

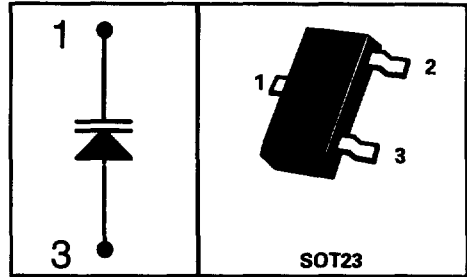
# SOT23 SILICON VARIABLE CAPACITANCE DIODES

ISSUE 4 – JUNE 1996

ZC830/A/B  
to  
ZC836/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)



## 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                | $I_R$    |     | 0.0002 | 0.02 | $\mu A$        | $V_R=20V$        |
| Temperature Coefficient of Capacitance | $\eta$   |     | 0.03   | 0.04 | %/ $^{\circ}C$ | $V_R=3V, f=1MHz$ |

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

| PART NO | Nominal Capacitance (pF)<br>$V_R=2V, f=1MHz$ |       |       | Minimum Q<br>@ $V_R=3V$<br>$f=50MHz$ | Capacitance Ratio<br>$C_2/C_{20}$<br>at $f=1MHz$ |     |
|---------|--|-------|-------|--------------------------------------|--|-----|
|         | MIN  | NOM   | MAX   |                                      | MIN  | MAX |
| ZC830A  | 9.0  | 10.0  | 11.0  | 300                                  | 4.5  | 6.0 |
| ZC831A  | 13.5   | 15.0  | 16.5  | 300                                  | 4.5  | 6.0 |
| ZC832A  | 19.8   | 22.0  | 24.2  | 200                                  | 5.0  | 6.5 |
| ZC833A  | 29.7   | 33.0  | 36.3  | 200                                  | 5.0  | 6.5 |
| ZC834A  | 42.3   | 47.0  | 51.7  | 200                                  | 5.0  | 6.5 |
| ZC835A  | 61.2   | 68.0  | 74.8  | 100                                  | 5.0  | 6.5 |
| ZC836A  | 90.0   | 100.0 | 110.0 | 100                                  | 5.0  | 6.5 |

### Note:

No suffix  $\pm 20\%$  (e.g. ZC830), suffix B  $\pm 5\%$  (e.g. ZC830B)  
Spice parameter data is available upon request for this device

**ZC830/A/B  
to  
ZC836/A/B**

**PARTMARKING DETAILS**

| PART NO | PARTMARK | PART NO | PARTMARK | PART NO | PARTMARK |
|---------|----------|---------|----------|---------|----------|
| ZC830   | J1S      | ZC830A  | J1A      | ZC830B  | J1B      |
| ZC831   | J3S      | ZC831A  | J3A      | ZC831B  | J3B      |
| ZC832   | J4S      | ZC832A  | J4A      | ZC832B  | J4B      |
| ZC833   | J2S      | ZC833A  | J2A      | ZC833B  | J2B      |
| ZC834   | J5S      | ZC834A  | J5A      | ZC834B  | J5B      |
| ZC835   | J6S      | ZC835A  | J6A      | ZC835B  | J6B      |
| ZC836   | J7S      | ZC836A  | J7A      | ZC836B  | J7B      |

