Elektronische Bauelemente

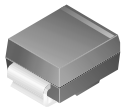
# SUF101B THRU SUF105B

**VOLTAGE 50V ~ 600V**

**1.0AMP Surface Mount Super Fast Recovery Rectifiers**

RoHS Compliant Product

A suffix of "-C" specifies halogen-free



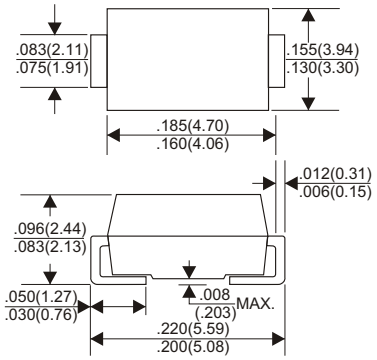
## FEATURES

* Ideal for surface mount applications
* Easy pick and place
* Built-in strain relief
* Super Fast switching speed under 35ns

## MECHANICAL DATA

* Case: Molded plastic
* Epoxy: UL 94V-0 rate flame retardant
* Metallurgically bonded construction
* Polarity: Color band denotes cathode end
* Mounting position: Any
* Weight: 0.063 grams

**DO-214AA(SMB)**




Dimensions in inches and (millimeters)

## 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 | SUF101B | SUF102B | SUF103B | SUF104B | SUF105B | UNITS |
|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | 50 | 100 | 200 | 400 | 600 | V |
| Maximum RMS Voltage | 35 | 70 | 140 | 280 | 420 | V |
| Maximum DC Blocking Voltage | 50 | 100 | 200 | 400 | 600 | V |
| Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length at Ta=55˚C | 1.0 | | | | | A |
| Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | 30 | | | | | A |
| Maximum Instantaneous Forward Voltage at 1.0A | 0.95 | | | 1.25 | 1.7 | V |
| Maximum DC Reverse Current Ta=25˚C | 5.0 | | | | | µA |
| at Rated DC Blocking Voltage T a=100˚C | 80 | | | | | µA |
| Maximum Reverse Recovery Time (Note 1) | 35 | | | | | nS |
| Typical Junction Capacitance (Note 2) | 15 | | | | | pF |
| Thermal Resistance, Junction to Ambient (Note 3) $R_{\theta JA}$ | 75 | | | | | °C/W |
| Operating and Storage Temperature Range $T_J$, $T_{STG}$ | -65 — +175 | | | | | ˚C |

**NOTES:**

1. Reverse Recovery Time test condition: $I_F$=0.5A, $I_R$=1.0A, $I_{RR}$=0.25A
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3. Device mounted FR-4 PCB 0.013mm

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**VOLTAGE 50V ~ 600V**

**1.0AMP Surface Mount Super Fast Recovery Rectifiers**

## RATING AND CHARACTERISTIC CURVES (SUF101B THRU SUF105B)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

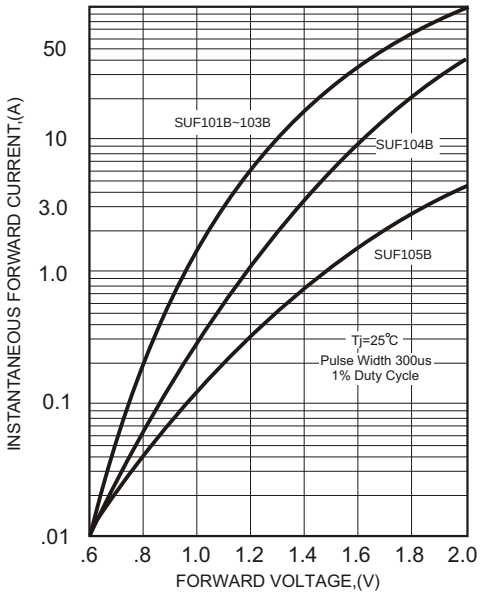



FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

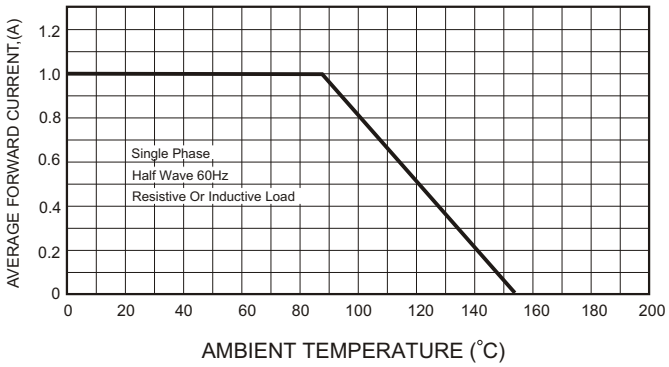
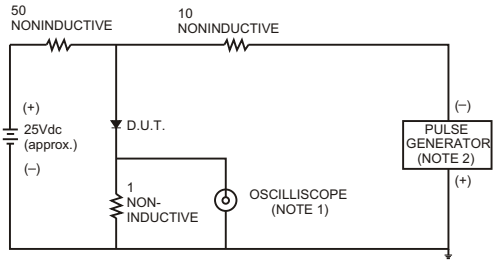



FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS




NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.

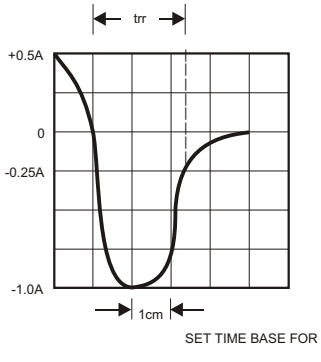



FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

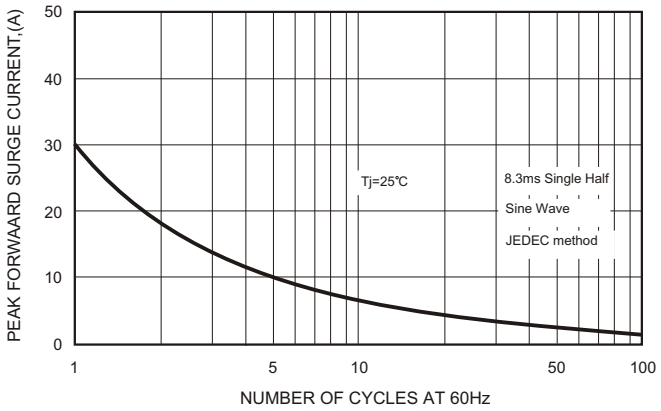



FIG.5-TYPICAL JUNCTION CAPACITANCE

