

Zener Diodes

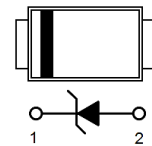
2W DO-214AC SMA

SZ45xx Series

MERITEK

FEATURE

- Zener Voltage Range: 2.7V to 200V
- Zener Voltage Tolerance: $\pm 5\%$
- Excellent Clamping Capability
- Small Package Size for High Density Application
- Glass Passivation Junction
- Application: Power Management Systems, Voltage Regulation



MECHANICAL DATA

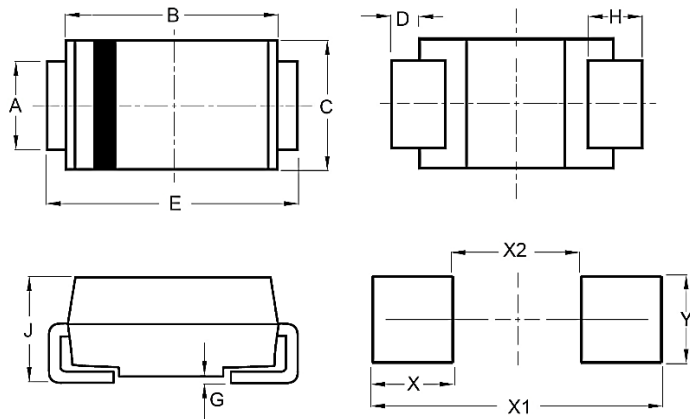
- Case: DO-214AC, SMA, Epoxy Molded Meets UL94V-0
- Lead: Solderable Per MIL-STD-750, Method 2026
- Polarity: Color Band Denotes Cathode End

ABSOLUTE MAXIMUM RATINGS

Parameter, $T_A=25^\circ\text{C}$	Symbols	Value	Unit
Forward Voltage at $I_F=200\text{mA}$	V_F	1.2	V
Power Dissipation at $T_L=50^\circ\text{C}$	P_D	2.0	W
Operating Junction Temperature Range	T_J	$-55\sim+150$	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	$-65\sim+175$	$^\circ\text{C}$

DIMENSIONS

Item	Min. (mm)	Max. (mm)
A	1.300	1.700
B	3.990	4.500
C	2.450	2.750
D	0.152	0.305
E	4.800	5.280
G	-	0.203
H	0.760	1.520
J	1.980	2.420
X	1.600	
X1	5.400	
X2	2.200	
Y	2.800	



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ELECTRICAL CHARACTERISTIC

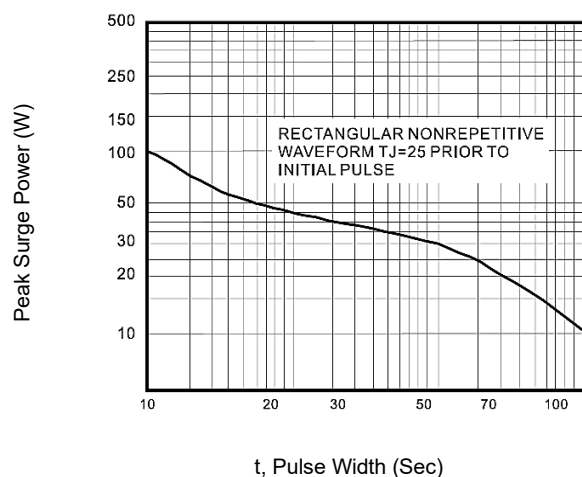
Part Number	Zener Voltage Range		Max. Zener Impedance			Max. Reverse Current		Max. Zener Current
	V _Z at I _{ZT}	I _{ZT}	Z _{ZT}	Z _{ZK}	I _{ZK}	I _R	V _R	I _{ZM}
	(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	(mA)
SZ452V7	2.7	80.0	10.0	400	1.00	100	1.0	660
SZ453V0	3.0	160.0	8.0	400	1.00	100	1.0	600
SZ453V3	3.3	145.0	8.0	400	1.00	80	1.0	545
SZ453V6	3.6	139.0	5.0	400	1.00	80	1.0	504
SZ453V9	3.9	128.0	5.0	400	1.00	50	1.0	468
SZ454V3	4.3	116.0	4.5	400	1.00	50	1.0	434
SZ454V7	4.7	106.0	4.5	550	1.00	50	1.0	386
SZ455V1	5.1	98.0	3.5	600	1.00	50	1.0	356
SZ455V6	5.6	89.5	2.5	500	1.00	50	2.0	324
SZ456V2	6.2	80.5	1.5	700	1.00	50	3.0	292
SZ456V8	6.8	73.5	2.0	700	1.00	50	4.0	266
SZ457V5	7.5	66.5	2.0	700	0.50	50	5.0	242
SZ458V2	8.2	61.0	2.3	700	0.50	50	6.0	220
SZ459V1	9.1	55.0	2.5	700	0.50	50	7.0	200
SZ4510	10.0	50.0	3.5	700	0.25	50	7.6	182
SZ4511	11.0	45.0	4.0	700	0.25	50	8.4	166
SZ4512	12.0	41.5	4.5	700	0.25	1.0	9.1	152
SZ4513	13.0	38.5	5.0	700	0.25	0.5	9.9	138
SZ4514	14.0	35.7	5.5	700	0.25	0.5	10.6	130
SZ4515	15.0	33.4	7.0	700	0.25	0.5	11.4	122
SZ4516	16.0	31.2	8.0	750	0.25	0.5	12.2	114
SZ4517	17.0	29.4	9.0	750	0.25	0.5	13.0	107
SZ4518	18.0	27.8	10.0	750	0.25	0.5	13.7	100
SZ4519	19.0	26.3	11.0	750	0.25	0.5	14.4	95
SZ4520	20.0	25.0	11.0	750	0.25	0.5	15.2	90
SZ4522	22.0	22.8	12.0	750	0.25	0.5	16.7	82
SZ4524	24.0	20.8	13.0	750	0.25	0.5	18.2	76
SZ4527	27.0	18.5	18.0	750	0.25	0.5	20.6	68
SZ4530	30.0	16.6	20.0	1000	0.25	0.5	22.5	60
SZ4533	33.0	15.1	23.0	1000	0.25	0.5	25.1	55
SZ4536	36.0	13.9	25.0	1000	0.25	0.5	27.4	50
SZ4539	39.0	12.8	30.0	1000	0.25	0.5	29.7	47
SZ4543	43.0	11.6	35.0	1500	0.25	0.5	32.7	43
SZ4547	47.0	10.6	40.0	1500	0.25	0.5	35.8	39
SZ4551	51.0	9.8	48.0	1500	0.25	0.5	38.8	36
SZ4556	56.0	9.0	55.0	2000	0.25	0.5	42.6	32
SZ4562	62.0	8.1	60.0	2000	0.25	0.5	47.1	29
SZ4568	68.0	7.4	75.0	2000	0.25	0.5	51.7	27
SZ4575	75.0	6.7	90.0	2000	0.25	0.5	56.0	24
SZ4582	82.0	6.1	100.0	3000	0.25	0.5	62.2	22
SZ4591	91.0	5.5	125.0	3000	0.25	0.5	69.2	20
SZ45100	100.0	5.0	175.0	3000	0.25	0.5	76.0	18
SZ45110	110.0	4.5	250.0	4000	0.25	0.5	83.6	17
SZ45120	120.0	4.2	325.0	4500	0.25	0.5	91.2	15
SZ45130	130.0	3.8	400.0	5000	0.25	0.5	98.8	14
SZ45140	140.0	3.6	500.0	5500	0.25	0.5	106.4	13
SZ45150	150.0	3.3	575.0	6000	0.25	0.5	114.0	12
SZ45160	160.0	3.1	650.0	6500	0.25	0.5	121.6	11
SZ45170	170.0	2.9	675.0	7000	0.25	0.5	130.4	11
SZ45180	180.0	2.8	725.0	7000	0.25	0.5	136.8	10
SZ45190	190.0	2.6	825.0	8000	0.25	0.5	144.8	10
SZ45200	200.0	2.5	900.0	8000	0.25	0.5	152.0	9

Note:

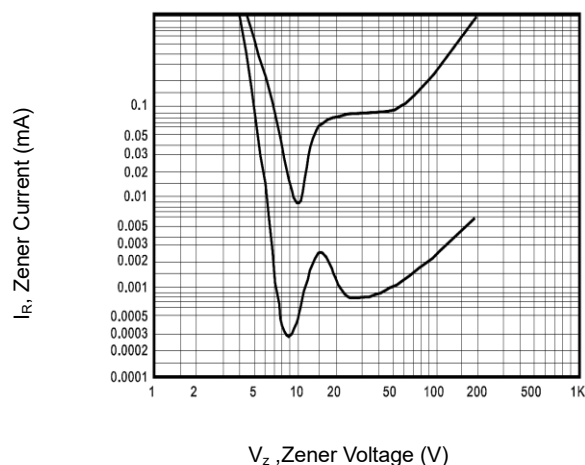
1. The type numbers listed have a standard tolerance on the nominal Zener voltage of ±5%.
2. T_A= 25°C, unless otherwise noted

CHARACTERISTIC CURVES

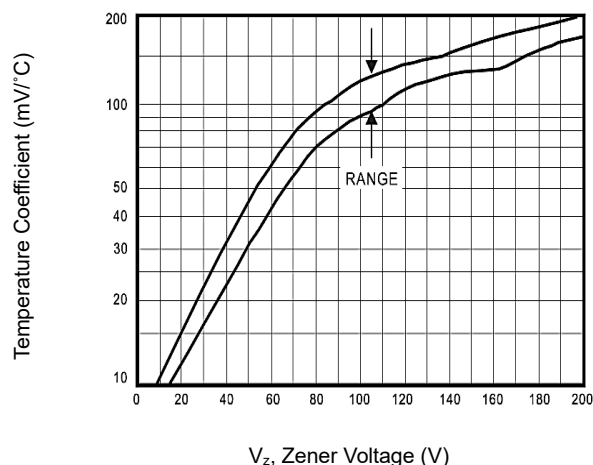
Maximum Surge Power



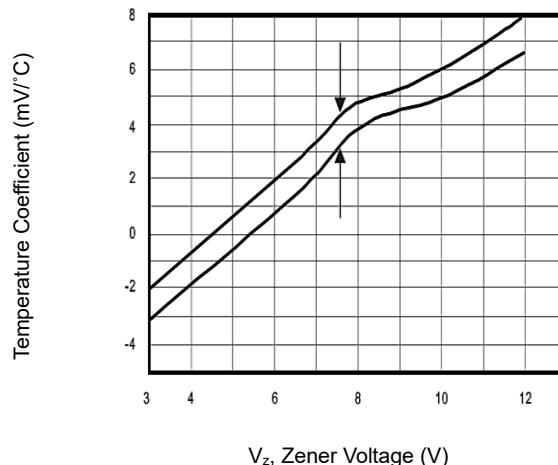
Typical Leakage Current



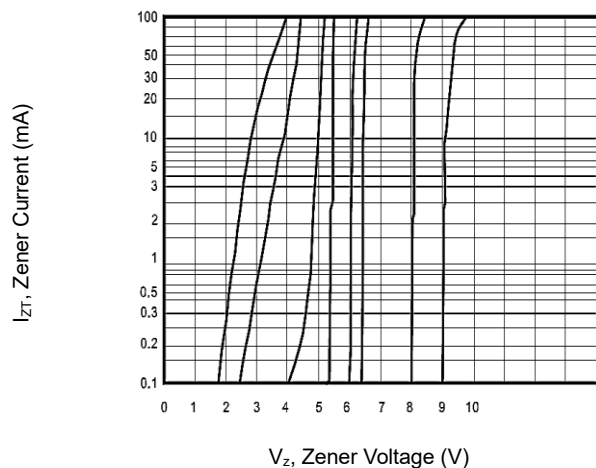
Temperature Coefficients



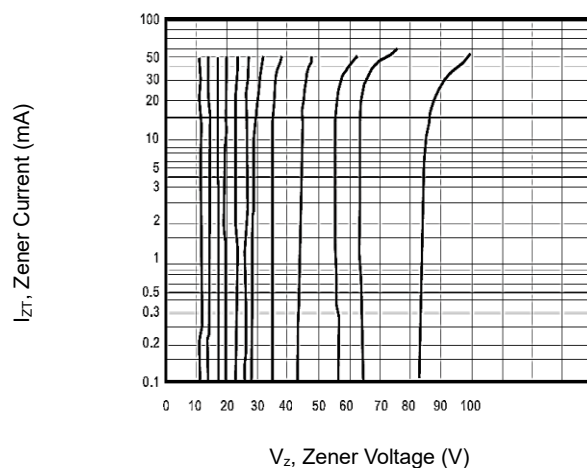
Temperature Coefficients under 12V_Z



Zener Breakdown Characteristic (3.9V thru 10V)

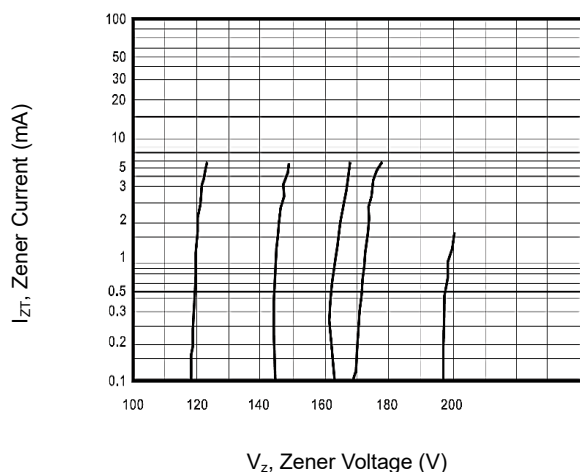


Zener Breakdown Characteristic (12V thru 82V)

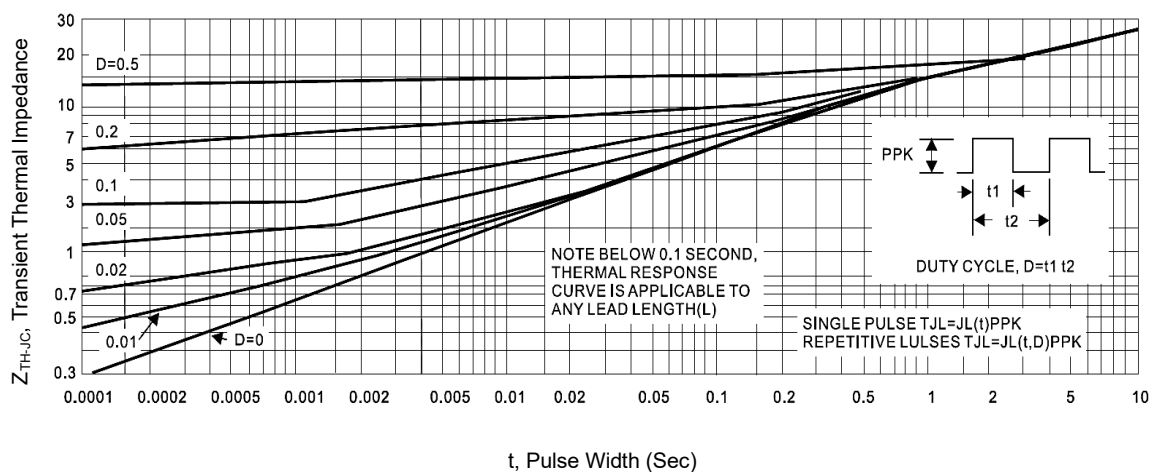


CHARACTERISTIC CURVES

Zener Breakdown Characteristic (100V thru 200V)



Normalized Transient Thermal Impedance



*Specifications subject to change without notice.