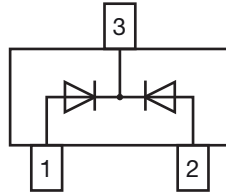


## Dual Varicap Diode



### FEATURES

- Silicon epitaxial planar diode
- Common cathode
- AEC-Q101 qualified
- Base P/N-HG3 - green, automotive grade
- Material categorization:  
For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

 AUTOMOTIVE  
GRADE

**RoHS**  
COMPLIANT  
**GREEN**  
(5-2008)

### MECHANICAL DATA

**Case:** SOT-23

**Weight:** approx. 8.1 mg

**Packaging codes/options:**

08/3 k per 7" reel (8 mm tape), 15 k/box

### APPLICATIONS

- Tuning of separate resonant circuits
- Push-pull circuits in FM range
- Especially for car radios

### PARTS TABLE

PART	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	REMARKS
BB814-1-G	$V_{RRM} = 20\text{ V}$ , $C_{D2} = 43\text{ pF to }45.5\text{ pF}$	BB814-1-HG3-08	SG1	Tape and reel
BB814-2-G	$V_{RRM} = 20\text{ V}$ , $C_{D2} = 44.5\text{ pF to }46.5\text{ pF}$	BB814-2-HG3-08	SG2	Tape and reel

### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	TEST CONDITIONS	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		$V_{RRM}$	20	V
Reverse voltage		$V_R$	18	V
Forward current		$I_F$	50	mA

### THERMAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	TEST CONDITIONS	SYMBOL	VALUE	UNIT
Junction temperature		$T_j$	125	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	- 55 to + 150	$^{\circ}\text{C}$
Operating temperature range		$T_{op}$	- 55 to + 125	$^{\circ}\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

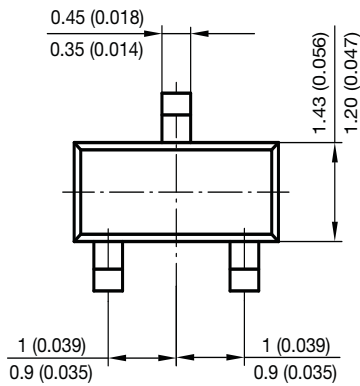
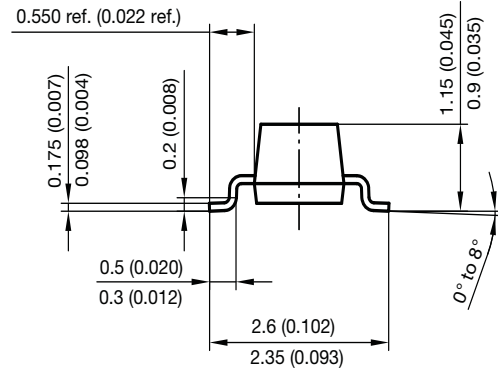
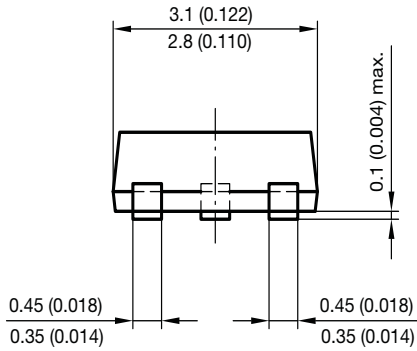
PARAMETER	TEST CONDITIONS	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse current	$V_R = 16\text{ V}$		$I_R$			20	nA
	$V_R = 16\text{ V}$ , $T_j = 60\text{ }^{\circ}\text{C}$		$I_R$			200	nA
Diode capacitance <sup>(1)</sup>	$V_R = 2\text{ V}$	BB814-1-G	$C_{D2}$	43		45.5	pF
		BB814-2-G	$C_{D2}$	44.5		46.5	pF
	$V_R = 8\text{ V}$	BB814-1-G	$C_{D8}$	19.1		21.95	pF
		BB814-2-G	$C_{D8}$	19.75		22.70	pF
Capacitance ratio	$V_R = 2\text{ V}$ , $8\text{ V}$ , $f = 1\text{ MHz}$		$C_{D2}/C_{D8}$	2.05		2.25	
Series resistance	$C_D = 38\text{ pF}$ , $f = 100\text{ MHz}$		$R_s$			0.5	$\Omega$

#### Note

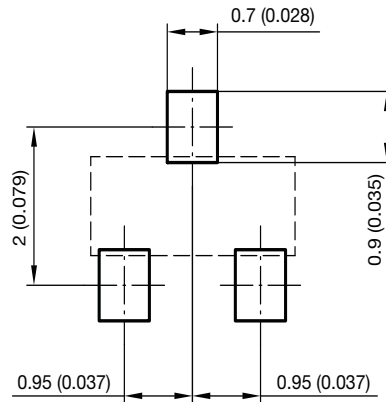
<sup>(1)</sup> In the reverse voltage range of  $V_R = (2\text{ V to }8\text{ V})$  for diodes 4 taped in sequence the max. deviation is 3 %



PACKAGE DIMENSIONS in millimeters (inches): SOT-23



Foot print recommendation:



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Rev. 8 - Date: 23.Sept.2009  
17418



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