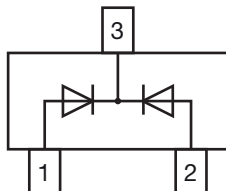


Dual Varicap Diode



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



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 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 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)

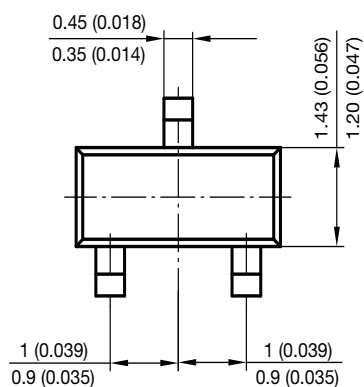
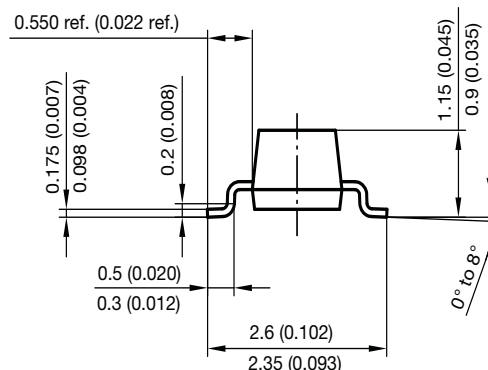
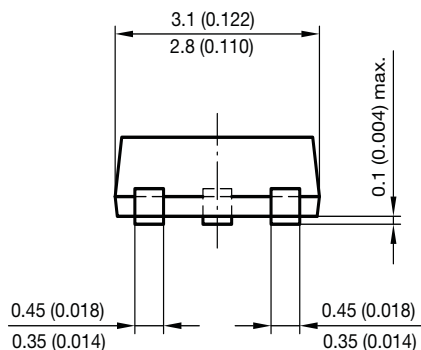
PARAMETER	TEST CONDITIONS	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse current	$V_R = 16\text{ V}$		I_R			20	nA
	$V_R = 16\text{ V}$, $T_j = 60\text{ }^{\circ}\text{C}$		I_R			200	nA
Diode capacitance ⁽¹⁾	$V_R = 2\text{ V}$	BB814-1-G	C_{D2}	43		45.5	pF
		BB814-2-G	C_{D2}	44.5		46.5	pF
	$V_R = 8\text{ V}$	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 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	Ω

Note

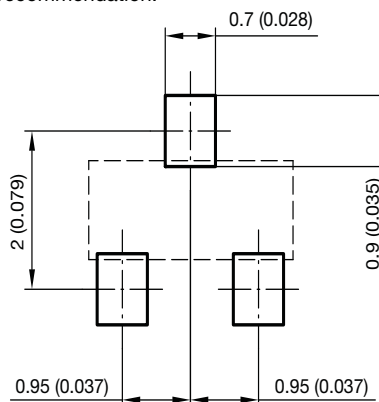
⁽¹⁾ In the reverse voltage range of $V_R = (2\text{ V to } 8\text{ V})$ for diodes 4 taped in sequence the max. deviation is 3 %



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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[BB814-2-HG3-08](#) [BB814-1-HG3-08](#)