

Zener Diodes DO-214AC SMA

SMA3EZ-D5 series

MERITEK

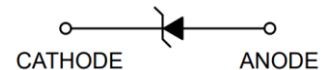
FEATURE

- Zener Voltage Range: 5.6V to 200V
- Zener Voltage Tolerance: $\pm 5\%$
- Power Dissipation: 3W
- Glass Passivation Junction, Low Inductance
- Built- In Strain Relief
- 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



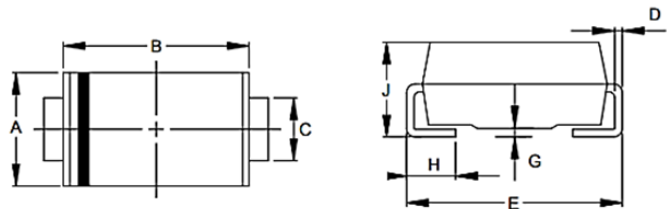
ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
DC Power Dissipation at $T_L = 75^\circ\text{C}$	P_D	3.0	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
SMA3EZ5.6D5	5.6	134	2.5	600	1.0	5.0	2.0	481
SMA3EZ6.2D5	6.2	121	1.5	700	1.0	5.0	3.0	435
SMA3EZ6.8D5	6.8	110	2.0	700	1.0	5.0	4.0	393
SMA3EZ7.5D5	7.5	100	2.0	700	0.5	5.0	5.0	360
SMA3EZ8.2D5	8.2	91.0	2.3	700	0.5	5.0	6.0	330
SMA3EZ9.1D5	9.1	82.0	2.5	700	0.5	3.0	7.0	297

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
SMA3EZ10D5	10.0	75.0	3.5	700	0.25	3.0	7.6	270
SMA3EZ11D5	11.0	68.0	4.0	700	0.25	1.0	8.4	225
SMA3EZ12D5	12.0	63.0	4.5	700	0.25	1.0	9.1	246
SMA3EZ13D5	13.0	58.0	4.5	700	0.25	0.5	9.9	208
SMA3EZ14D5	14.0	53.0	5.0	700	0.25	0.5	10.6	193
SMA3EZ15D5	15.0	50.0	5.5	700	0.25	0.5	11.4	180
SMA3EZ16D5	16.0	47.0	5.5	700	0.25	0.5	12.2	169
SMA3EZ17D5	17.0	44.0	6.0	750	0.25	0.5	13.0	159
SMA3EZ18D5	18.0	42.0	6.0	750	0.25	0.5	13.7	150
SMA3EZ19D5	19.0	40.0	7.0	750	0.25	0.5	14.4	142
SMA3EZ20D5	20.0	37.0	7.0	750	0.25	0.5	15.2	135
SMA3EZ22D5	22.0	34.0	8.0	750	0.25	0.5	16.7	123
SMA3EZ24D5	24.0	31.0	9.0	750	0.25	0.5	18.2	112
SMA3EZ27D5	27.0	28.0	10.0	750	0.25	0.5	20.6	100
SMA3EZ28D5	28.0	27.0	12.0	750	0.25	0.5	21.0	96
SMA3EZ30D5	30.0	25.0	16.0	1000	0.25	0.5	22.5	90
SMA3EZ33D5	33.0	23.0	20.0	1000	0.25	0.5	25.1	82
SMA3EZ36D5	36.0	21.0	22.0	1000	0.25	0.5	27.4	75
SMA3EZ39D5	39.0	19.0	28.0	1000	0.25	0.5	29.7	69
SMA3EZ43D5	43.0	17.0	33.0	1500	0.25	0.5	32.7	63
SMA3EZ47D5	47.0	16.0	38.0	1500	0.25	0.5	35.6	57
SMA3EZ51D5	51.0	15.0	45.0	1500	0.25	0.5	38.8	53
SMA3EZ56D5	56.0	13.0	50.0	2000	0.25	0.5	42.6	48
SMA3EZ62D5	62.0	12.0	55.0	2000	0.25	0.5	47.1	44
SMA3EZ68D5	68.0	11.0	70.0	2000	0.25	0.5	51.7	40
SMA3EZ75D5	75.0	10.0	85.0	2000	0.25	0.5	56.0	36
SMA3EZ82D5	82.0	9.1	95.0	3000	0.25	0.5	62.2	33
SMA3EZ91D5	91.0	8.2	115	3000	0.25	0.5	69.2	30
SMA3EZ100D5	100	7.5	160	3000	0.25	0.5	76.0	27
SMA3EZ110D5	110	6.8	225	4000	0.25	0.5	83.6	25
SMA3EZ120D5	120	6.3	300	4500	0.25	0.5	91.2	22
SMA3EZ130D5	130	5.8	375	5000	0.25	0.5	98.8	21
SMA3EZ140D5	140	5.3	475	5000	0.25	0.5	106.4	19
SMA3EZ150D5	150	5.0	550	6000	0.25	0.5	114.0	18
SMA3EZ160D5	160	4.7	625	6500	0.25	0.5	121.6	17
SMA3EZ170D5	170	4.4	650	7000	0.25	0.5	130.4	16
SMA3EZ180D5	180	4.2	700	7000	0.25	0.5	136.8	15
SMA3EZ190D5	190	4.0	800	8000	0.25	0.5	144.8	14
SMA3EZ200D5	200	3.7	875	8000	0.25	0.5	152.0	13

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

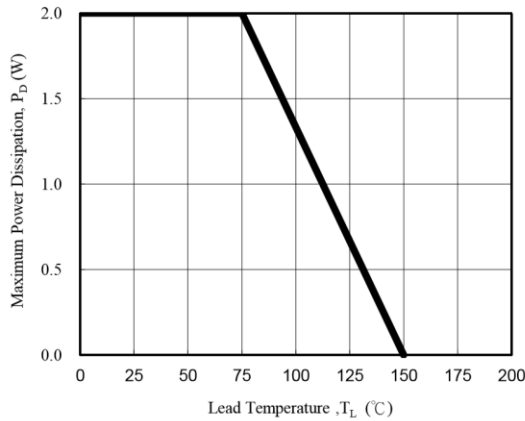


Fig. 1 - Power Temperature Derating Curve

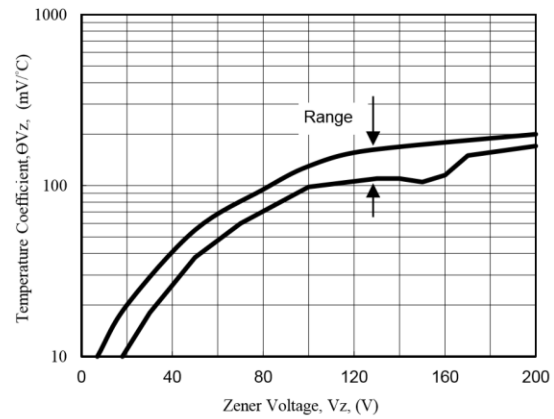


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

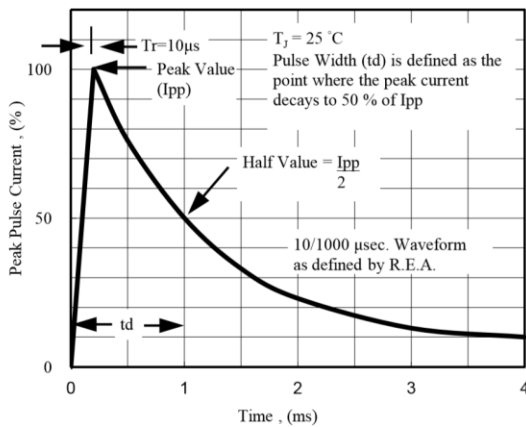


Fig. 3 - Pulse Waveform

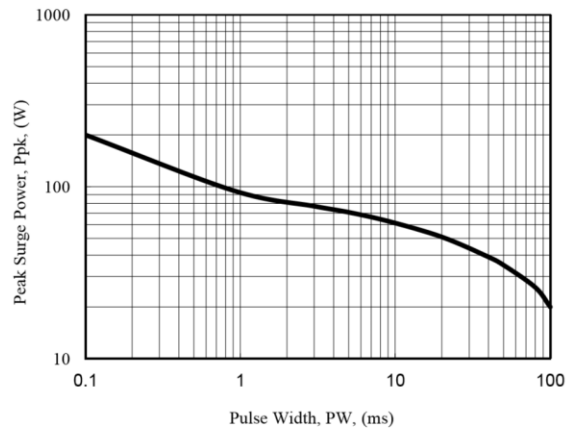


Fig. 4 - Maximum Surge Power

*Specifications subject to change without notice