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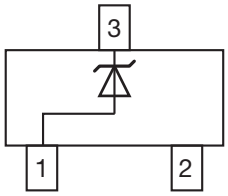
Small Signal Zener Diodes



FEATURES

- Silicon planar Zener diodes
- Standard Zener voltage tolerance is ± 5 %.
- AEC-Q101 qualified available
- ESD capability according to AEC-Q101:
  Human body model > 8 kV
  Machine model > 800 V
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE GRADE Available

Pb-free

e3

RoHS COMPLIANT

PRIMARY CHARACTERISTICS		
PARAMETER	VALUE	UNIT
V_Z range nom.	2.4 to 43	V
Test current I_{ZT}	0.05	mA
V_Z specification	Pulse current	
Int. construction	Single	

ORDERING INFORMATION			
DEVICE NAME	ORDERING CODE	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
MMBZ4681 to MMBZ4717	MMBZ4681-E3-08 to MMBZ4717-E3-08	3000 (8 mm tape on 7" reel)	15 000/box
	MMBZ4681-HE3-08 to MMBZ4717-HE3-08		
	MMBZ4681-E3-18 to MMBZ4717-E3-18	10 000 (8 mm tape on 13" reel)	10 000/box
	MMBZ4681-HE3-18 to MMBZ4717-HE3-18		

PACKAGE				
PACKAGE NAME	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
SOT-23	8.8 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	260 °C/10 s at terminals

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Power dissipation	On FR - 5 board using recommended solder pad layout	P_{tot}	350	mW
Zener current	See table “Electrical Characteristics”			
Thermal resistance junction to ambient air	On FR - 5 board using recommended solder pad layout	R_{thJA}	420	K/W
Junction temperature, maximum		T_j	150	°C
Storage temperature range		T_{stg}	-55 to +150	°C
Operating temperature range		T_{op}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)								
PART NUMBER	MARKING CODE	ZENER VOLTAGE RANGE (1)			TEST CURRENT	REVERSE CURRENT		VOLTAGE CHANGE (2)
		V_Z at I_{ZT1}			I_{ZT1}	I_R at V_R		ΔV_Z
		V			mA	µA	V	V
		MIN.	NOM.	MAX.		MAX.		MAX.
MMBZ4681	CF	2.28	2.4	2.52	0.05	2	1	0.8
MMBZ4682	CH	2.57	2.7	2.84	0.05	1	1	0.85
MMBZ4683	CJ	2.85	3	3.15	0.05	0.8	1	0.9
MMBZ4684	CK	3.14	3.3	3.47	0.05	7.5	1.5	0.95
MMBZ4685	CM	3.42	3.6	3.78	0.05	7.5	2	0.95
MMBZ4686	CN	3.71	3.9	4.1	0.05	5	2	0.97
MMBZ4687	CP	4.09	4.3	4.52	0.05	4	2	0.99
MMBZ4688	CT	4.47	4.7	4.94	0.05	10	3	0.99
MMBZ4689	CU	4.85	5.1	5.36	0.05	10	3	0.97
MMBZ4690	CV	5.32	5.6	5.88	0.05	10	4	0.96
MMBZ4691	CA	5.89	6.2	6.51	0.05	10	5	0.95
MMBZ4692	CX	6.46	6.8	7.14	0.05	10	5.1	0.9
MMBZ4693	CY	7.13	7.5	7.88	0.05	10	5.7	0.75
MMBZ4694	CZ	7.79	8.2	8.61	0.05	1	6.2	0.5
MMBZ4695	DC	8.27	8.7	9.14	0.05	1	6.6	0.1
MMBZ4696	DD	8.65	9.1	9.56	0.05	1	6.9	0.08
MMBZ4697	DE	9.5	10	10.5	0.05	1	7.6	0.1
MMBZ4698	DF	10.5	11	11.6	0.05	0.05	8.4	0.11
MMBZ4699	DH	11.4	12	12.6	0.05	0.05	9.1	0.12
MMBZ4700	DJ	12.4	13	13.7	0.05	0.05	9.8	0.13
MMBZ4701	DK	13.3	14	14.7	0.05	0.05	10.6	0.14
MMBZ4702	DM	14.3	15	15.8	0.05	0.05	11.4	0.15
MMBZ4703	DN	15.2	16	16.8	0.05	0.05	12.1	0.16
MMBZ4704	DP	16.2	17	17.9	0.05	0.05	12.9	0.17
MMBZ4705	DT	17.1	18	18.9	0.05	0.05	13.6	0.18
MMBZ4706	DU	18.1	19	20	0.05	0.05	14.4	0.19
MMBZ4707	DV	19	20	21	0.05	0.01	15.2	0.2
MMBZ4708	DA	20.9	22	23.1	0.05	0.01	16.7	0.22
MMBZ4709	DZ	22.8	24	25.2	0.05	0.01	18.2	0.24
MMBZ4710	DY	23.8	25	26.3	0.05	0.01	19	0.25
MMBZ4711	EA	25.7	27	28.4	0.05	0.01	20.4	0.27
MMBZ4712	EC	26.6	28	29.4	0.05	0.01	21.2	0.28
MMBZ4713	ED	28.5	30	31.5	0.05	0.01	22.8	0.3
MMBZ4714	EE	31.4	33	34.7	0.05	0.01	25	0.33
MMBZ4715	EF	34.2	36	3.7.8	0.05	0.01	27.3	0.36
MMBZ4716	EH	37.1	39	41	0.05	0.01	29.6	0.39
MMBZ4717	EJ	40.9	43	45.2	0.05	0.01	32.6	0.43

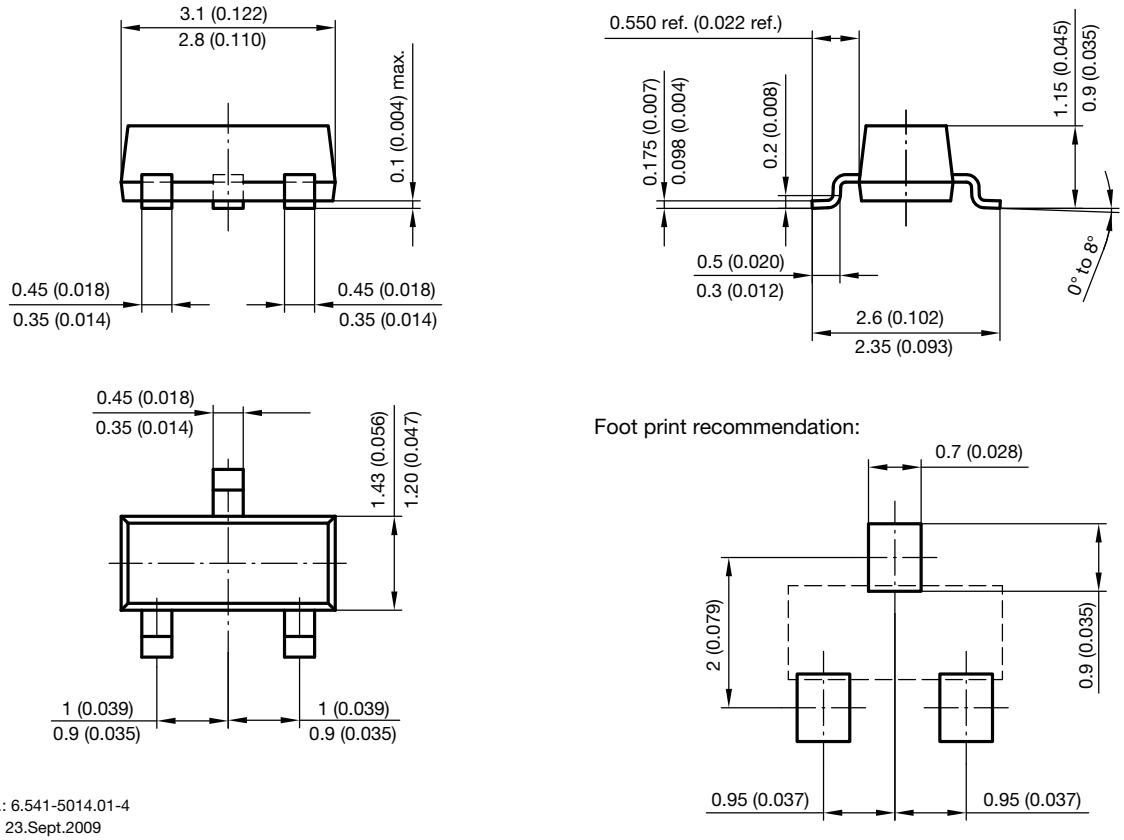
Notes

- Maximum V_F = 0.9 V, at I_F = 10 mA

(1) Tested with pulse test current

(2) Maximum voltage change (V_Z). Voltage change is equal to the difference between V_Z at 100 µA and V_Z at 10 µA.

PACKAGE DIMENSIONS in millimeters (inches): **SOT-23**



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