

VOLTAGE 20V ~ 100V

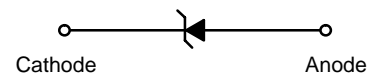
5.0AMP Surface Mount Schottky Barrier Rectifiers

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- 214AB

SMC



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: 0.21 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 at Rated DC Blocking Voltage | Ta=25 C | | | 5.0 | | | | mA |
| | Ta=100 C | | | 50 | | | | mA |
| Typical Junction Capacitance (Note1) | | | | 380 | | | | pF |
| Typical Thermal Resistance RJA (Note 2) | | | | 10 | | | | °C/W |
| Operating Temperature Range Tj | | | | -50 ~ +125 | | | | °C |
| Storage Temperature Range Tstg | | | | -65 ~ +150 | | | | °C |

NOTES:

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



SM520C thru SM5100C

RATING AND CHARACTERISTIC CURVES (S M520C THRU SM5100C)

FIG.1 - TYPICAL FORWARD CURRENT DERATING CURVE

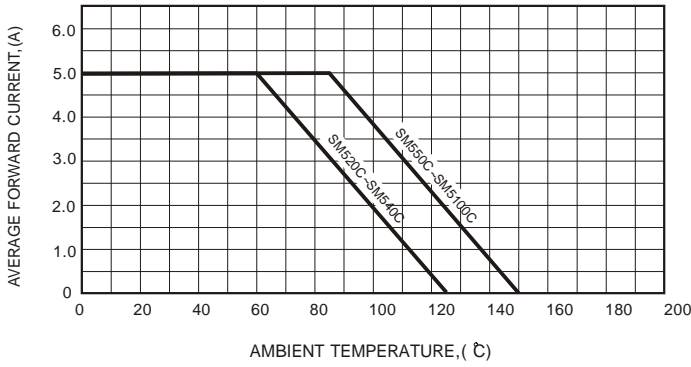


FIG.2 - TYPICAL FORWARD CHARACTERISTICS

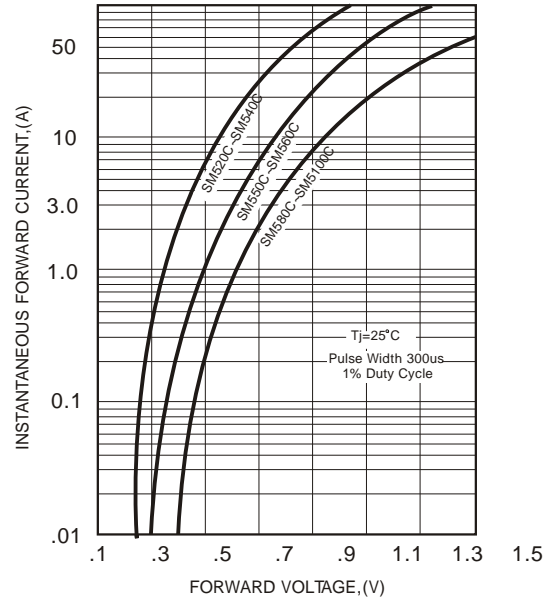


FIG.3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

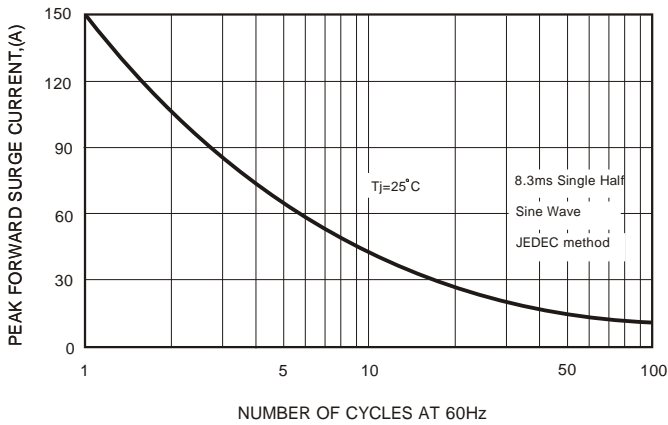


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

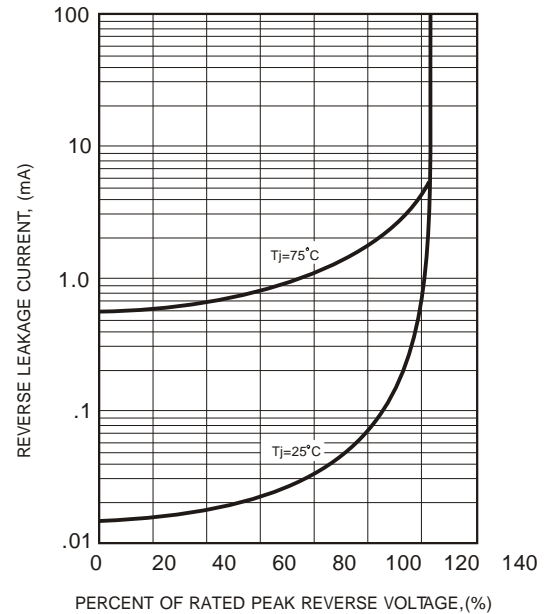
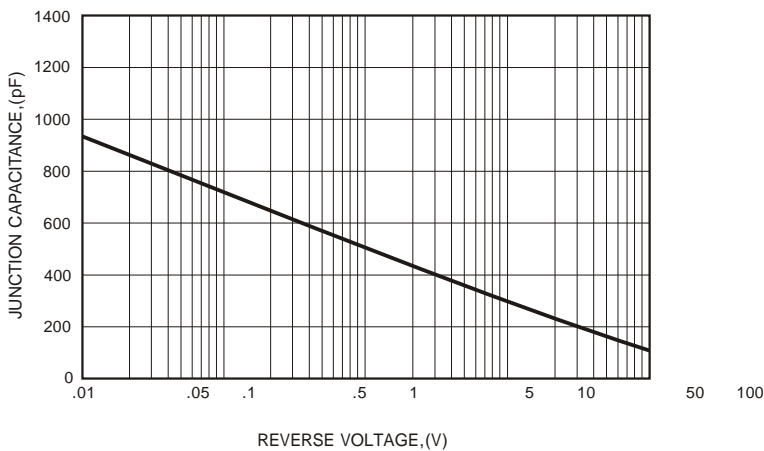


FIG.4 - TYPICAL JUNCTION CAPACITANCE

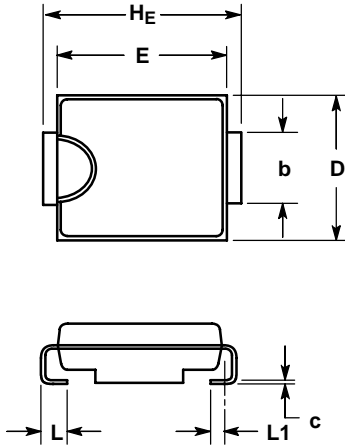




SM520C thru SM5100C

PACKAGE DIMENSIONS

SMC

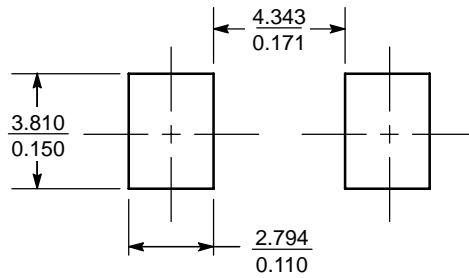


NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. D DIMENSION SHALL BE MEASURED WITHIN DIMENSION P.
4. 403-01 THRU -02 OBSOLETE, NEW STANDARD 403-03.

| DIM | MILLIMETERS | | | INCHES | | |
|-----|-------------|------|------|-----------|-------|-------|
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 1.90 | 2.13 | 2.41 | 0.075 | 0.084 | 0.095 |
| A1 | 0.05 | 0.10 | 0.15 | 0.002 | 0.004 | 0.006 |
| b | 2.92 | 3.00 | 3.07 | 0.115 | 0.118 | 0.121 |
| c | 0.15 | 0.23 | 0.30 | 0.006 | 0.009 | 0.012 |
| D | 5.59 | 5.84 | 6.10 | 0.220 | 0.230 | 0.240 |
| E | 6.60 | 6.86 | 7.11 | 0.260 | 0.270 | 0.280 |
| HE | 7.75 | 7.94 | 8.13 | 0.305 | 0.313 | 0.320 |
| L | 0.76 | 1.02 | 1.27 | 0.030 | 0.040 | 0.050 |
| L1 | 0.51 REF | | | 0.020 REF | | |

SOLDERING FOOTPRINT*

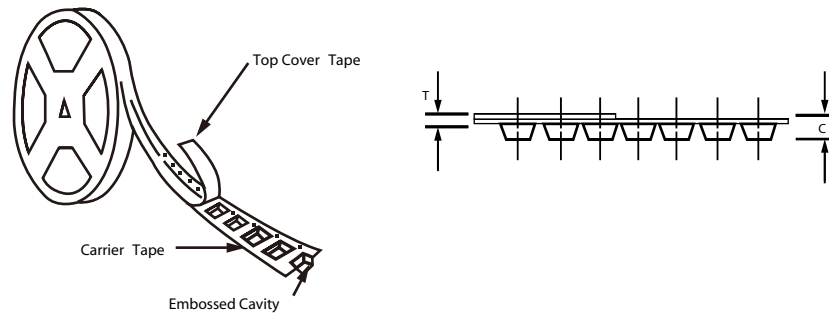
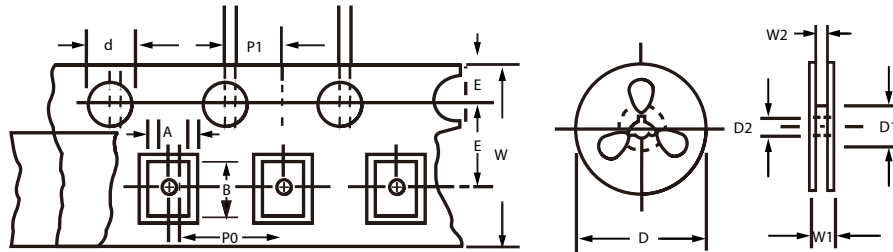


SCALE 4:1 (mm/inches)

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) |
|-------------|-----------------|----------------|---------------|----------------|--------------------|---------------------|
| SMC | 3K | 330 | 337x337x50 | 6K | 380x280x380 | 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) |