

**SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER**

**VOLTAGE RANGE 20 to 60 Volts CURRENT 0.5 Ampere**

**FEATURES**

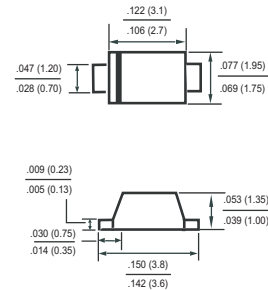
- \* Low power loss, high efficiency
- \* Low leakage
- \* Low forward voltage
- \* High current capability
- \* High speed switching
- \* High surge capability
- \* High reliability

**MECHANICAL DATA**

- \* Epoxy: Device has UL flammability classification 94V-0
- \* Mounting position: Any



**SOD-123F**



Dimensions in inches and (millimeters)

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.  
resistive or inductive load.

MAXIMUM RATINGS (@ TA=25 °C unless otherwise noted)

| RATINGS                                                                                              | SYMBOL           | 05S2         | 05S3 | 05S4 | 05S5 | 05S6 | UNITS            |
|------------------------------------------------------------------------------------------------------|------------------|--------------|------|------|------|------|------------------|
| Maximum Recurrent Peak Reverse Voltage                                                               | V <sub>RRM</sub> | 20           | 30   | 40   | 50   | 60   | Volts            |
| Maximum RMS Voltage                                                                                  | V <sub>RMS</sub> | 14           | 21   | 28   | 35   | 42   | Volts            |
| Maximum DC Blocking Voltage                                                                          | V <sub>DC</sub>  | 20           | 30   | 40   | 50   | 60   | Volts            |
| Maximum Average Forward Rectified Current<br>.375" (9.5mm) lead length at T <sub>A</sub> =55°C       | I <sub>O</sub>   | 0.5          |      |      |      |      | Amps             |
| Peak Forward Surge Current 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | I <sub>FSM</sub> | 15           |      |      |      |      | Amps             |
| Typical Current Square Time                                                                          | I <sup>2</sup> T | 0.9          |      |      |      |      | A <sup>2</sup> S |
| Typical Thermal Resistance (Note 2)                                                                  | R <sub>θJA</sub> | 130          |      |      |      |      | °C/W             |
|                                                                                                      | R <sub>θJL</sub> | 30           |      |      |      |      |                  |
| Typical Junction Capacitance (Note 1)                                                                | C <sub>J</sub>   | 110          |      |      |      |      | pF               |
| Operating Temperature Range                                                                          | T <sub>J</sub>   | -55 to + 150 |      |      |      |      | °C               |
| Storage Temperature Range                                                                            | T <sub>STG</sub> | -55 to + 150 |      |      |      |      | °C               |

ELECTRICAL CHARACTERISTICS (@TA=25 °C unless otherwise noted)

| CHARACTERISTICS                                                 | SYMBOL                   | 05S2 | 05S3 | 05S4 | 05S5 | 05S6 | UNITS |
|-----------------------------------------------------------------|--------------------------|------|------|------|------|------|-------|
| Maximum Instantaneous Forward Voltage at 0.5A DC                | V <sub>F</sub>           | .55  |      |      | .70  |      | Volts |
| Maximum Average Reverse Current<br>at Rated DC Blocking Voltage | @ T <sub>A</sub> = 25°C  | 0.2  |      |      |      |      | mAmps |
|                                                                 | @ T <sub>A</sub> = 125°C | 15   |      |      |      |      | mAmps |

NOTES : 1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
2. Thermal Resistance : Mounted on PCB.

2022-10  
REV: C

## RATING AND CHARACTERISTICS CURVES ( 05S2 THRU 05S6 )

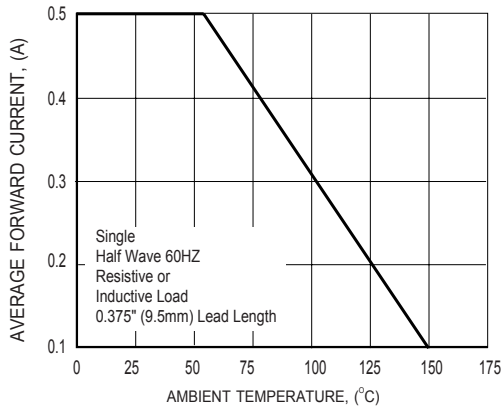


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

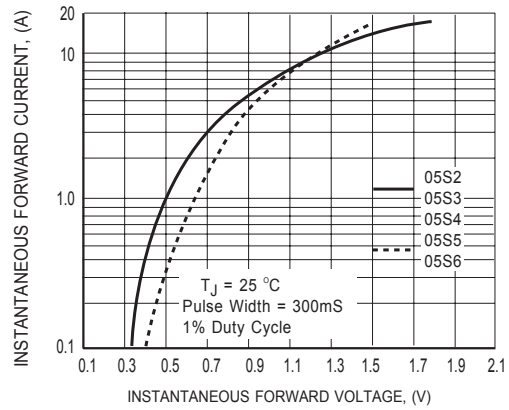


FIG.2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

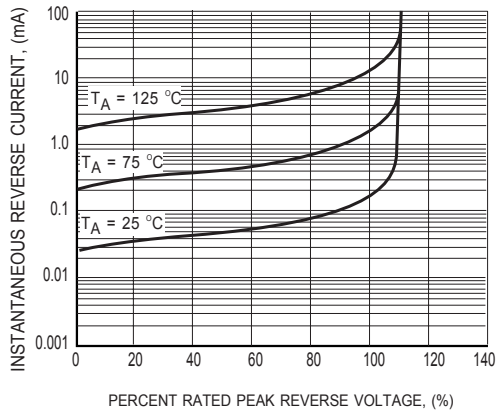


FIG.3 TYPICAL REVERSE CHARACTERISTICS

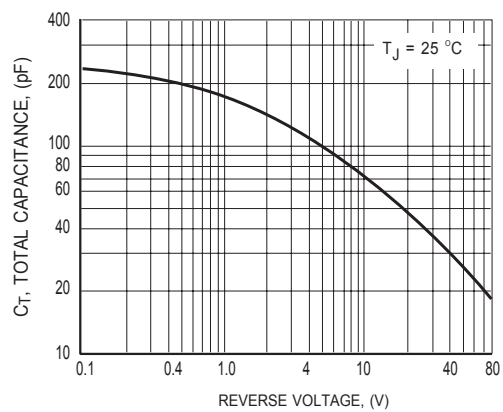


FIG.4 TYPICAL JUNCTION CAPACITANCE

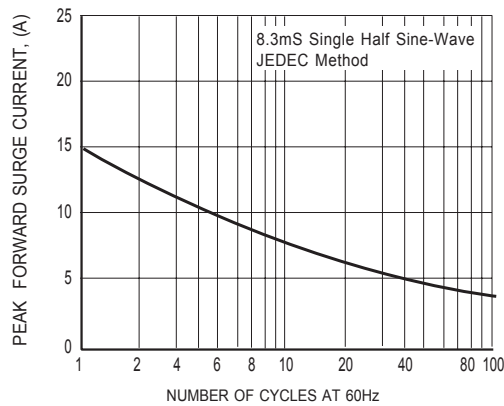


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

# Marking Description

**Year- code** ← Y  
( Last digit of year )

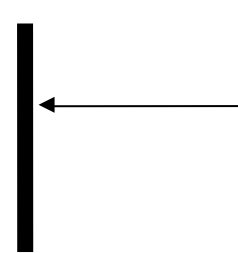
**Voltage-code:** ← W  
A week 01~02  
B week 03~04  
C week 05~06  
.....  
Z week 51~52

**Schottky**

**Voltage code**

|        |     |
|--------|-----|
| 2----- | 20V |
| 3----- | 30V |
| 4----- | 40V |
| 5----- | 50V |
| 6----- | 60V |

**Cathode Band**



## PACKAGING OF DIODE AND BRIDGE RECTIFIERS

### REEL PACK

| PACKAGE                | PACKING CODE | EA PER REEL | EA PER INNER BOX | COMPONENT SPACE (mm) | TAPE SPACE (mm) | REEL DIA (mm) | CARTON SIZE (mm) | EA PER CARTON | GROSS WEIGHT(Kg) |
|------------------------|--------------|-------------|------------------|----------------------|-----------------|---------------|------------------|---------------|------------------|
| SOD-123F/<br>SOD-123FL | -W           | 3,000       | 15,000           | ---                  | ---             | 178           | 390*205*31       | 120,000       | 6.964            |

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