

# SOT23 SILICON VARIABLE CAPACITANCE DIODE

ZC829A

ISSUE 3 – JANUARY 1998

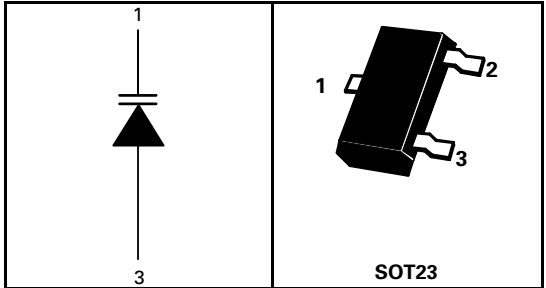
**FEATURES**

- \* VHF to UHF operation
- \* Low  $I_R$
- \* Enabling Excellent Phase Noise Performance
- \* ( $I_R$  Typically <200pA at 25V)

**APPLICATIONS**

- \* Mobile radios and Pagers
- \* Cellular telephones
- \* Voltage controlled Crystal Oscillators

PARTMARKING DETAIL ZC829A – J9A



**ABSOLUTE MAXIMUM RATINGS.**

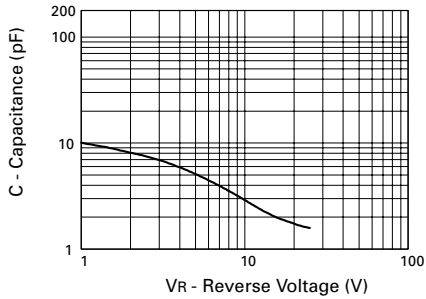
PARAMETER	SYMBOL	VALUE	UNIT
Forward Current	$I_F$	200	mA
Power Dissipation at $T_{amb}=25^{\circ}C$	$P_{tot}$	330	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^{\circ}C$

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

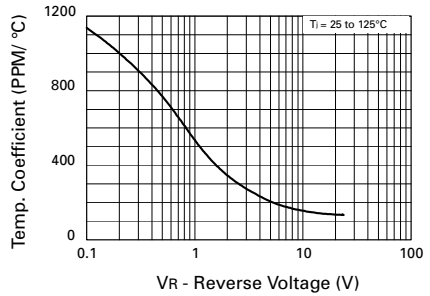
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Reverse Breakdown Voltage	$V_{BR}$	25			V	$I_R = 10\mu A$
Reverse Leakage Current	$I_R$		0.2	10	nA	$V_R = 20V$
Temperature Coefficient	$\eta$			400	ppm/ $^{\circ}C$	$V_R = 3V, f=1MHz$
Diode Capacitance	$C_d$	7.38	8.2	9.02	pF	$V_R = 2V, f=1MHz$
Capacitance Ratio	$C_d / C_d$	4.3		5.8		$V_R = 2V/20V, f=1MHz$
Figure of Merit	Q	250				$V_R = 3V, f=50MHz$

# ZC829A

## TYPICAL CHARACTERISTICS



**Capacitance v Reverse Voltage**



**Temp. Coefficient v Reverse Voltage**

## Hyperabrupt Tuner Diodes

Type	Reverse Breakdown Voltage VR V	Nominal Capacitance at VR=2V f=1MHz Ctot			Capacitance Ratio at f=1MHz C2/C20		Q at VR=3V f=50MHz Typ	Device Code
		Min pF	Typ pF	Max pF	Min	Max		
ZC829A	25	7.38	8.2	9.02	4.3	5.8	250	J1A
ZC830A	25	9.00	10.0	11.00	4.5	6.0	300	J1A
ZC831A	25	13.50	15.0	16.50	4.5	6.0	300	J2A
ZC832A	25	19.80	22.0	24.20	5.0	6.5	200	J3A
ZC833A	25	29.70	33.0	36.30	5.0	6.5	200	J4A
ZC834A	25	42.30	47.0	51.70	5.0	6.5	200	J5A
ZC835A	25	61.20	68.0	74.80	5.0	6.5	100	J6A
ZC836A	25	90.00	100.0	110.00	5.0	6.5	100	J7A

Devices are also available with 5% and 20% tolerances, No suffix = ±20% (e.g. ZC830) Suffix B = ± 5% (e.g. ZC830B)

- Corporate
- Employment
- Products
- TRAC
- Applications & Design
- Contact Zetex
- Distributors
- New Products
- News
- Search

---

[\[Back\]](#) [\[Home\]](#) [\[Search\]](#) [\[Webmaster\]](#)

Zetex plc, Fields New Road, Chadderton, Oldham, UK. tel. +44 (0) 161 622 4444 fax: +44 (0) 161 622 4420

[Copyright](#) (c) 2000 Zetex plc.