

Zener Diodes DO-214AC SMA

SMA2EZ-D5 Series

MERITEK

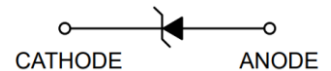
FEATURE

- Zener Voltage Range: 5.6V to 330V
- Zener Voltage Tolerance: $\pm 5\%$
- Power Dissipation: 2W
- Glass Passivation Junction
- Built-In Strain Relief
- Low Inductance
- High Peak Reverse Power Dissipation



MECHANICAL DATA

- Flammability Classification Rating UL 94V-0
- Solderable Per MIL-STD-750, Method 2026
- Polarity: Color Band Denoted Cathode End



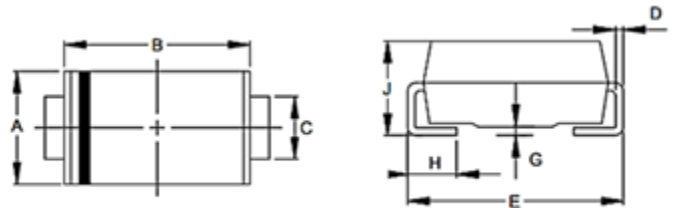
ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
DC Power Dissipation at $T_L = 75^\circ\text{C}$	P_D	2.0	W
Maximum Forward Voltage at $I_F = 200\text{mA}$	V_F	1.5	V
Junction Temperature Range	T_J	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

Note: $T_A = 25^\circ\text{C}$ unless otherwise noted

DIMENSIONS

Item	DO-214AC (SMA)	
	Min (mm)	Max (mm)
A	2.51	2.76
B	4.10	4.55
C	1.23	1.63
D	0.15	0.30
E	4.87	5.22
G	0.00	0.20
H	0.75	1.51
J	1.96	2.26



ELECTRICAL CHARACTERISTICS

Part Number	Nominal Zener Voltage		Maximum Zener Impedance			Max Reverse Leakage Current		Max Zener Current
	$V_Z @ I_{ZT}$	I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	I_{ZK}	$I_R @ V_R$		I_{ZM}
	V	mA	Ω	Ω	mA	μA	V	mA
SMA2EZ5.6D5	5.6	89.5	2.5	500	1.0	5.0	2.0	323
SMA2EZ6.2D5	6.2	80.5	1.5	700	1.0	5.0	3.0	292
SMA2EZ6.8D5	6.8	73.5	2.0	700	1.0	5.0	4.0	266
SMA2EZ7.5D5	7.5	66.5	2.0	700	0.5	5.0	5.0	242
SMA2EZ8.2D5	8.2	61.0	2.3	700	0.5	5.0	6.0	220
SMA2EZ9.1D5	9.1	55.0	2.5	700	0.5	3.0	7.0	200

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ELECTRICAL CHARACTERISTICS

Part Number	Nominal Zener Voltage		Maximum Zener Impedance			Max Reverse Leakage Current		Max DC Zener Current
	$V_Z @ I_{ZT}$	I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	I_{ZK}	$I_R @ V_R$		I_{ZM}
	V	mA	Ω	Ω	mA	μA	V	mA
SMA2EZ10D5	10.0	50.0	3.5	700	0.25	3.0	7.6	182
SMA2EZ11D5	11.0	45.5	4.0	700	0.25	1.0	8.4	166
SMA2EZ12D5	12.0	41.5	4.5	700	0.25	1.0	9.1	152
SMA2EZ13D5	13.0	38.5	5.0	700	0.25	0.5	9.9	138
SMA2EZ14D5	14.0	35.7	5.5	700	0.25	0.5	10.6	130
SMA2EZ15D5	15.0	33.4	7.0	700	0.25	0.5	11.4	122
SMA2EZ16D5	16.0	31.2	8.0	700	0.25	0.5	12.2	114
SMA2EZ17D5	17.0	29.4	9.0	750	0.25	0.5	13.0	107
SMA2EZ18D5	18.0	27.8	10.0	750	0.25	0.5	13.7	100
SMA2EZ19D5	19.0	26.3	11.0	750	0.25	0.5	14.4	95
SMA2EZ20D5	20.0	25.0	11.0	750	0.25	0.5	15.2	90
SMA2EZ22D5	22.0	22.8	12.0	750	0.25	0.5	16.7	82
SMA2EZ24D5	24.0	20.8	13.0	750	0.25	0.5	18.2	76
SMA2EZ27D5	27.0	18.5	18.0	750	0.25	0.5	20.6	68
SMA2EZ30D5	30.0	16.6	20.0	1000	0.25	0.5	22.5	60
SMA2EZ33D5	33.0	15.1	23.0	1000	0.25	0.5	25.1	55
SMA2EZ36D5	36.0	13.9	25.0	1000	0.25	0.5	27.4	50
SMA2EZ39D5	39.0	12.8	30.0	1000	0.25	0.5	29.7	47
SMA2EZ43D5	43.0	11.6	35.0	1500	0.25	0.5	32.7	43
SMA2EZ47D5	47.0	10.6	40.0	1500	0.25	0.5	35.8	39
SMA2EZ51D5	51.0	9.8	48.0	1500	0.25	0.5	38.8	36
SMA2EZ56D5	56.0	9.0	55.0	2000	0.25	0.5	42.6	32
SMA2EZ62D5	62.0	8.1	60.0	2000	0.25	0.5	47.1	29
SMA2EZ68D5	68.0	7.4	75.0	2000	0.25	0.5	51.7	27
SMA2EZ75D5	75.0	6.7	90.0	2000	0.25	0.5	56.0	24
SMA2EZ82D5	82.0	6.1	100	3000	0.25	0.5	62.2	22
SMA2EZ91D5	91.0	5.5	125	3000	0.25	0.5	69.2	20
SMA2EZ100D5	100	5.0	175	3000	0.25	0.5	76.0	18
SMA2EZ110D5	110	4.5	250	4000	0.25	0.5	83.6	17
SMA2EZ120D5	120	4.2	325	4500	0.25	0.5	91.2	15
SMA2EZ130D5	130	3.8	400	5000	0.25	0.5	98.8	14
SMA2EZ140D5	140	3.6	500	5500	0.25	0.5	106.4	13
SMA2EZ150D5	150	3.3	575	6000	0.25	0.5	114.0	12
SMA2EZ160D5	160	3.1	650	6500	0.25	0.5	121.6	11
SMA2EZ170D5	170	2.9	675	7000	0.25	0.5	130.4	11
SMA2EZ180D5	180	2.8	725	7000	0.25	0.5	136.8	10
SMA2EZ190D5	190	2.6	825	8000	0.25	0.5	144.8	10
SMA2EZ200D5	200	2.5	1900	9990	0.25	0.5	152.0	9.0
SMA2EZ220D5	220	2.0	2000	8500	0.25	0.5	167.0	8.0
SMA2EZ270D5	270	1.6	2200	8500	0.25	0.5	205.0	6.7
SMA2EZ300D5	300	1.5	2200	9000	0.25	0.5	228.0	5.9
SMA2EZ330D5	330	1.4	2300	9000	0.25	0.5	250.0	5.4

Note:

- $T_A = 25^\circ C$ unless otherwise noted
- Standard tolerance on the nominal Zener voltage: $\pm 5\%$
- The reverse surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on I_{ZT} per JEDEC method

CHARACTERISTIC CURVES

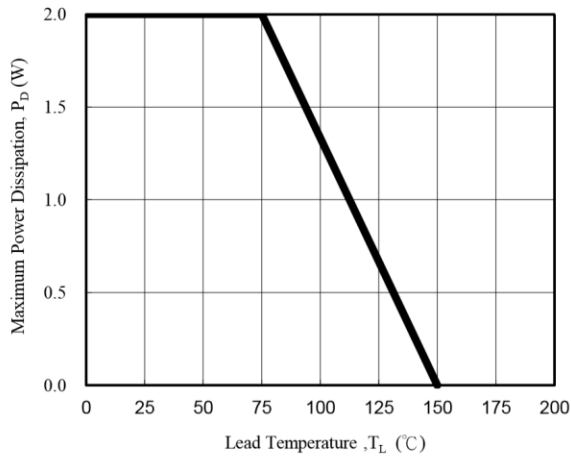


Fig. 1 - Power Temperature Derating Curve

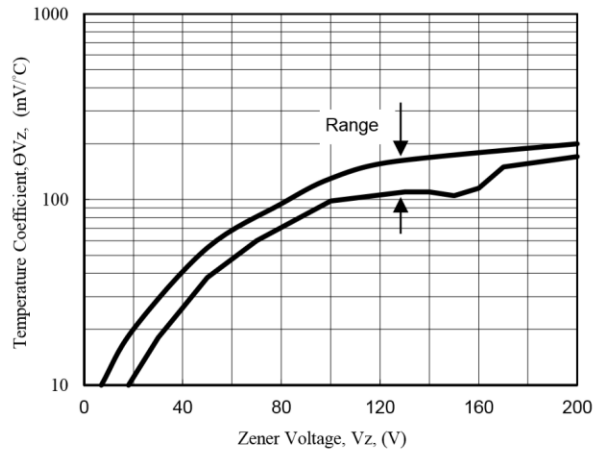


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

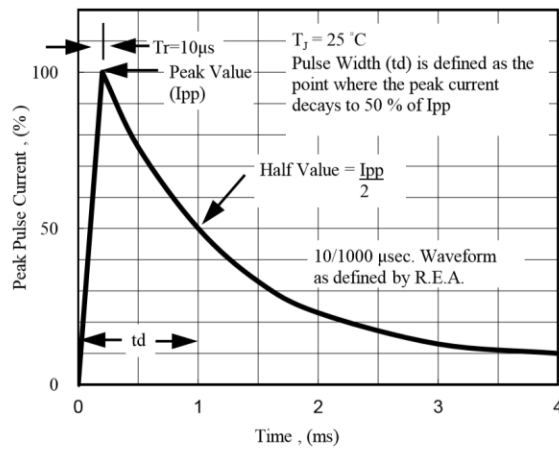


Fig. 3 - Pulse Waveform

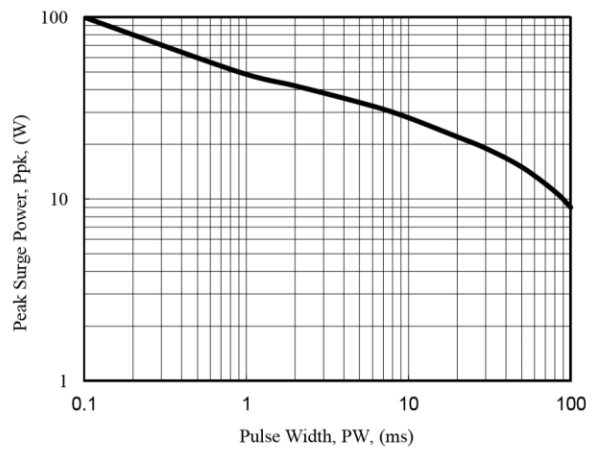


Fig. 4 - Maximum Surge Power

*Specifications subject to change without notice