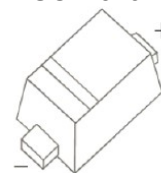


SOD-523 Plastic-Encapsulate Zener Diode
Features

- Low Zener Impedance
- 300mW; Power Dissipation of 300mW
- High Stability and High Reliability

Mechanical Data

- SOD-523 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any

SOD-523

Maximum Ratings & Thermal Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified.)

Parameters	Symbol	Value	Unit
Power Dissipation	Pd	300 ¹⁾	mW
Forward Voltage @IF=10mA	Vf	0.9 ²⁾	V
Storage temperature range	Ts	-55-+150	°C
Thermal Resistance, Junction to Ambient	R _{θJA}	390	°C/W

 1) Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm²

2) Short duration test pulse used to minimize self-heating effect

3) f=1KHz

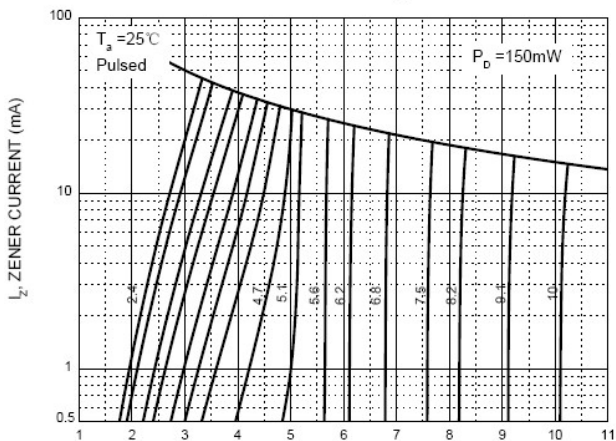
Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified).

Device	Marking	Zener Voltage Range				Maximum Zener Impedance ³⁾			Maximum Reverse Current		Typical Temperature coefficient @ IZTC=mV/°C		Test Current IZTC
		Vz@Izt			Izt	Zzt @Izt	Zzk @Izk	Izk	IR	VR	Min	Max	
		Nom(V)	Min(V)	Max(V)									
MM5Z 2V4	00	2.4	2.2	2.6	5	100	600	1.0	50	1.0	-3.5	0	5
MM5Z 2V7	01	2.7	2.5	2.9	5	100	600	1.0	20	1.0	-3.5	0	5
MM5Z 3V0	02	3.0	2.8	3.2	5	95	600	1.0	10	1.0	-3.5	0	5
MM5Z 3V3	05	3.3	3.1	3.5	5	95	600	1.0	5	1.0	-3.5	0	5
MM5Z 3V6	06	3.6	3.4	3.8	5	90	600	1.0	5	1.0	-3.5	0	5
MM5Z 3V9	07	3.9	3.7	4.1	5	90	600	1.0	3	1.0	-3.5	0	5
MM5Z 4V3	08	4.3	4.0	4.6	5	90	600	1.0	3	1.0	-3.5	0	5
MM5Z 4V7	09	4.7	4.4	5.0	5	80	500	1.0	3	2.0	-3.5	0.2	5
MM5Z 5V1	0A	5.1	4.8	5.4	5	60	480	1.0	2	2.0	-2.7	1.2	5
MM5Z 5V6	0C	5.6	5.2	6.0	5	40	400	1.0	1	2.0	-2.0	2.5	5
MM5Z 6V2	0E	6.2	5.8	6.6	5	10	150	1.0	3	4.0	0.4	3.7	5
MM5Z 6V8	0F	6.8	6.4	7.2	5	15	80	1.0	2	4.0	1.2	4.5	5
MM5Z 7V5	0G	7.5	7.0	7.9	5	15	80	1.0	1	5.0	2.5	5.3	5
MM5Z 8V2	0H	8.2	7.7	8.7	5	15	80	1.0	0.7	5.0	3.2	6.2	5
MM5Z 9V1	0K	9.1	8.5	9.6	5	15	100	1.0	0.5	6.0	3.8	7.0	5
MM5Z 10	0L	10	9.4	10.6	5	20	150	1.0	0.2	7.0	4.5	8.0	5
MM5Z 11	0M	11	10.4	11.6	5	20	150	1.0	0.1	8.0	5.4	9.0	5
MM5Z 12	0N	12	11.4	12.7	5	25	150	1.0	0.1	8.0	6.0	10.0	5
MM5Z 13	0P	13	12.4	14.1	5	30	170	1.0	0.1	8.0	7.0	11.0	5

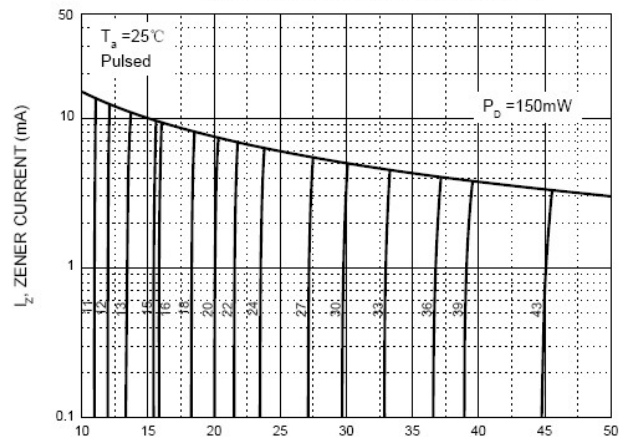
Device	Marking	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature coefficient @ IZTC=mV/°C		Test Current IZTC
		Vz@Izt			Izt	Zzt @Izt	Zzk @Izk	Izk	IR	VR	Min	Max	
		Nom(V)	Min(V)	Max(V)									
MM5Z 15	0T	15	13.8	15.6	5	30	200	1.0	0.1	10.5	9.2	13.0	5
MM5Z 16	0U	16	15.3	17.1	5	40	200	1.0	0.1	11.2	10.4	14.0	5
MM5Z 18	0W	18	16.8	19.1	5	45	225	1.0	0.1	12.6	12.4	16.0	5
MM5Z 20	0Z	20	18.8	21.2	5	55	225	1.0	0.1	14.0	14.4	18.0	5
MM5Z 22	10	22	20.8	23.3	5	55	250	1.0	0.1	15.4	16.4	20.0	5
MM5Z 24	11	24	22.8	25.6	5	70	250	1.0	0.1	16.8	18.4	22.0	5
MM5Z 27	12	27	25.1	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2
MM5Z 30	14	30	28.0	32.0	2	80	300	0.5	0.1	21.0	24.4	29.4	2
MM5Z 33	18	33	31.0	35.0	2	80	325	0.5	0.1	23.1	27.4	33.4	2
MM5Z 36	19	36	34.0	38.0	2	90	350	0.5	0.1	25.2	30.4	37.4	2
MM5Z 39	20	39	37.0	41.0	2	130	350	0.5	0.1	27.3	33.4	41.2	2
MM5Z 43	21	43	40.0	46.0	2	100	700	1.0	0.1	32.0	10.0	12.0	5

Typical characteristics

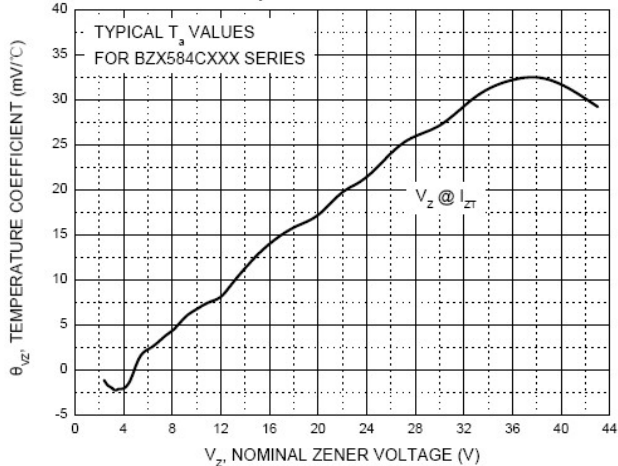
Zener Characteristics (V_z Up to 10 V)



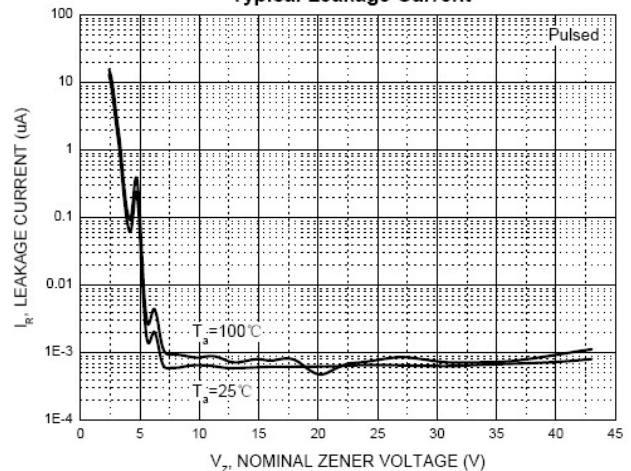
Zener Characteristics (11 V to 43 V)

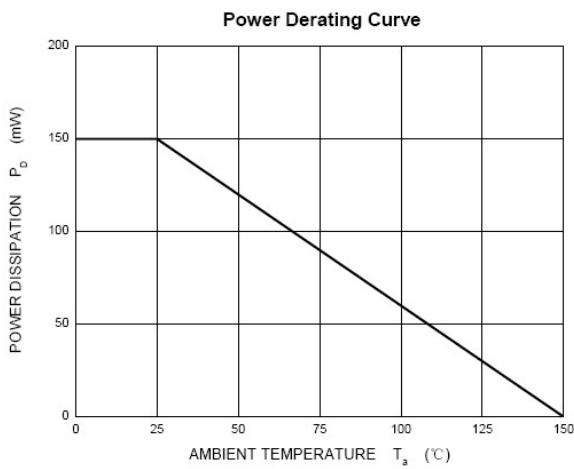
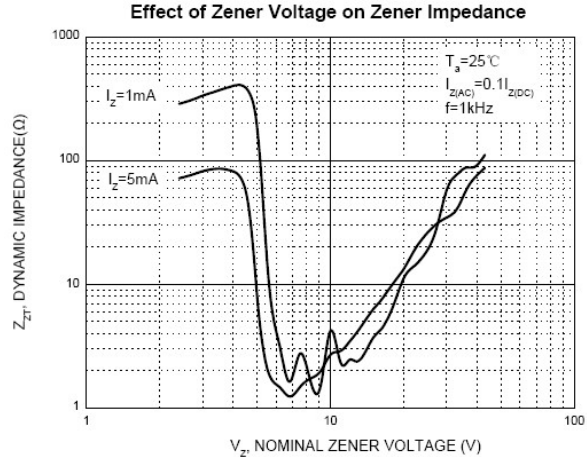
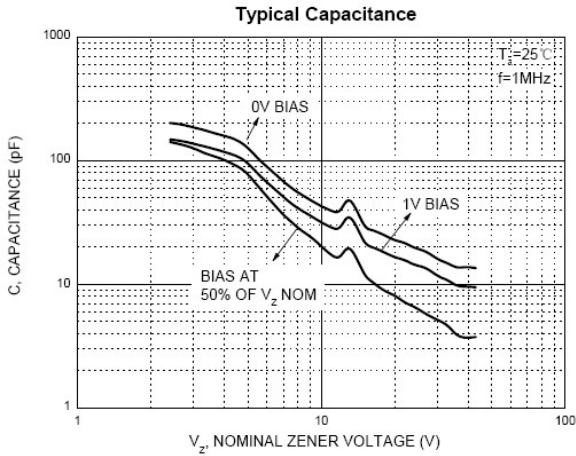


Temperature Coefficients

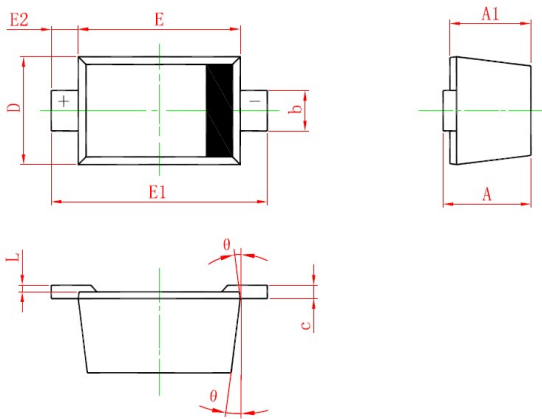


Typical Leakage Current



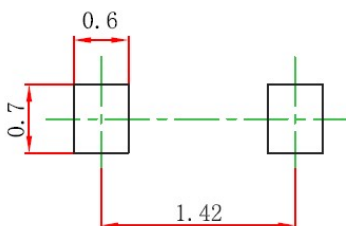


SOD-523 PACKAGE OUTLINE



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
θ	7° REF		7° REF	

SOD-523 Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.

Disclaimer

DACO Semiconductor reserves the right to make modifications, enhancements, improvements, corrections, or other changes to this document and any product described herein without prior notice. For the most up-to-date version, please visit our website.

DACO Semiconductor makes no warranty, representation, or guarantee regarding the suitability of its products for any particular purpose, nor does DACO Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any liability, including without limitation special, consequential or incidental damages.

Purchasers are responsible for its products and applications using DACO Semiconductor products, including compliance with all laws, regulations, and safety requirements or standards, regardless of any support or application information provided by DACO Semiconductor. "Typical" parameters that may be provided in DACO Semiconductor datasheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typical" must be validated for each customer application by the customer's technical experts.

DACO Semiconductor products are not designed, authorized, or warranted to be suitable for use in life support, life-critical or safety-critical systems, or equipment, nor in applications where failure or malfunction of DACO Semiconductor's product can reasonably be expected to result in personal injury, death or severe property or environmental damage. DACO Semiconductor accepts no liability for the inclusion and/or use of DACO Semiconductor's products in such equipment or applications and therefore such inclusion and/or use is at the customer's own risk.

Purchasers who buy or use DACO Semiconductor products for any unintended or unauthorized applications are required to indemnify and absolve DACO Semiconductor, its suppliers, and distributors from any claims, costs, damages, expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that DACO Semiconductor was negligent regarding the design or manufacture of the part.

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or by any information storage and retrieval system, or otherwise, without the prior written permission of DACO Semiconductor Co., Ltd.