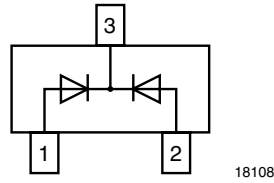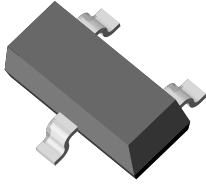# Dual Varicap Diode

MECHANICAL DATA

Case: SOT23

Weight: approx. 8.1 mg

Packaging codes/options:

GS18/10K per 13" reel (8 mm tape), 10K/box
GS08/3K per 7" reel (8 mm tape), 15K/box

FEATURES

- Silicon epitaxial planar diode
- Common cathode
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC

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	$V_{RRM} = 20$ V, $C_{D2} = 43$ pF to 45.5 pF	BB814-1-GS18 or BB814-1-GS08	SH1	Tape and reel
BB814-2	$V_{RRM} = 20$ V, $C_{D2} = 44.5$ pF to 46.5 pF	BB814-2-GS18 or BB814-2-GS08	SH2	Tape and reel

ABSOLUTE MAXIMUM RATINGS [1]				
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

Note

[1] $T_{amb} = 25$ °C, unless otherwise specified

THERMAL CHARACTERISTICS [1]				
PARAMETER	**TEST CONDITIONS**	**SYMBOL**	**VALUE**	**UNIT**
Junction temperature		T_j	125	°C
Storage temperature range		T_{stg}	- 55 to + 150	°C

Note

[1] $T_{amb} = 25$ °C, unless otherwise specified

ELECTRICAL CHARACTERISTICS [1]							
PARAMETER	**TEST CONDITIONS**	**PART**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Reverse current	$V_R = 16$ V		I_R			20	nA
	$V_R = 16$ V, $T_j = 60$ °C		I_R			200	nA
Diode capacitance [2]	$V_R = 2$ V	BB814-1	C_{D2}	43		45.5	pF
		BB814-2	C_{D2}	44.5		46.5	pF
	$V_R = 8$ V	BB814-1	C_{D8}	19.1		21.95	pF
		BB814-2	C_{D8}	19.75		22.70	pF
Capacitance ratio	$V_R = 2$ V, 8 V, f = 1 MHz		C_{D2}/C_{D8}	2.05		2.25	
Series resistance	$C_D = 38$ pF, f = 100 MHz		R_s			0.5	Ω

Notes

[1] $T_{amb} = 25$ °C, unless otherwise specified

[2] In the reverse voltage range of $V_R = (2$ V to 8 V) for diodes 4 taped in sequence the max. deviation is 3 %

BB814

Vishay Semiconductors   Dual Varicap Diode

PACKAGE DIMENSIONS in millimeters (inches): **SOT23**

3.1 (0.122)
2.8 (0.110)

0.1 (0.004) max.

0.45 (0.018)
0.35 (0.014)

0.45 (0.018)
0.35 (0.014)

0.550 ref. (0.022 ref.)

0.175 (0.007)
0.098 (0.004)

0.2 (0.008)

1.15 (0.045)
0.9 (0.035)

0.5 (0.020)
0.3 (0.012)

0° to 8°

2.6 (0.102)
2.35 (0.093)

0.45 (0.018)
0.35 (0.014)

1.43 (0.056)
1.20 (0.047)

3

1   2

1 (0.039)
0.9 (0.035)

1 (0.039)
0.9 (0.035)

Document no.: 6.541-5014.01-4
Rev. 8 - Date: 23. Sep. 2009
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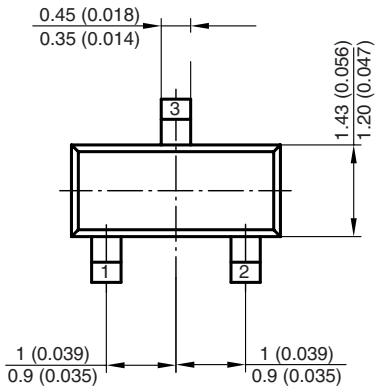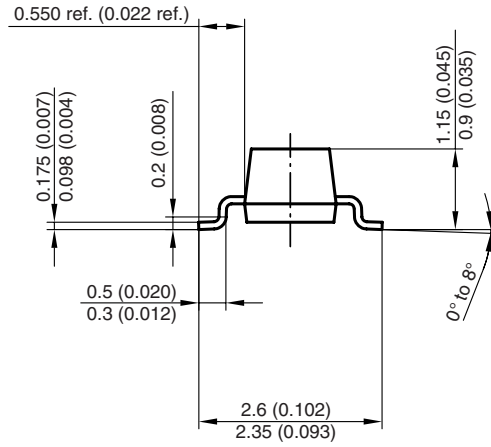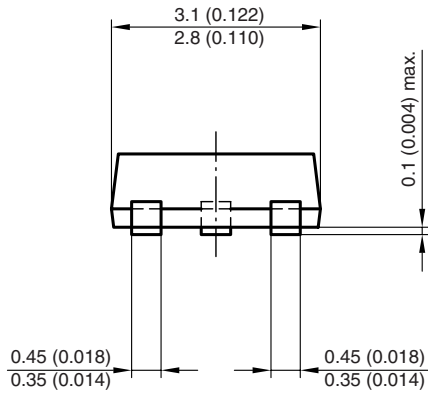
Mounting pad layout

0.7 (0.028)

2 (0.079)

0.9 (0.035)

0.95 (0.037)   0.95 (0.037)

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