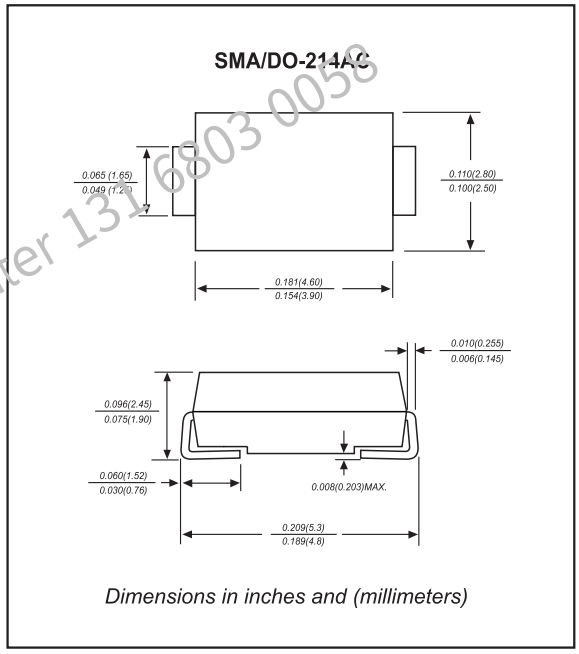
Surface Mount Zener Diodes 1W

SMA4728A Thru SMA4764A

Formosa MS

●FEATURES

. For surface mounted applications
. 1.0 W power dissipation
. Low reverse current
. Ideally suited for automated assembly processes
. Epitaxial construction



Dimensions in inches and (millimeters)

●MECHANICAL DATA

. Case: Molded plastic
. Epoxy: UL 94V-0 rate flame retardant
. Metallurgically bonded construction
. Polarity: Color band denotes cathode end
. Mounting position: Any
. Weight: 0.064 grams

●MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25℃ ambient temperature unless otherwise specified.

Electrical Characteristics	Symbol	Value	Unit
Power Dissipation (Note 1)	P_D	1.0	W
Half sine-wave superimposed on rated load JEDEC method (Note 2)	I_{FSM}	10	A
Operating junction and Storage Temperature	T_J, T_{STG}	-55 to +155	°C

Note: (1) Mounted on 5.0mm^2(.013mm thick) land areas.
(2) Measurd on 8.3ms, single half-sine wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

SMA4728A Thru SMA4764A

Electrical Characteristic (Ta=25ºC)

Rating at 25 C ambient temperature unless otherwise specified

Type	Device Marking	Nominal Zener Voltage		Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current	Maximum Surge Current
		V_Z @ I_{ZT}	I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R @ V_R		I_{ZM}	I_{RM} (2)
		(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	(mA)	(mApk)
SMA4728A	**728A**	3.3	76.0	10	400	1.0	100	1.0	276	1380
SMA4729A	**729A**	3.6	69.0	10	400	1.0	100	1.0	252	1260
SMA4730A	**730A**	3.9	64.0	9.0	400	1.0	50	1.0	234	1190
SMA4731A	**731A**	4.3	58.0	9.0	400	1.0	10	1.0	217	1070
SMA4732A	**732A**	4.7	53.0	8.0	500	1.0	10	1.0	193	970
SMA4733A	**733A**	5.1	49.0	7.0	550	1.0	10	1.0	178	890
SMA4734A	**734A**	5.6	45.0	5.0	600	1.0	10	2.0	162	810
SMA4735A	**735A**	6.2	41.0	2.0	700	1.0	10	3.0	146	730
SMA4736A	**736A**	6.8	37.0	3.5	700	1.0	10	4.0	133	660
SMA4737A	**737A**	7.5	34.0	4.0	700	0.5	10	5.0	121	605
SMA4738A	**738A**	8.2	31.0	4.5	700	0.5	10	6.0	110	550
SMA4739A	**739A**	9.1	28.0	5.0	700	0.5	10	7.0	100	500
SMA4740A	**740A**	10	25.0	7.0	700	0.25	10	7.6	91	454
SMA4741A	**741A**	11	23.0	8.0	700	0.25	5.0	8.4	83	414
SMA4742A	**742A**	12	21.0	9.0	700	0.25	5.0	9.1	76	380
SMA4743A	**743A**	13	19.0	10	700	0.25	5.0	9.9	69	344
SMA4744A	**744A**	15	17.0	14	700	0.25	5.0	11.4	61	305
SMA4745A	**745A**	16	15.5	16	700	0.25	5.0	12.2	57	285
SMA4746A	**746A**	18	14.0	20	750	0.25	5.0	13.7	50	250
SMA4747A	**747A**	20	12.5	22	750	0.25	5.0	15.2	45	225
SMA4748A	**748A**	22	11.5	23	750	0.25	5.0	16.7	41	205
SMA4749A	**749A**	24	10.5	25	750	0.25	5.0	18.2	38	190
SMA4750A	**750A**	27	9.5	35	750	0.25	5.0	20.6	34	170
SMA4751A	**751A**	30	8.5	40	1000	0.25	5.0	22.8	30	150
SMA4752A	**752A**	33	7.5	45	1000	0.25	5.0	25.1	27	135
SMA4753A	**753A**	36	7.0	50	1000	0.25	5.0	27.4	25	125
SMA4754A	**754A**	39	6.5	60	1000	0.25	5.0	29.7	23	115
SMA4755A	**755A**	43	6.0	70	1500	0.25	5.0	32.7	22	110
SMA4756A	**756A**	47	5.5	80	1500	0.25	5.0	35.8	19	95
SMA4757A	**757A**	51	5.0	95	1500	0.25	5.0	38.8	18	90
SMA4758A	**758A**	56	4.5	110	2000	0.25	5.0	42.6	16	80
SMA4759A	**759A**	62	4.0	125	2000	0.25	5.0	47.1	14	70
SMA4760A	**760A**	68	3.7	150	2000	0.25	5.0	51.7	13	65
SMA4761A	**761A**	75	3.3	175	2000	0.25	5.0	56.0	12	60
SMA4762A	**762A**	82	3.0	200	3000	0.25	5.0	62.2	11	55
SMA4763A	**763A**	91	2.8	250	3000	0.25	5.0	69.2	10	50
SMA4764A	**764A**	100	2.5	350	3000	0.25	5.0	76.0	9.0	45

Note:

The JEDEC type number shown with an A suffix have a 5% tolerance on nominal zener voltage .No suffix signifies a 10% tolerance, C signifies 2%, and D suffix signifies 1% tolerance.

FIG 1. POWER TEMPERATURE DERATING CURVE

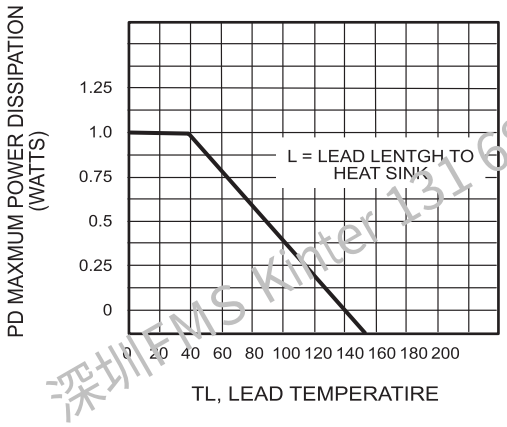
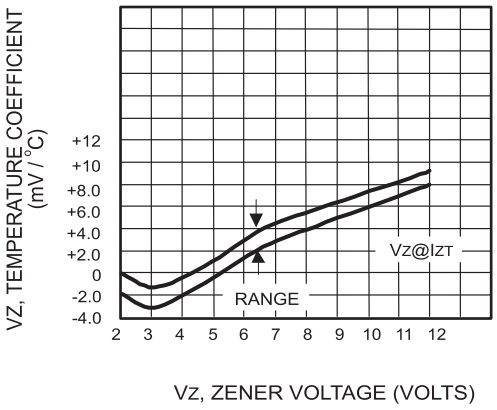


FIG 2. TEMPERATURE COFFICIENTS
(-55°C TO +150°C TEMPERATURE RANGE; 90%OF THE UNITS ARE IN RANGES INDICATED.)



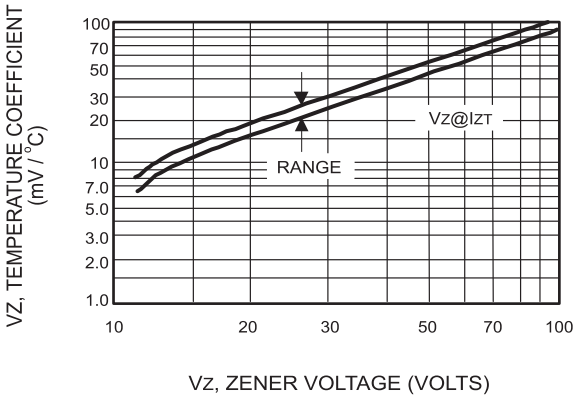


FIG 3. TYPICAL THERMAL RESISTANCE VERSUS LEAD LENGTH

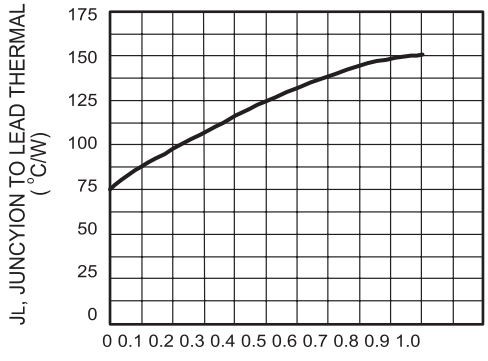
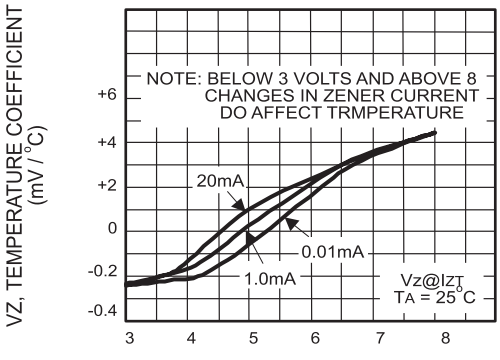
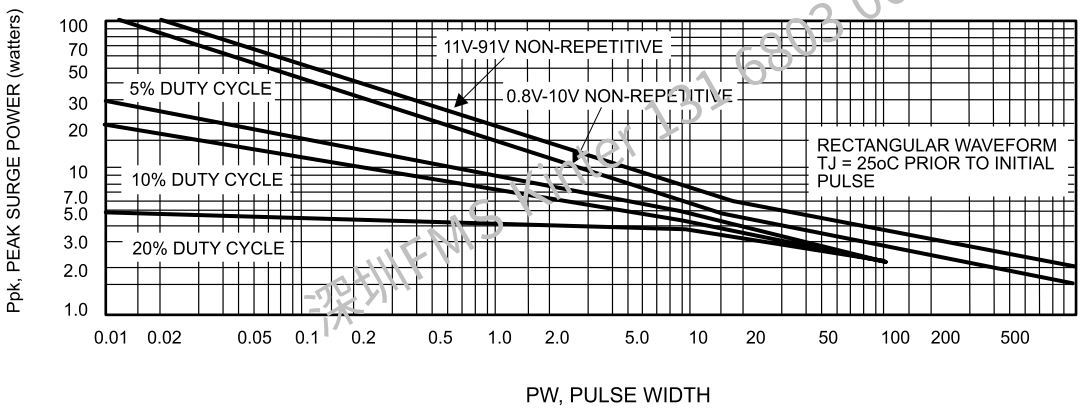


FIG 4. EFFECT OF ZENER CURRENT



Document ID	Issued Date	Revised Date	Revision	Page.
DS-121623	2008/02/10	2010/03/10	E	4

FIG 5. MAXIMUM SURGE POWER



This graphr epresents 90 percentile date point
For worse-case design characteristics, multiply surge power by 2/3

FIG 6. EFFECT OF ZENER CURRENT ON ZENER IMPEDANCE

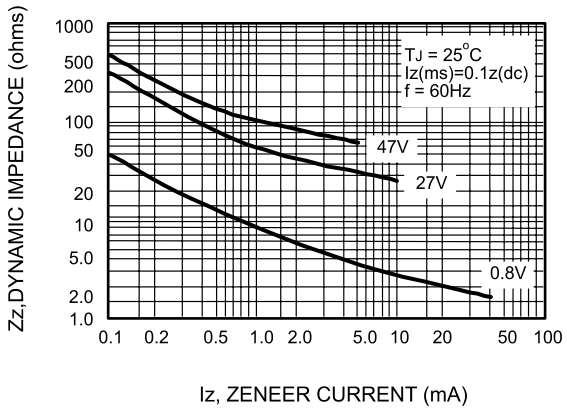


FIG 7. EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE