

## UHF VARIABLE CAPACITANCE DIODE

### FEATURES

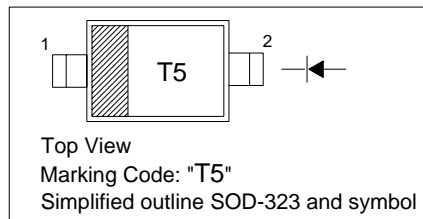
- Excellent linearity
- Excellent matching to 0.5% DMA
- Very small plastic SMD package
- C28: 1.9 pF; ratio:10
- Low series resistance

### APPLICATIONS

- Electronic tuning in UHF television tuners.
- VCO

### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

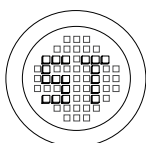


### DESCRIPTION

- Silicon diode in a small plastic SMD SOD-323 package.
- The excellent matching performance is achieved by a direct matching assembly procedure.

### Absolute Maximum Ratings (Ta = 25 °C)

Parameter	Symbol	Limits	Unit
Continuous reverse voltage	$V_R$	30	V
Continuous forward current	$I_F$	20	mA
Operating junction temperature	$T_j$	-55...+125	°C
Storage temperature	$T_{stg}$	-55 ... +150	°C



®

**РАДИОТЕХ-ТРЕЙД**

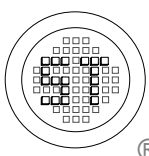
Тел.: (495) 795-0805  
Факс: (495) 234-1603  
Эл. почта: info@rct.ru  
Веб: www.rct.ru

# BB134

## Electrical Characteristics (Ta = 25 °C)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Reverse current	$I_R$	- -	- -	10 200	nA	$V_R = 30V$ $V_R = 30V, T_j = 85^\circ C$ (see Fig.3)
Diode capacitance	$C_d$	17.5 1.7	- -	21 2.1	pF	$V_R = 0.5V, f = 1MHz$ $V_R = 28V, f = 1MHz$ (see Fig2 and 4)
Capacitance ratio	$C_{d(0.5v)} / C_{d(28v)}$	8.9	-	12	-	$f = 1MHz$
Capacitance matching	$\Delta C_d / C_d$	-	-	0.5	%	$V_R = 0.5$ to $28V$ ; in a sequence of 4 diodes (gliding)
		-	-	2	%	$V_R = 0.5$ to $28V$ ; in a sequence of 15 diodes (gliding)
Diode series resistance <sup>1)</sup>	$r_s$	-	-	0.75	$\Omega$	$f = 470MHz$

<sup>1)</sup>  $V_R$  is the value at which  $C_d = 9$  pF.



## SEMTECH ELECTRONICS LTD.

(Subsidiary of Semtech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
Certificate No. 05103



ISO 14001  
Certificate No. 7116



ISO 9001 : 2000  
Certificate No. 039-109-0102-001

Dated : 30/08/2004

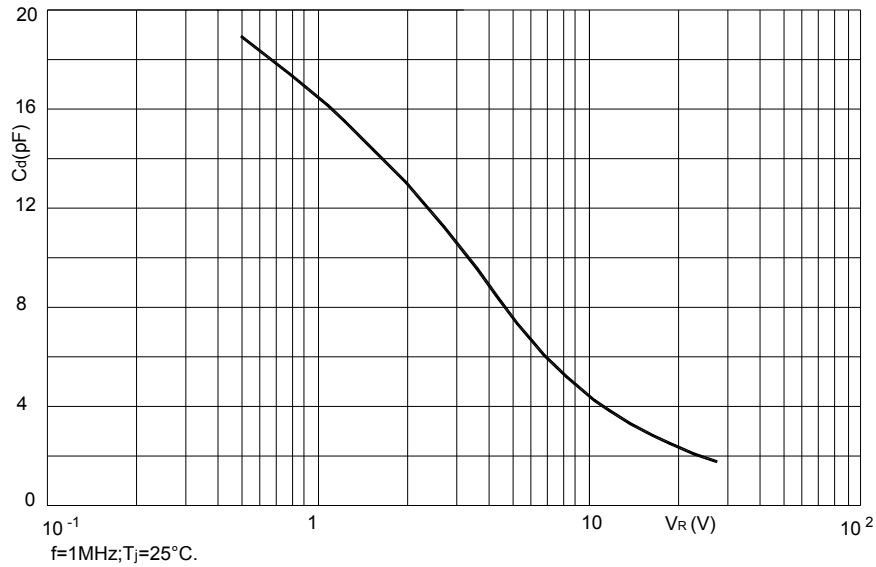


Fig.2 Diode capacitance as a function of reverse voltage; typical values.

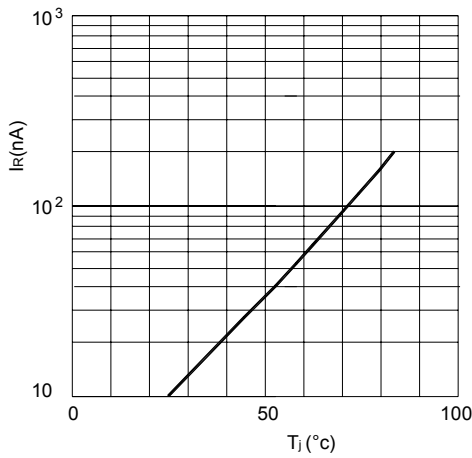


Fig.3 Reverse current as a function of junction temperature; maximum values.

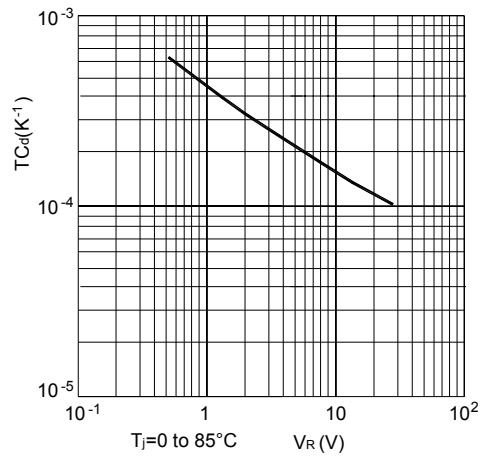
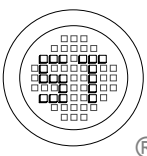
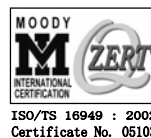


Fig.4 Temperature coefficient of diode capacitance as a function of reverse voltage; typical values



**SEMTECH ELECTRONICS LTD.**

(Subsidiary of Semtech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
Certificate No. 05103



ISO 14001  
Certificate No. 7116

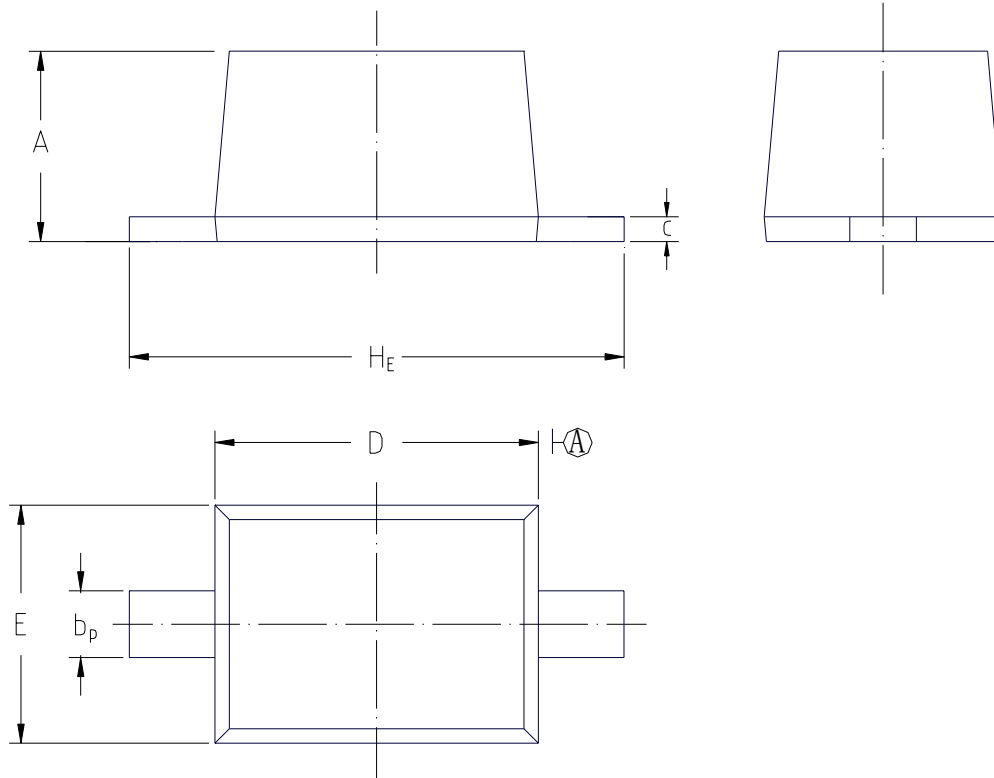


ISO 9001 : 2000  
Certificate No. 020-100-0102-001

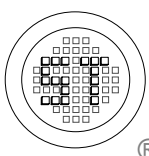
Dated : 30/08/2004

## PACKAGE OUTLINE

SOD-323

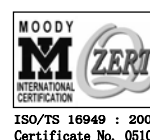


UNIT	A	b <sub>p</sub>	c	D	E	H <sub>E</sub>
mm	1.10 0.80	0.40 0.25	0.15 0.00	1.80 1.60	1.35 1.15	2.80 2.30



## SEMTECH ELECTRONICS LTD.

(Subsidiary of Semtech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
Certificate No. 05103



ISO 14001  
Certificate No. 7116



ISO 9001 : 2000  
Certificate No. 020-100-0100-001

Dated : 30/08/2004