

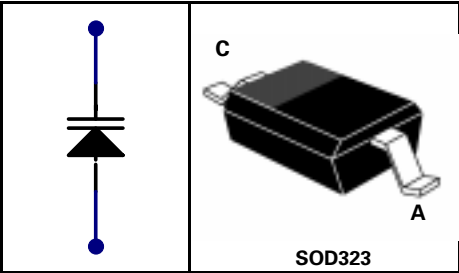
SOD323 SILICON VARIABLE  
CAPACITANCE DIODES

ISSUE 1 – NOVEMBER 1998

ZMV829/A/B  
to  
ZMV835/A/B

FEATURES

- \* Close Tolerance C-V Characteristics
- \* High Tuning Ratio
- \* Low  $I_R$   
Enabling Excellent Phase Noise Performance  
( $I_R$  Typically <200pA at 25V)
- \* Miniature surface mount package



ABSOLUTE MAXIMUM RATINGS.

| PARAMETER                                  | SYMBOL        | MAX         | UNIT        |
|--------------------------------------------|---------------|-------------|-------------|
| Forward Current                            | $I_F$         | 200         | mA          |
| Power Dissipation at $T_{amb}=25^{\circ}C$ | $P_{tot}$     | 330         | mW          |
| Operating and Storage Temperature Range    | $T_J:T_{stg}$ | -55 to +150 | $^{\circ}C$ |

ELECTRICAL CHARACTERISTICS (at  $T_{amb}=25^{\circ}C$ )

| PARAMETER                              | SYMBOL   | MIN | TYP | MAX | UNIT             | CONDITIONS       |
|----------------------------------------|----------|-----|-----|-----|------------------|------------------|
| Reverse Breakdown Voltage              | $V_{BR}$ | 25  |     |     | V                | $I_R=10\mu A$    |
| Reverse Voltage Leakage                | $I_R$    |     | 0.2 | 20  | nA               | $V_R=20V$        |
| Temperature Coefficient of Capacitance | $\eta$   |     | 300 | 400 | ppm/ $^{\circ}C$ | $V_R=3V, f=1MHz$ |

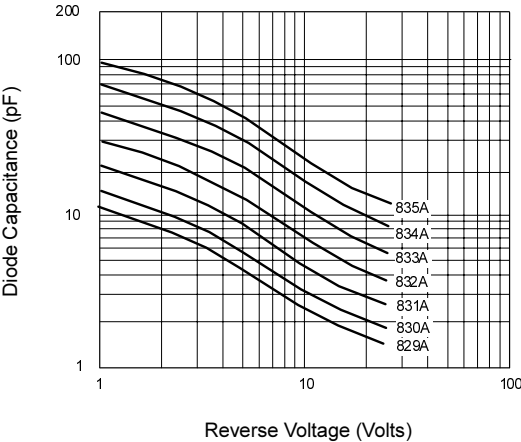
TUNING CHARACTERISTICS (at  $T_{amb}=25^{\circ}C$ )

| PART NO | Nominal Capacitance (pF)<br>$V_R=2V, f=1MHz$ |      |      | Minimum<br>$Q$<br>@ $V_R=3V$<br>$f=50MHz$ | Capacitance Ratio<br>$C_2 / C_{20}$<br>at $f=1MHz$ |     |
|---------|----------------------------------------------|------|------|-------------------------------------------|----------------------------------------------------|-----|
|         | MIN                                          | NOM  | MAX  |                                           | MIN                                                | MAX |
| ZMV829A | 7.38                                         | 8.2  | 9.02 | 250                                       | 4.3                                                | 5.8 |
| ZMV830A | 9.0                                          | 10.0 | 11.0 | 300                                       | 4.5                                                | 6.0 |
| ZMV831A | 13.5                                         | 15.0 | 16.5 | 300                                       | 4.5                                                | 6.0 |
| ZMV832A | 19.8                                         | 22.0 | 24.2 | 200                                       | 5.0                                                | 6.5 |
| ZMV833A | 29.7                                         | 33.0 | 36.3 | 200                                       | 5.0                                                | 6.5 |
| ZMV834A | 42.3                                         | 47.0 | 51.7 | 200                                       | 5.0                                                | 6.5 |
| ZMV835A | 61.2                                         | 68.0 | 74.8 | 100                                       | 5.0                                                | 6.5 |

Note:

No suffix  $\pm 20\%$  (e.g. ZMV830), suffix B  $\pm 5\%$  (e.g. ZMV830B)  
Spice parameter data is available upon request for these devices

ZMV829/A/B  
to  
ZMV835/A/B



Diode Capacitance

| Device | Partmark | Device  | Partmark | Device  | Partmark |
|--------|----------|---------|----------|---------|----------|
| ZMV829 | DA       | ZMV829A | AA       | ZMV829B | CA       |
| ZMV830 | DB       | ZMV830A | AB       | ZMV830B | CB       |
| ZMV831 | DC       | ZMV831A | AC       | ZMV831B | CC       |
| ZMV832 | DD       | ZMV832A | AD       | ZMV832B | CD       |
| ZMV833 | DE       | ZMV833A | AE       | ZMV833B | CE       |
| ZMV834 | DF       | ZMV834A | AF       | ZMV834B | CF       |
| ZMV835 | DG       | ZMV835A | AG       | ZMV835B | CG       |