

# SOT23 SILICON PLANAR VARIABLE CAPACITANCE DIODE

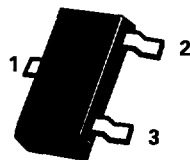
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## BBY31

PIN CONFIGURATION



PARTMARKING DETAIL  
BBY31 - S1



SOT23

### ABSOLUTE MAXIMUM RATINGS.

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

### ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Reverse Breakdown Voltage	$V_{BR}$	28.0			V	$I_R = 10\mu\text{A}$
Reverse current	$I_R$			0.05 1.0	$\mu\text{A}$ $\mu\text{A}$	$V_R = 28\text{V}$ $V_R = 28\text{V}, T_{amb} = 85^{\circ}\text{C}$

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Diode Capacitance	$C_d$	1.8	17.5 11.5	2.8	pF pF pF	$V_R = 1\text{V}, f=1\text{MHz}$ $V_R = 3\text{V}, f=1\text{MHz}$ $V_R = 25\text{V}, f=1\text{MHz}$
Capacitance Ratio	$C_d / C_d$		5.0			$V_R = 3\text{V}/25\text{V}, f=1\text{MHz}$
Series Resistance	$r_d$			1.2	$\Omega$	$f=470\text{MHz}$ at the value of $V_R$ at which $C_d=9\text{pF}$

Spice parameter data is available upon request for this device