

## Dual Hot Carrier Mixer Diodes

## MMBD352/353/354/355

### FEATURES

- Very low capacitance—  
Less than 1.0pF@zero V.
- Low forward voltage— $I_F=10\text{mA}$ .
- Power dissipation  $P_d=300\text{mW}$
- Pb-Free package is available.

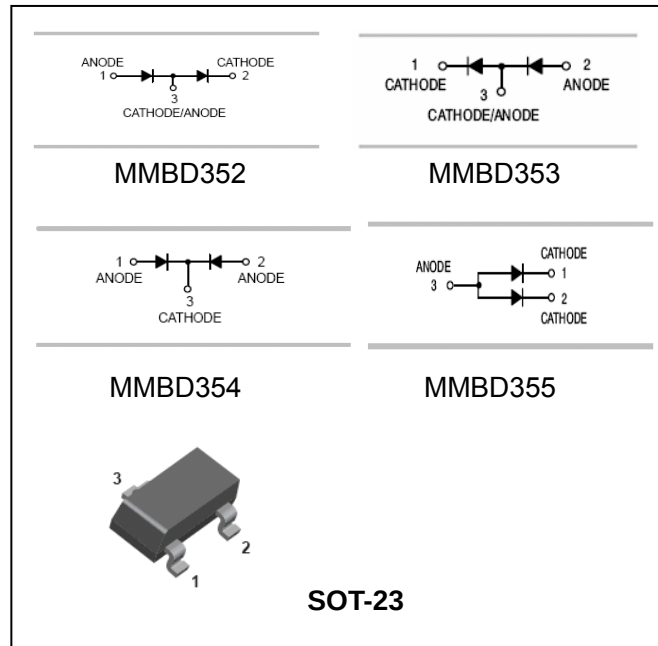


Lead-free

### APPLICATIONS

- Designed primarily for UHF mixer applications.

### ORDERING INFORMATION



| Type No. | Marking | Package Code |
|----------|---------|--------------|
| MMBD352  | M5G     | SOT-23       |
| MMBD353  | M4F     | SOT-23       |
| MMBD354  | M6H     | SOT-23       |
| MMBD355  | MJ1     | SOT-23       |

### MAXIMUM RATING @ $T_a=25^\circ\text{C}$ unless otherwise specified

| Parameter                               | Symbol          | Limits  | Unit                      |
|-----------------------------------------|-----------------|---------|---------------------------|
| Continuous reverse voltage              | $V_R$           | 7.0     | V                         |
| Power Dissipation                       | $P_d$           | 300     | mW                        |
| Thermal Resistance, Junction-to-Ambient | $R_{\theta JA}$ | 417     | $^\circ\text{C}/\text{W}$ |
| Junction and storage temperature        | $T_J, T_{STG}$  | -55-150 | $^\circ\text{C}$          |

### ELECTRICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

| Parameter                 | Symbol     | Min. | Typ. | Max.       | Unit          | Conditions                             |
|---------------------------|------------|------|------|------------|---------------|----------------------------------------|
| Reverse Breakdown Voltage | $V_{(BR)}$ | 7.0  |      |            | V             | $I_R=100\mu\text{A}$                   |
| Forward voltage           | $V_F$      |      |      | 0.60       | V             | $I_F=10\text{mA}$                      |
| Reverse current           | $I_R$      |      |      | 0.25<br>10 | $\mu\text{A}$ | $V_R=3.0\text{V}$<br>$V_R=7.0\text{V}$ |
| Diode Capacitance         | $C_D$      |      | 1.0  |            | pF            | $V_R=0\text{V}, f=1\text{MHz}$         |

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TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

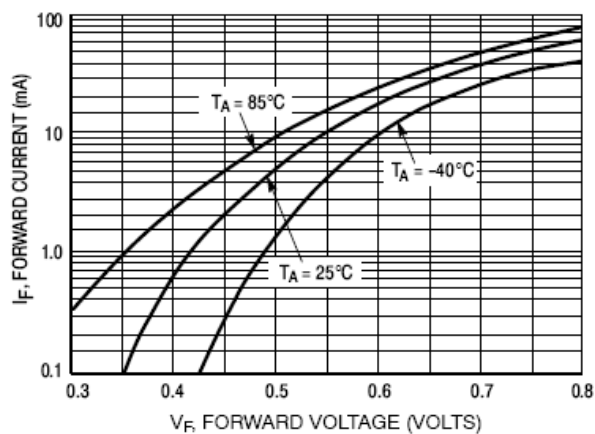


Figure 1. Forward Voltage

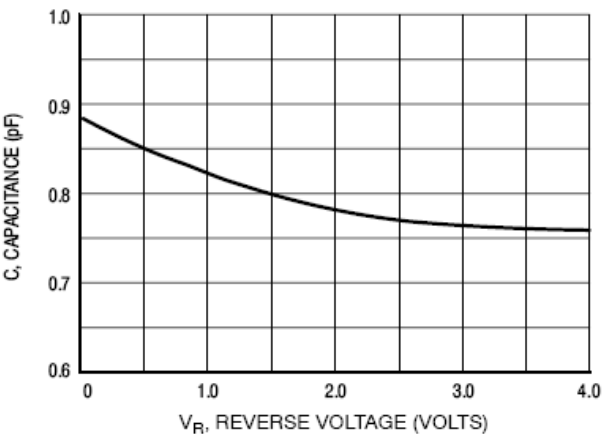


Figure 2. Capacitance

PACKAGE OUTLINE

Plastic surface mounted package

SOT-23

The diagram illustrates the mechanical dimensions of the SOT-23 package. It includes a top view with dimensions A (width), B (height), and D (lead width); a side view with dimensions C (height), E (lead height), and J (lead thickness); and a bottom view with dimensions G (lead spacing), H (lead thickness), and K (total height). The dimensions are defined in millimeters.

| SOT-23               |            |      |
|----------------------|------------|------|
| Dim                  | Min        | Max  |
| A                    | 2.85       | 2.95 |
| B                    | 1.25       | 1.35 |
| C                    | 1.0Typical |      |
| D                    | 0.37       | 0.43 |
| E                    | 0.35       | 0.48 |
| G                    | 1.85       | 1.95 |
| H                    | 0.02       | 0.1  |
| J                    | 0.1Typical |      |
| K                    | 2.35       | 2.45 |
| All Dimensions in mm |            |      |

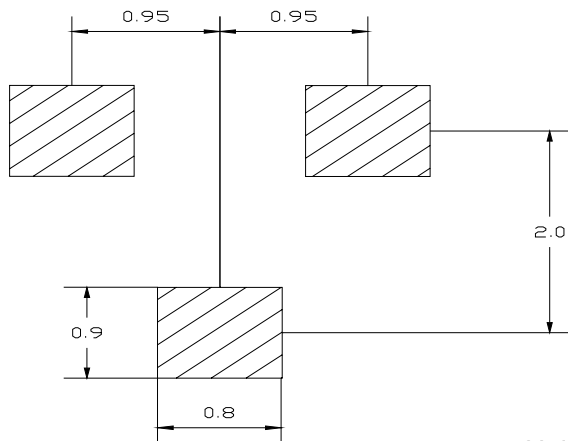
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**SOLDERING FOOTPRINT**

Unit : mm

**PACKAGE INFORMATION**

| Device              | Package | Shipping       |
|---------------------|---------|----------------|
| MMBD352/353/354/355 | SOT-23  | 3000/Tape&Reel |