

5W, 11V - 51V Surface Mount Zener Diode

FEATURES

- AEC-Q101 qualified
- Photo Glass passivated junction
- Ideal for automated placement
- Low inductance
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- On-board DC/DC converter

MECHANICAL DATA

- Case: DO-214AB (SMC)
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: Indicated by cathode band
- Weight: 0.210g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
V_Z	11 - 51	V
P_D	5	W
$T_{J\text{ MAX}}$	175	°C
Package	DO-214AB (SMC)	
Configuration	Single die	


**HALOGEN
FREE**

DO-214AB (SMC)


ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
DC power dissipation at $T_L = 75^\circ\text{C}$, measure at zero lead length (Note 1) derate above 75°C	P_D	5	W
Junction temperature	T_J	-55 to +175	°C
Storage temperature	T_{STG}	-55 to +175	°C

Notes:

1. Mounted on 16mm x 16mm Cu pad test board

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\theta JL}$	20	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	55	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	22	°C/W

Thermal Performance Note: Units mounted on PCB (16mm x 16mm Cu pad test board)

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Device (Note 1)	Device Marking Code	Nominal Zener Voltage			Test Current	Zener Impedance			Leakage Current		Maximum DC Zener Current
		V _Z @ I _{ZT}			I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}		I _R @ V _R		I _{ZM}
		V			mA	Ω	Ω	mA	μA	V	mA
		Min	Nom	Max							
1PGSMC5348H	P348B	10.45	11	11.55	125	3	125	1	5	8.4	430
1PGSMC5349H	P349B	11.40	12	12.60	100	3	150	1	2	9.1	395
1PGSMC5350H	P350B	12.35	13	13.65	100	3	150	1	1	9.9	365
1PGSMC5351H	P351B	13.30	14	14.70	100	3	150	1	1	10.6	345
1PGSMC5352H	P352B	14.25	15	15.75	75	3	150	1	1	11.5	315
1PGSMC5353H	P353B	15.20	16	16.80	75	3	150	1	1	12.2	295
1PGSMC5354H	P354B	16.15	17	17.85	70	3	150	1	0.5	12.9	280
1PGSMC5355H	P355B	17.10	18	18.90	65	3	150	1	0.5	13.7	264
1PGSMC5356H	P356B	18.05	19	19.95	65	3	150	1	0.5	14.4	250
1PGSMC5357H	P357B	19.00	20	21.00	65	3	150	1	0.5	15.2	237
1PGSMC5358H	P358B	20.90	22	23.10	50	4	150	1	0.5	16.7	216
1PGSMC5359H	P359B	22.80	24	25.20	50	4	180	1	0.5	18.2	198
1PGSMC5360H	P360B	23.75	25	26.25	50	4	180	1	0.5	19.0	190
1PGSMC5361H	P361B	25.65	27	28.35	50	5	180	1	0.5	20.6	176
1PGSMC5362H	P362B	26.60	28	29.40	50	6	180	1	0.5	21.2	170
1PGSMC5363H	P363B	28.50	30	31.50	40	8	180	1	0.5	22.8	158
1PGSMC5364H	P364B	31.35	33	34.65	40	10	180	1	0.5	25.1	144
1PGSMC5365H	P365B	34.20	36	37.80	30	11	200	1	0.5	27.4	132
1PGSMC5366H	P366B	37.05	39	40.95	30	14	200	1	0.5	29.7	122
1PGSMC5367H	P367B	40.85	43	45.15	30	20	200	1	0.5	32.7	110
1PGSMC5368H	P368B	44.65	47	49.35	25	25	200	1	0.5	35.8	100
1PGSMC5369H	P369B	48.45	51	53.55	25	27	200	1	0.5	38.8	93

Notes:

1. Tolerance and type number designation the type numbers listed indicate a tolerance of 5%

ORDERING INFORMATION

ORDERING CODE ⁽¹⁾	PACKAGE	PACKING
1PGSMC53xH	DO-214AB (SMC)	3,000 / Tape & Reel

Notes:

1. "x" defines voltage from 11V(1PGSMC5348H) to 51V(1PGSMC5369H)

CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.1 Steady State Power Derating

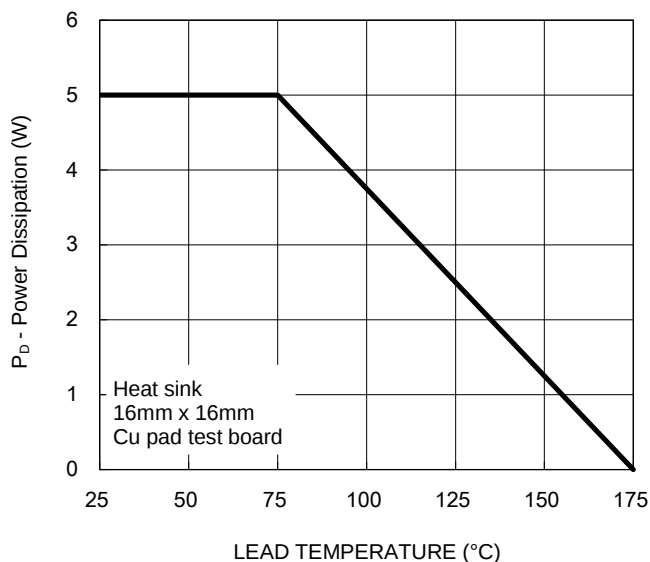


Fig.2 Typical Junction Capacitance

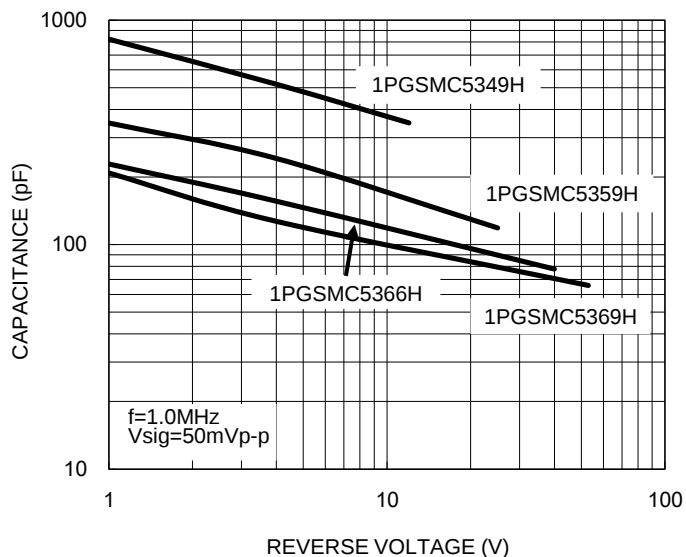
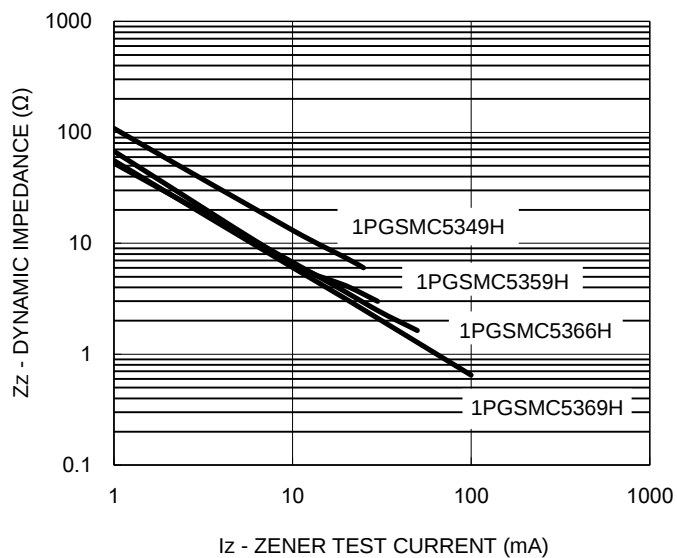
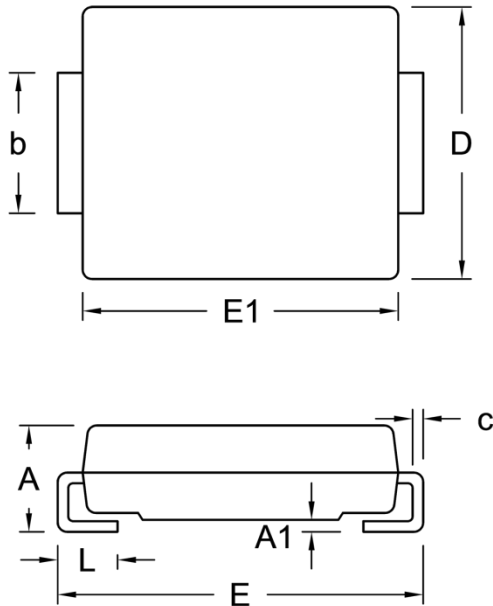


Fig.3 Typical Zener Impedance



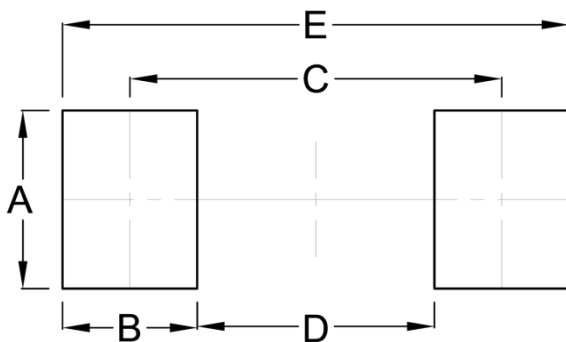
PACKAGE OUTLINE DIMENSIONS

DO-214AB (SMC)



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	2.00	2.62	0.079	0.103
A1	0.10	0.20	0.004	0.008
b	2.90	3.20	0.114	0.126
c	0.15	0.31	0.006	0.012
D	5.59	6.22	0.220	0.245
E	7.75	8.13	0.305	0.320
E1	6.60	7.11	0.260	0.280
L	1.00	1.60	0.039	0.063

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	3.30	0.130
B	2.50	0.098
C	6.90	0.272
D	4.40	0.173
E	9.40	0.370

MARKING DIAGRAM



P/N = Marking Code
 G = Green Compound
 YW = Date Code
 F = Factory Code

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Purchasers are solely responsible for the choice, selection, and use of TSC products and TSC assumes no liability for application assistance or the design of Purchasers' products.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Taiwan Semiconductor:

<u>1PGSMC5348H</u>	<u>1PGSMC5349H</u>	<u>1PGSMC5350H</u>	<u>1PGSMC5351H</u>	<u>1PGSMC5352H</u>	<u>1PGSMC5353H</u>
<u>1PGSMC5354H</u>	<u>1PGSMC5355H</u>	<u>1PGSMC5356H</u>	<u>1PGSMC5357H</u>	<u>1PGSMC5358H</u>	<u>1PGSMC5359H</u>
<u>1PGSMC5360H</u>	<u>1PGSMC5361H</u>	<u>1PGSMC5362H</u>	<u>1PGSMC5363H</u>	<u>1PGSMC5364H</u>	<u>1PGSMC5365H</u>
<u>1PGSMC5366H</u>	<u>1PGSMC5367H</u>	<u>1PGSMC5368H</u>	<u>1PGSMC5369H</u>		