA	1.50 ± 0.1 DIA	1.50 ± 0.1 DIA
Reel outside diameter	D	330 ± 2	330 ± 2	330 ± 2
Reel inner diameter	D1	50 min	50 min	50 min
Feed hole diameter	D2	13.5 ± 1	13.5 ± 1	13.5 ± 1
Sprocket hole position	E	1.75 ± 0.1	1.75 ± 0.1	1.75 ± 0.1
Punch hole position	F	5.5 ± 0.05	5.5 ± 0.05	7.5 ± 0.1
Sprocket hole pitch	P	4.0 ± 0.1	8.0 ± 0.1	8.0 ± 0.1
Sprocket hole pitch	P0	4.0 ± 0.1	4.0 ± 0.1	4.0 ± 0.1
Embossment center	P1	2.0 ± 0.05	2.0 ± 0.05	2.0 ± 0.05
Overall tape thickness	T	0.6 max	0.6 max	0.6 max
Tape width	W	12.0 ± 0.3	12.0 ± 0.3	16.0 ± 0.3
Reel width	W1	18.4 (max)	18.4 (max)	22.4 (max)
Reed width	W2	14.4 (max)	14.4 (max)	18.4 (max)