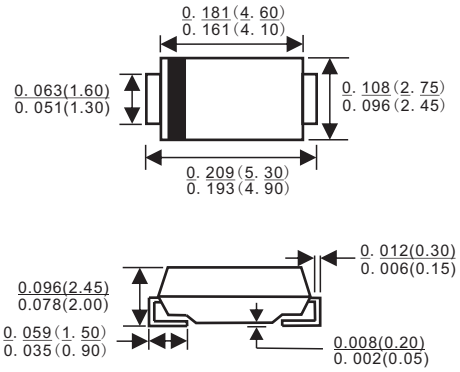
SURFACE ZENER DIODE
1SMA4737A Thru 1SMA200ZA 1.25 Watts

FEATURES

- For surface mounted applications
- Low profile package
- Glass passivated junction
- Low inductance
- Typical IR less than 5.0μA above 7.5V
- High temperature soldering guaranteed: 260℃ / 10 seconds at terminals
- UL 94V-0 Rated



SMA / DO-214AC
Dimensions in millimeters

MECHANICAL DATA

- Molded plastic body (UL 94 V-0 Rated)
- Polarity: Color Band denotes Cathode end
- Standard Packaging: 12mm Tape
- Weight: 0.064 grams

MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capactitive load, derate current by 20%

Parameter	Symbol	1SMA4737 ~ 1SMA200Z	Unit
DC Power Dissipation, R_{thJA} < 30 K/W, T_{amb} = 60℃	P_D	3.0	W
DC Power Dissipation, R_{thJA} < 100 K/W, T_{amb} = 25℃	P_D	1.25	W
Non-Repetitive Peak Surge Power Dissipation (Note 1)	P_{ZSM}	60	W
Non-Repetitive Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	10.0	Amps
Operating Temperature Range	T_J	-55℃ to +150℃	℃
Storage Temperature Range	T_{STG}	-55℃ to +150℃	℃

Note: 1. tp = 100μS sq. pulse, T_J = 25°C prior to surge.

ELECTRICAL CHARACTERISTIC

TYPE	Nominal Zener Voltage		Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum 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
1SMA4728A	3.3	76	10	400	1	100	1.0	1380
1SMA4729A	3.6	69	10	400	1	100	1.0	1260
1SMA4730A	3.9	64	9	400	1	50	1.0	1190
1SMA4731A	4.3	58	9	400	1	10	1.0	1070
1SMA4732A	4.7	53	8	400	1	10	1.0	970
1SMA4733A	5.1	49	7	400	1	10	1.0	890
1SMA4734A	5.6	45	5	400	1	10	2.0	810
1SMA4735A	6.2	41	2	400	1	10	3.0	730
1SMA4736A	6.8	37	3.5	400	1	10	4.0	660
1SMA4737A	7.5	100	3	700	0.5	10	5.0	605
1SMA4738A	8.2	100	3.5	700	0.5	10	6.0	550
1SMA4739A	9.1	50	4	700	0.5	10	7.0	500

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ELECTRICAL CHARACTERISTIC (Cont'd)

TYPE	Nominal Zener Voltage		Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum 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
1SMA4740A	10	50	4	700	0.25	10	7.6	454
1SMA4741A	11	23	8	700	0.25	5	8.4	414
1SMA4742A	12	21	9	700	0.25	5	9.1	380
1SMA4743A	13	19	10	700	0.25	5	9.9	344
1SMA4744A	15	17	14	700	0.25	5	11.4	304
1SMA4745A	16	15.5	16	700	0.25	5	12.2	285
1SMA4746A	18	14	20	750	0.25	5	13.7	250
1SMA4747A	20	12.5	22	750	0.25	5	15.2	225
1SMA4748A	22	11.5	23	750	0.25	5	16.7	205
1SMA4749A	24	10.5	25	750	0.25	5	18.2	190
1SMA4750A	27	9.5	35	750	0.25	5	20.6	170
1SMA4751A	30	8.5	40	1,000	0.25	5	22.8	150
1SMA4752A	33	7.5	45	1,000	0.25	5	25.1	135
1SMA4753A	36	7	50	1,000	0.25	5	27.4	125
1SMA4754A	39	6.5	60	1,000	0.25	5	29.7	115
1SMA4755A	43	6	70	1,500	0.25	5	32.7	110
1SMA4756A	47	5.5	80	1,500	0.25	5	35.8	95
1SMA4757A	51	5	95	1,500	0.25	5	38.8	90
1SMA4758A	56	4.5	110	2,000	0.25	5	42.6	80
1SMA4759A	62	4	125	2,000	0.25	5	47.1	70
1SMA4760A	68	3.7	150	2,000	0.25	5	51.7	65
1SMA4761A	75	3.3	175	2,000	0.25	5	56.0	60
1SMA4762A	82	3	200	3,000	0.25	5	62.2	55
1SMA4763A	91	2.8	250	3,000	0.25	5	69.2	50
1SMA4764A	100	2.5	350	3,000	0.25	5	76.0	45
1SMA110ZA	110	2.3	450	4,000	0.25	5	83.6	-
1SMA120ZA	120	2	550	4,500	0.25	5	91.2	-
1SMA130ZA	130	1.9	700	5,000	0.25	5	98.8	-
1SMA150ZA	150	1.7	1,000	6,000	0.25	5	114.0	-
1SMA160ZA	160	1.6	1,100	6,500	0.25	5	121.6	-
1SMA180ZA	180	1.4	1,200	7,000	0.25	5	136.8	-
1SMA200ZA	200	1.2	1,500	8,000	0.25	5	152.0	-

Note: 1. All are 5% Tolerance of nominal zener voltage
2. Suffix R = Tape and Reel, 5Kpcs/reel

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RATINGS AND CHARACTERISTIC CURVES

FIG.1- POWER TEMPERATURE DERATING CURVE

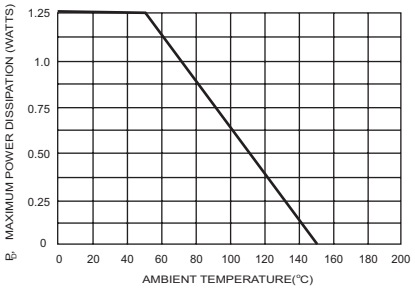


FIG.2- TYPICAL FORWARD CHARACTERISTICS

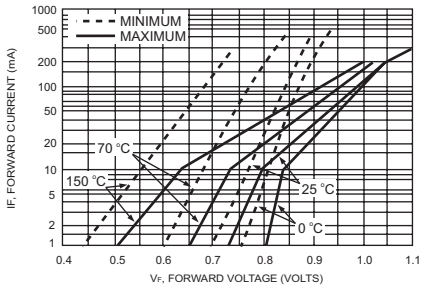


FIG.3- MAXIMUM SURGE POWER

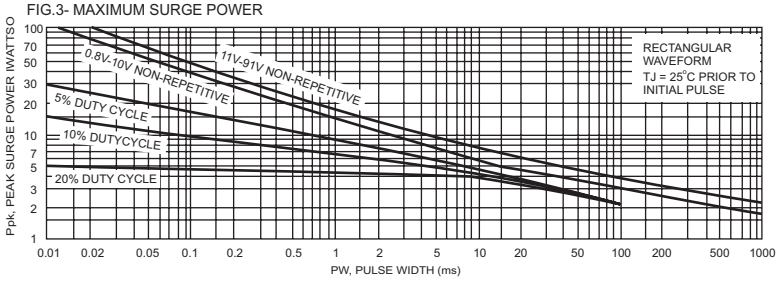


FIG.4- EFFECT OF ZENER CURRENT ON ZENER IMPEDANCE

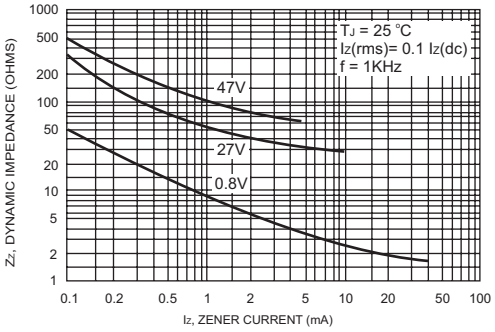


FIG.5- EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

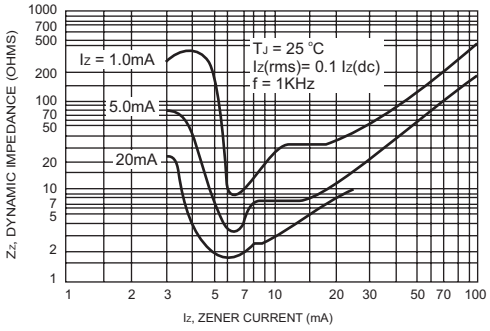
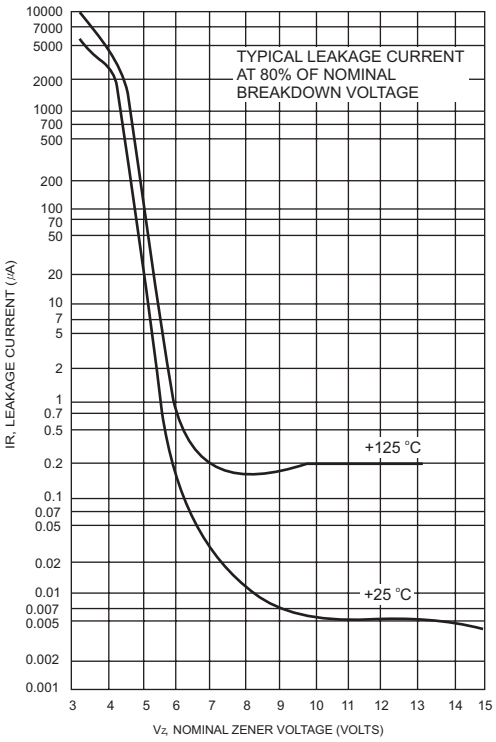


FIG.6- TYPICAL LEAKAGE CURRENT



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RATINGS AND CHARACTERISTIC CURVES (Cont'd)

FIG.7- TYPICAL CAPACITANCE versus Vz

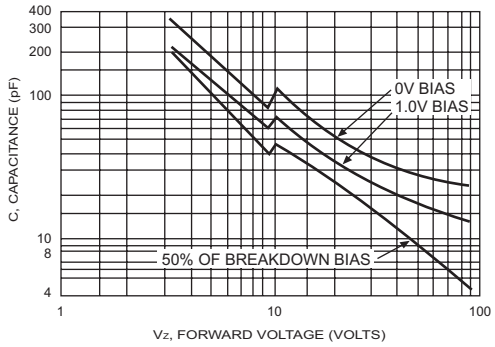


FIG.8- TEMPERATURE COEFFICIENTS

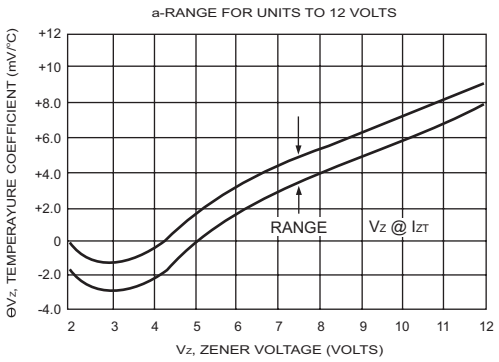


FIG.9- TEMPERATURE COEFFICIENTS

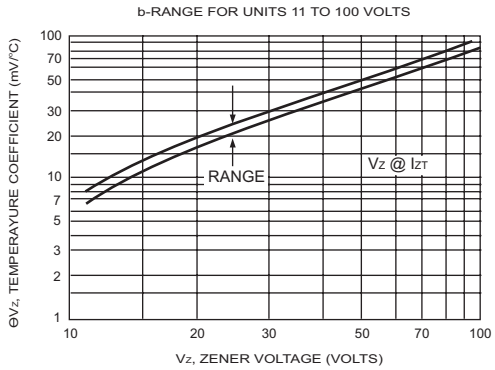
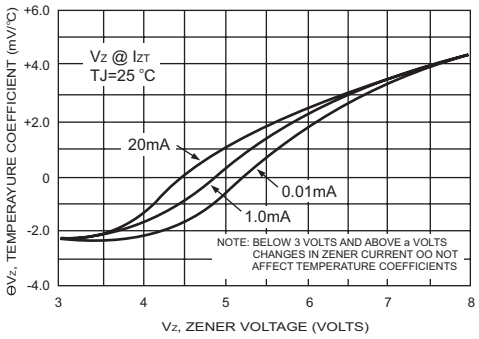


FIG.10- EFFECT OF ZENER CURRENT



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