

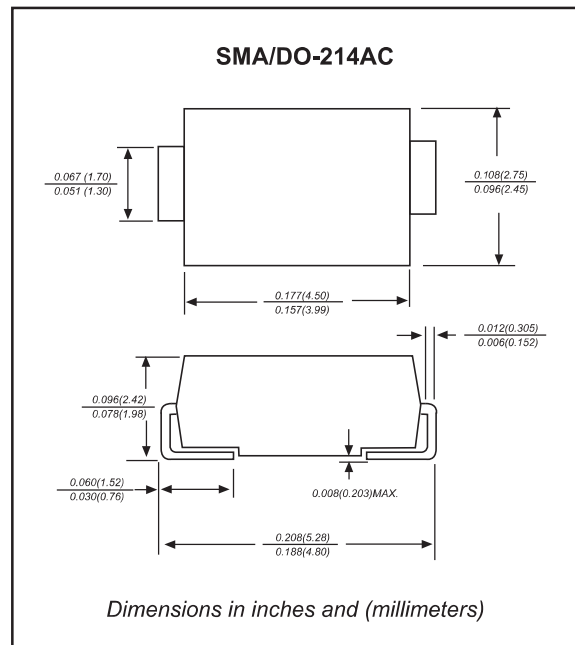
Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Wide zener reverse voltage range 2.7V to 200V.
- Small package size for high density applications.
- Ideally suited for automated assembly processes.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, DO-214AC/ SMA
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

Package outline



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

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 200 \text{ mA}$	V_F			1.20	V
Power dissipation	$T_L = 50^{\circ}\text{C}$	P_D			2.0	W
Operating junction temperature range		T_J	-55		+150	$^{\circ}\text{C}$
Storage temperature range		T_{STG}	-65		+175	$^{\circ}\text{C}$

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

TYPE	Nominal Zener Voltage		Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
	Vz @ IzT	IzT	ZzT @ IzT	Zzk @ Izk	Izk	IR @ VR	IzM	
	(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(mA)	
SZ452H-Q1	2.7	80	10	400	1.0	100	1.0	660
SZ453A-Q1	3.0	160	8.0	400	1.0	100	1.0	600
SZ453D-Q1	3.3	145	8.0	400	1.0	80	1.0	545
SZ453G-Q1	3.6	139	5.0	400	1.0	80	1.0	504
SZ453J-Q1	3.9	128	5.0	400	1.0	50	1.0	468
SZ454D-Q1	4.3	116	4.5	400	1.0	50	1.0	434
SZ454H-Q1	4.7	106	4.5	550	1.0	50	1.0	386
SZ455B-Q1	5.1	98.0	3.5	600	1.0	50	1.0	356
SZ455G-Q1	5.6	89.5	2.5	500	1.0	50	2.0	324
SZ456C-Q1	6.2	80.5	1.5	700	1.0	50	3.0	292
SZ456I-Q1	6.8	73.5	2.0	700	1.0	50	4.0	266
SZ457F-Q1	7.5	66.5	2.0	700	0.5	50	5.0	242
SZ458C-Q1	8.2	61.0	2.3	700	0.5	50	6.0	220
SZ459B-Q1	9.1	55.0	2.5	700	0.5	50	7.0	200
SZ4510-Q1	10	50.0	3.5	700	0.25	50	7.6	182
SZ4511-Q1	11	45.5	4.0	700	0.25	50	8.4	166
SZ4512-Q1	12	41.5	4.5	700	0.25	1.0	9.1	152
SZ4513-Q1	13	38.5	5.0	700	0.25	0.5	9.9	138
SZ4514-Q1	14	35.7	5.5	700	0.25	0.5	10.6	130
SZ4515-Q1	15	33.4	7.0	700	0.25	0.5	11.4	122
SZ4516-Q1	16	31.2	8.0	700	0.25	0.5	12.2	114
SZ4517-Q1	17	29.4	9.0	750	0.25	0.5	13.0	107
SZ4518-Q1	18	27.8	10	750	0.25	0.5	13.7	100
SZ4519-Q1	19	26.3	11	750	0.25	0.5	14.4	95
SZ4520-Q1	20	25.0	11	750	0.25	0.5	15.2	90
SZ4522-Q1	22	22.8	12	750	0.25	0.5	16.7	82
SZ4524-Q1	24	20.8	13	750	0.25	0.5	18.2	76
SZ4527-Q1	27	18.5	18	750	0.25	0.5	20.6	68
SZ4530-Q1	30	16.6	20	1000	0.25	0.5	22.5	60
SZ4533-Q1	33	15.1	23	1000	0.25	0.5	25.1	55
SZ4536-Q1	36	13.9	25	1000	0.25	0.5	27.4	50
SZ4539-Q1	39	12.8	30	1000	0.25	0.5	29.7	47
SZ4543-Q1	43	11.6	35	1500	0.25	0.5	32.7	43
SZ4547-Q1	47	10.6	40	1500	0.25	0.5	35.8	39
SZ4551-Q1	51	9.8	48	1500	0.25	0.5	38.8	36
SZ4556-Q1	56	9.0	55	2000	0.25	0.5	42.6	32
SZ4562-Q1	62	8.1	60	2000	0.25	0.5	47.1	29
SZ4568-Q1	68	7.4	75	2000	0.25	0.5	51.7	27
SZ4575-Q1	75	6.7	90	2000	0.25	0.5	56.0	24
SZ4582-Q1	82	6.1	100	3000	0.25	0.5	62.2	22
SZ4591-Q1	91	5.5	125	3000	0.25	0.5	69.2	20
SZ45B0-Q1	100	5.0	175	3000	0.25	0.5	76.0	18
SZ45B1-Q1	110	4.5	250	4000	0.25	0.5	83.6	17
SZ45B2-Q1	120	4.2	325	4500	0.25	0.5	91.2	15
SZ45B3-Q1	130	3.8	400	5000	0.25	0.5	98.8	14
SZ45B4-Q1	140	3.6	500	5500	0.25	0.5	106.4	13
SZ45B5-Q1	150	3.3	575	6000	0.25	0.5	114.0	12
SZ45B6-Q1	160	3.1	650	6500	0.25	0.5	121.6	11
SZ45B7-Q1	170	2.9	675	7000	0.25	0.5	130.4	11
SZ45B8-Q1	180	2.8	725	7000	0.25	0.5	136.8	10
SZ45B9-Q1	190	2.6	825	8000	0.25	0.5	144.8	10
SZ45D0-Q1	200	2.5	900	8000	0.25	0.5	152.0	9.0

Notes :

- (1) The type number listed have a standard tolerance on the nominal zener voltage of $\pm 5.0\%$, altered the fourth number of type from "5" for $\pm 5.0\%$ tolerance to be "0" for $\pm 10\%$ tolerance.

Rating and characteristic curves

FIG.1 Typical Thermal Response L

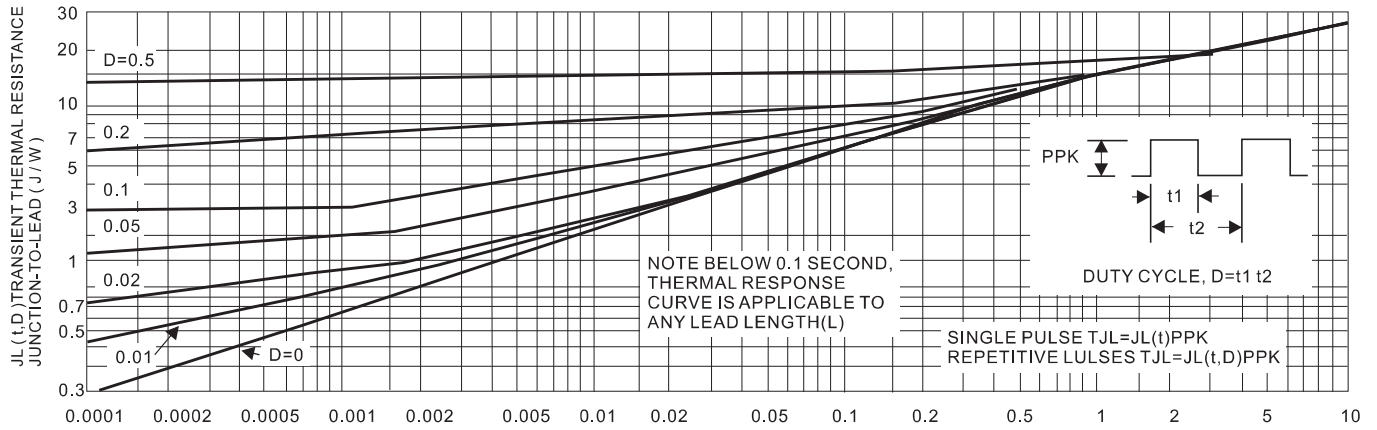


Fig. 2 Maximum Surge Power

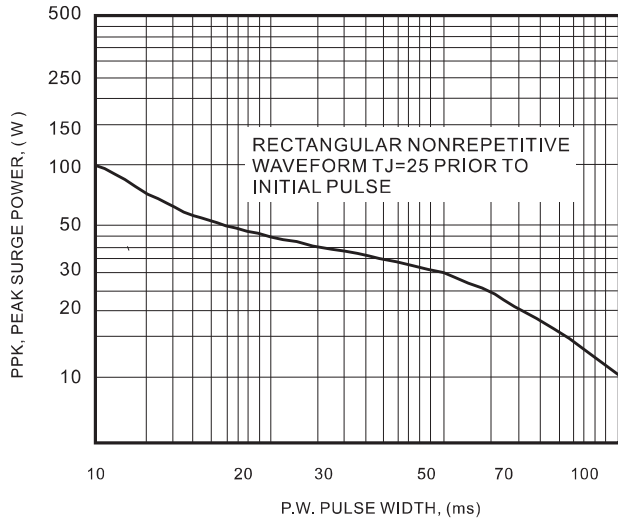


Fig. 3 Maximum Surge Power

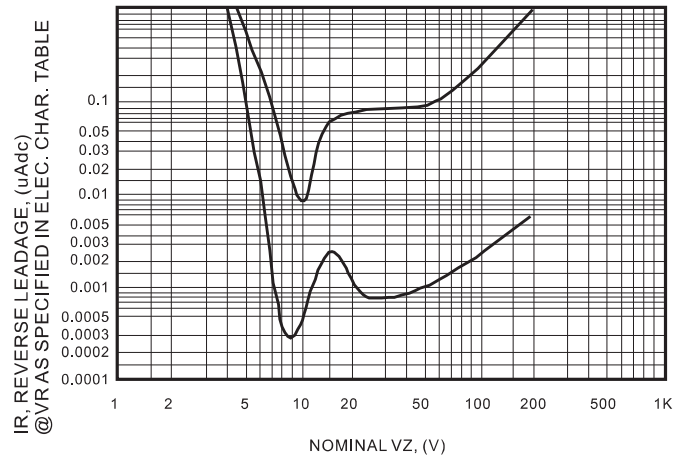


FIG.4 Units To 200 Volts

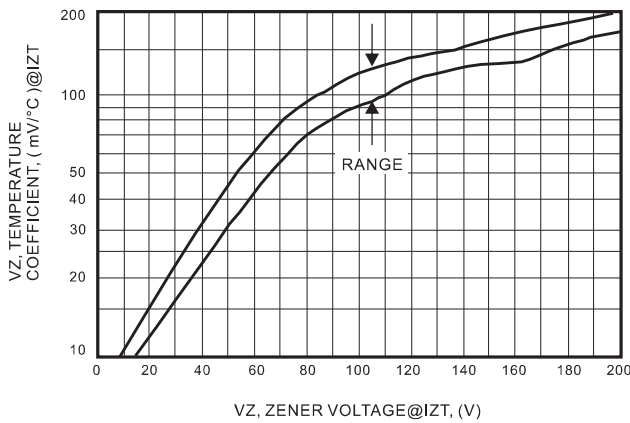
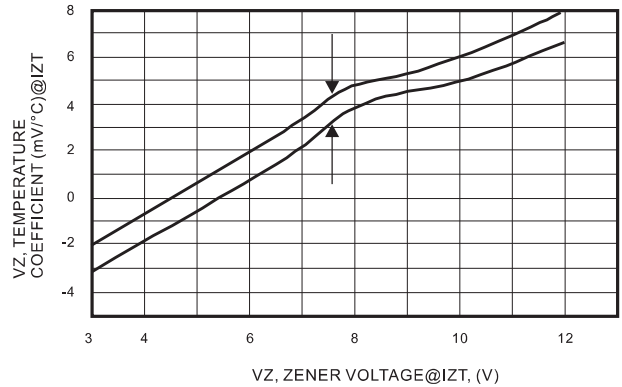


Fig 5. Units To 12 Volts



Rating and characteristic curves

FIG.6 VZ = 3.9 Thru 10 Volts

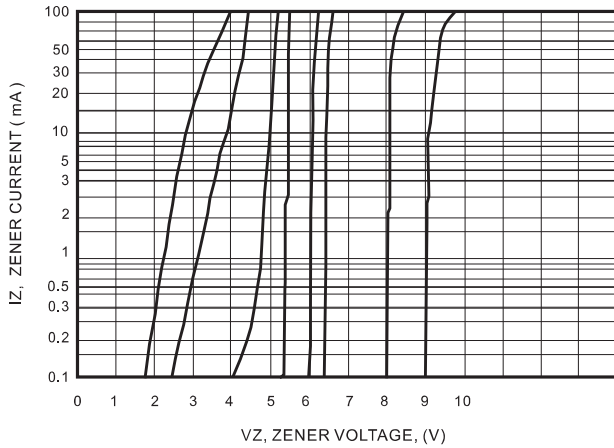


FIG.7 VZ = 12 Thru 82 Volts

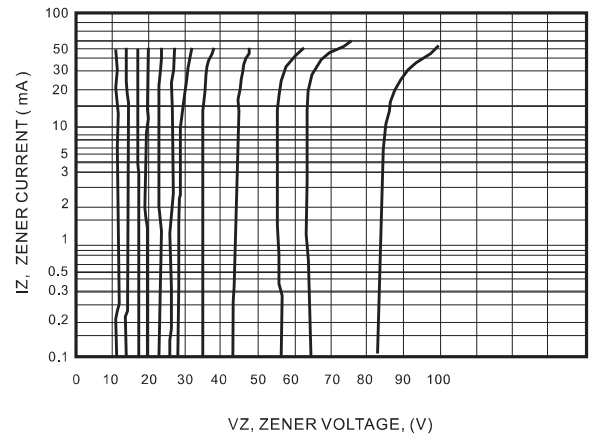


Fig. 8 VZ = 100 Thru 200 Volts

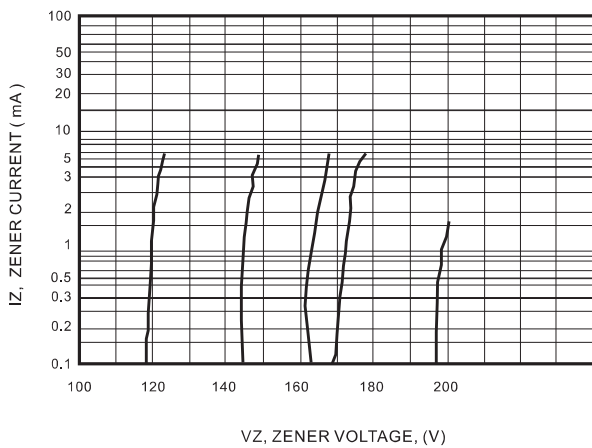
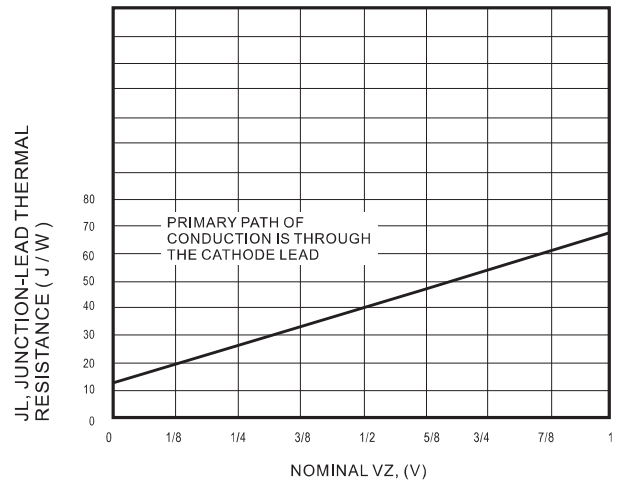




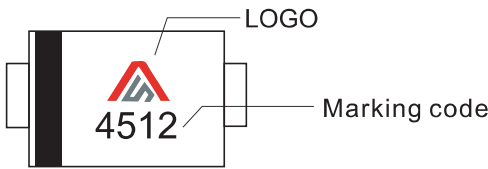
Fig. 9 Typical Thermal Resistance



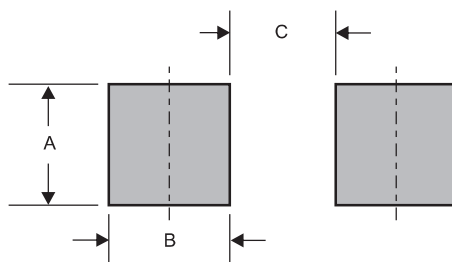
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Example P/N:	Marking code
SZ4512-Q1	

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMA	0.110 (2.80)	0.063 (1.60)	0.087 (2.20)