# Data Sheet

Customer：

| | |
|---|---|
| Product : | Small Signal Schottky Diode-Standard |
| Part No.: | B0520W-F / B0530W-F / B0540W-F / B0560W-F / B05100W-F |
| Issued Date: | 11-Jan-11 |
| Edition : | REV.A |


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|---|---|---|---|---|
| 11-Jan-11 | 11-Jan-11 | 11-Jan-11 | 11-Jan-11 | |
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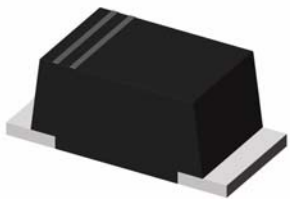
# 0.5Amperes Surface Mount Schottky Barrier Rectifiers
# Voltage : 20 to 100Volts

## ■Features

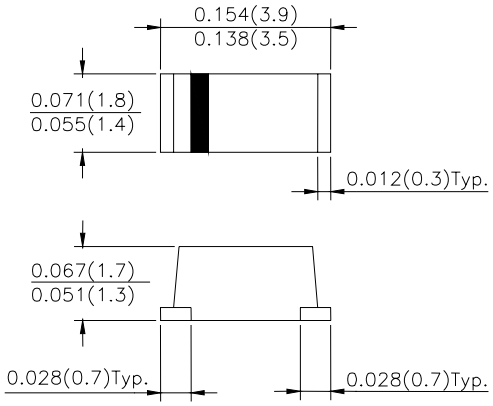
－Low profile surface mounted application in order to optimize board space
－Low power loss, high efficiency
－High current capability, low forward voltage drop
－High surge capability
－Guardring for over voltage protection
－Ultra high-speed switching
－Silicon epitaxial planar chip, metal silicon junction
－Lead-free parts meet environmental standards of MIL-STD-19500/228
－Halogen free



## ■Mechanical Data

**Epoxy :** UL94-V0 rated flame retardant
**Case：**Molded Plastic, SOD-123F
**Terminals :** Solder plated, Solderable per MIL-STD-750, Method 2026
**Polarity：**Indicated by cathode band
**Weight :** Approximated 0.018 gram
**Packaging :** 2.5Kpcs per 7" reel

## ■Package Dimensions in inches(millimeters): SOD-123F




## ■Maximum Ratings And Electrical Characteristics

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

| Parameter | Symbol | B0520W-F | B0530W-F | B0540W-F | B0560W-F | B05100W-F | Unit |
|---|---|---|---|---|---|---|---|
| Marking Code | | 02 | 03 | 04 | 06 | 01 | |
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 20 | 30 | 40 | 60 | 100 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 14 | 21 | 28 | 42 | 70 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 20 | 30 | 40 | 60 | 100 | V |
| Maximum Instantaneous Forward Voltage@0.5A, $T_A$=25℃ | $V_F$ | 0.40 | | 0.45 | 0.55 | 0.71 | V |
| Operating Temperature | $T_J$ | -50 ~ +125 | | | | -50 ~ +150 | ℃ |

| Parameter | Conditions | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Forward Rectified Current | See Fig.1 | $I_O$ | | | 0.5 | A |
| Forward Surge Current | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | $I_{FSM}$ | | | 30 | A |
| Reverse Current | $V_R$=$V_{RRM}$ , $T_A$=25℃ | $I_R$ | | | 0.1 | mA |
| | $V_R$=$V_{RRM}$ , $T_A$=100℃ | | | | 20 | |
| Thermal Resistance | Junction to ambient | $R_{\theta JA}$ | | 88 | | ℃/W |
| Diode Junction Capacitance | f=1MHz and applied 4V DC reverse voltage | $C_J$ | | 120 | | pF |
| Storage Temperature | | $T_{STG}$ | -50 | | +150 | ℃ |

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## ■Rated and Characteristic Curve

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

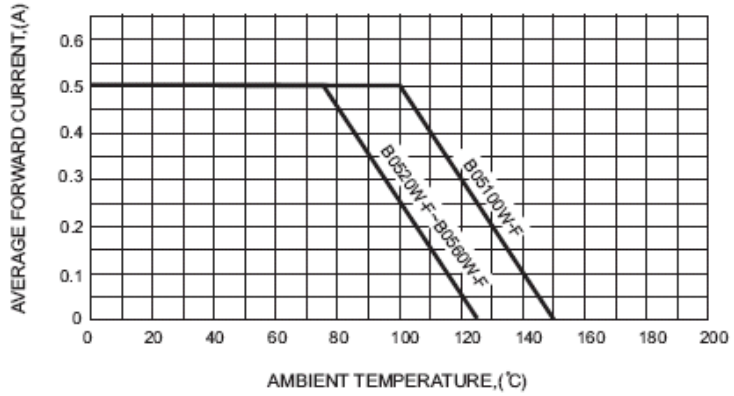



FIG.2-TYPICAL FORWARD CHARACTERISTICS

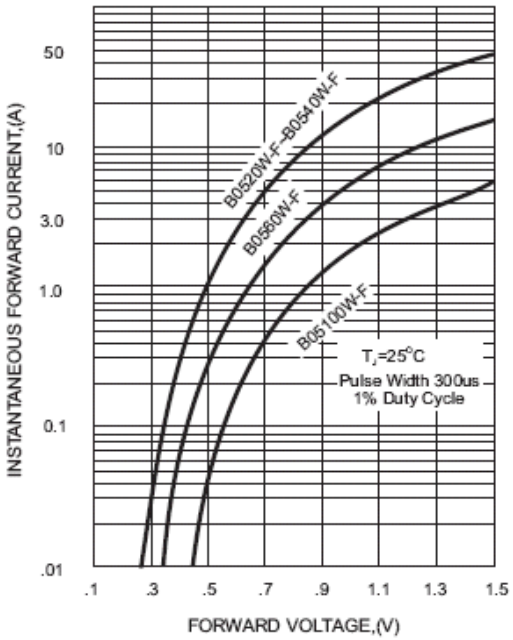



FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

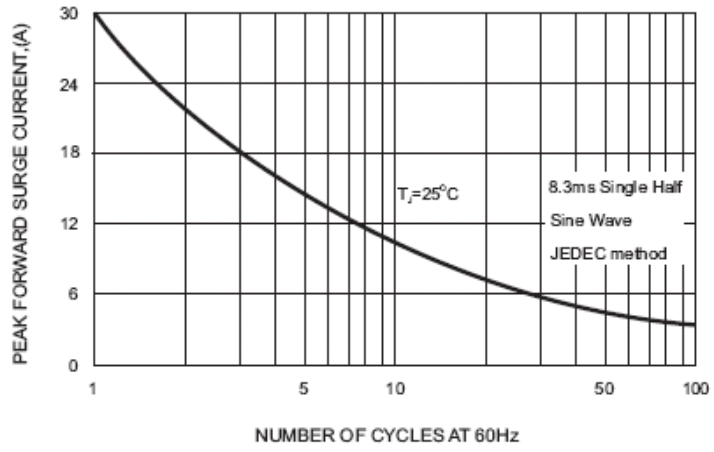



FIG.4-TYPICAL JUNCTION CAPACITANCE

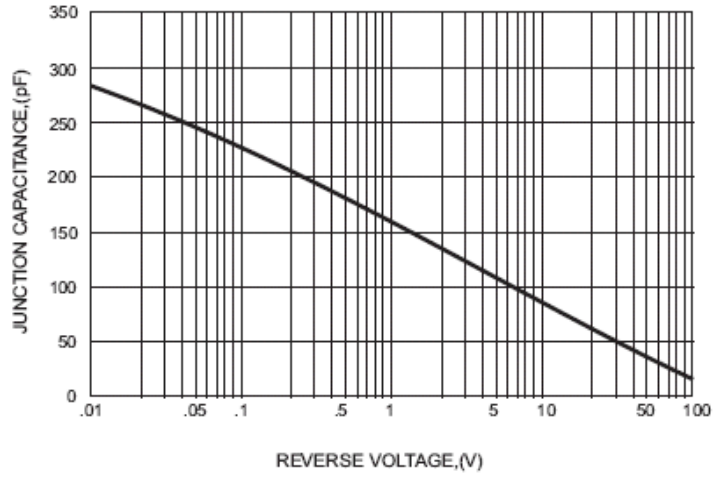
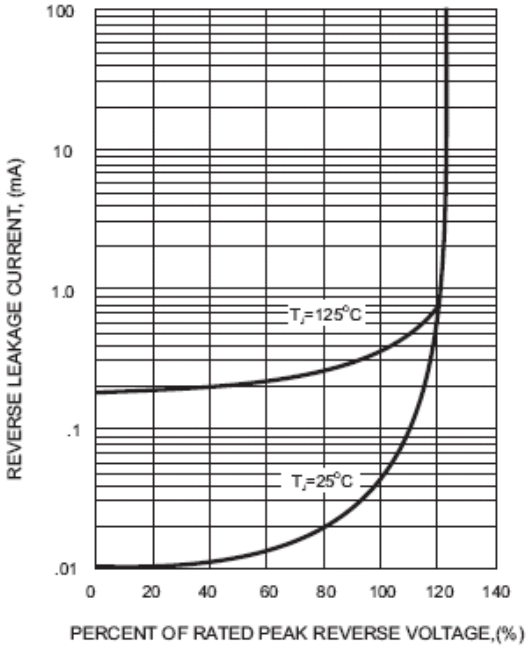



FIG.5 - TYPICAL REVERSE CHARACTERISTICS

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