

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

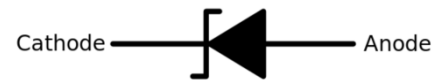
APPLICATIONS

- 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	


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}
		Min	Nom	Max	mA	Ω	Ω	mA	μA	V	mA
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

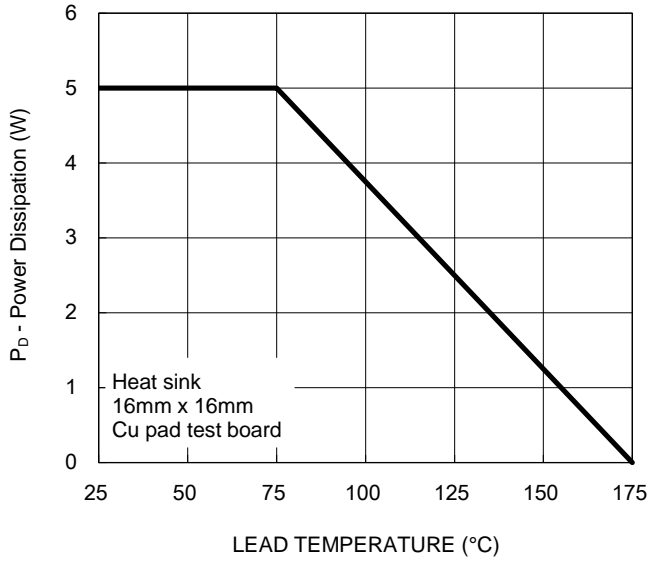


Fig.2 Typical Junction Capacitance

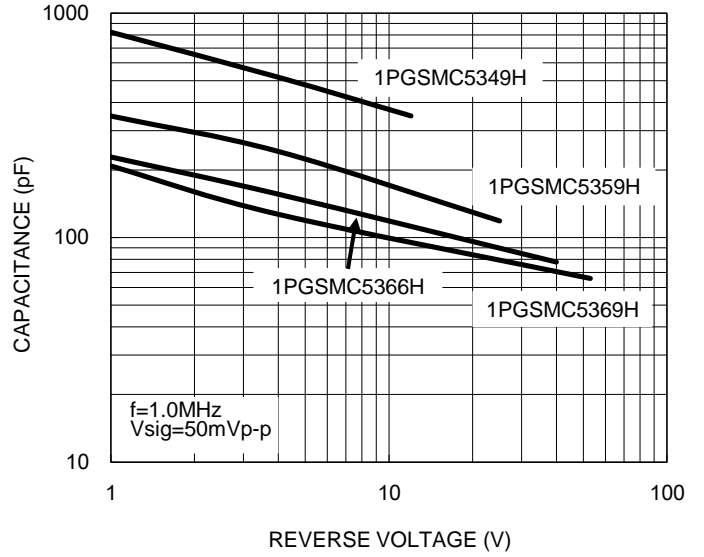
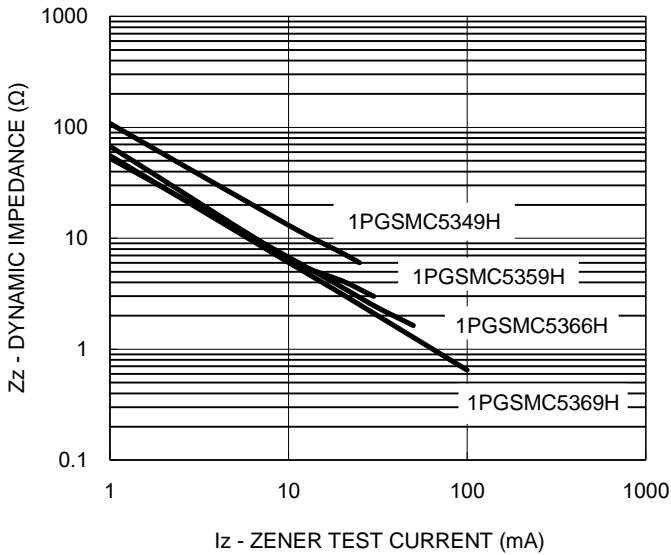
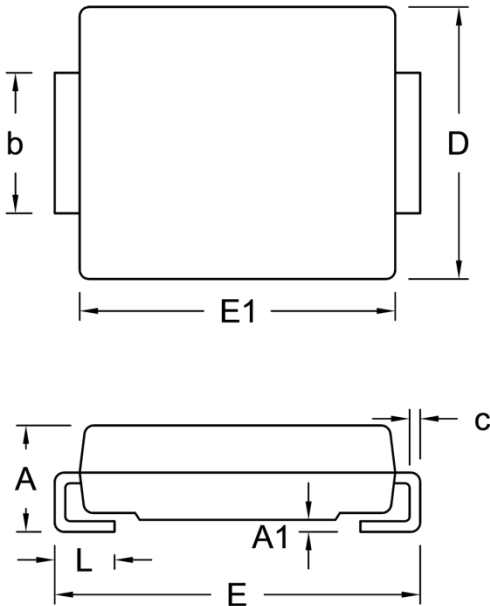


Fig.3 Typical Zener Impedance



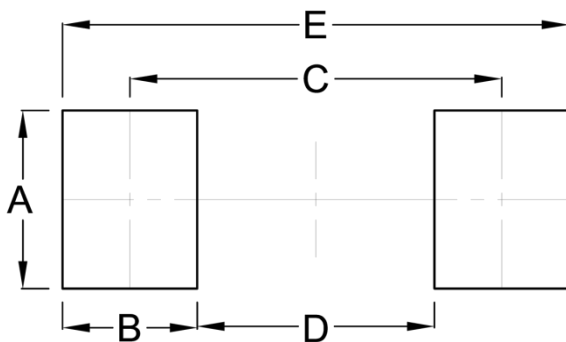
PACKAGE OUTLINE DIMENSIONS

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

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