

1SMA4728A THRU 1SMA4777A

Surface Mount Power Voltage-Regulating Diodes



FEATURES

- * For surface mount application
- * Built-in strain relief
- * Excellent clamping capability
- * Low profile package
- * Fast response time: Typically less than 1.0ps from 0 volt to BV min.
- * Typical I_R less than 1 A above 10V
- * High temperature soldering guaranteed: 260°C / 10 seconds at terminals

MECHANICAL DATA

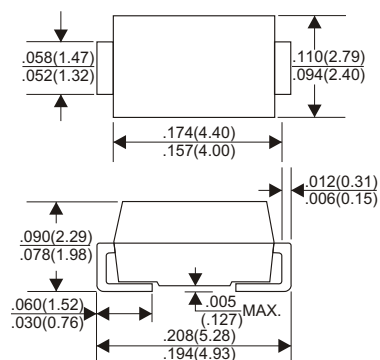
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: Solderable per MIL-STD-202, method 208 guaranteed
- * Polarity: Color band denotes cathode end except Bidirectional
- * Mounting position: Any
- * Weight: 0.063 grams

VOLTAGE RANGE

3.3 to 300 Volts

1000mW

DO-214AC(SMA)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

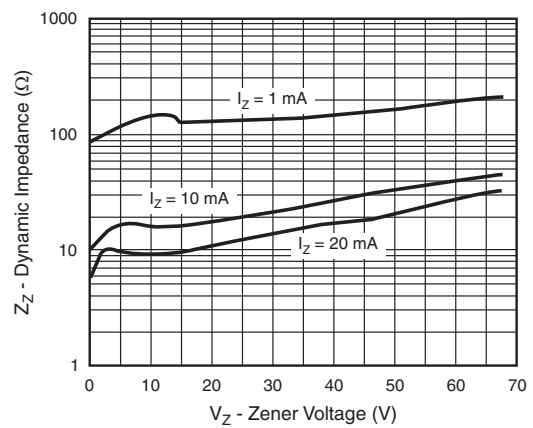
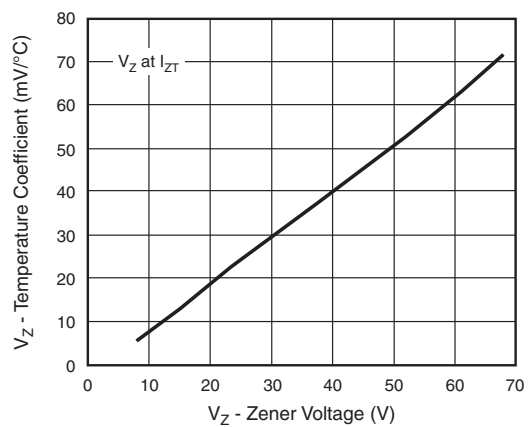
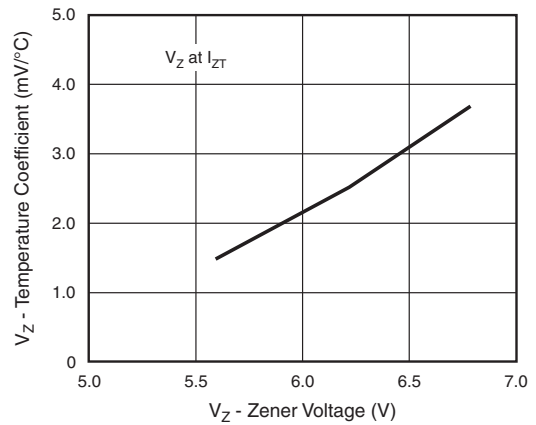
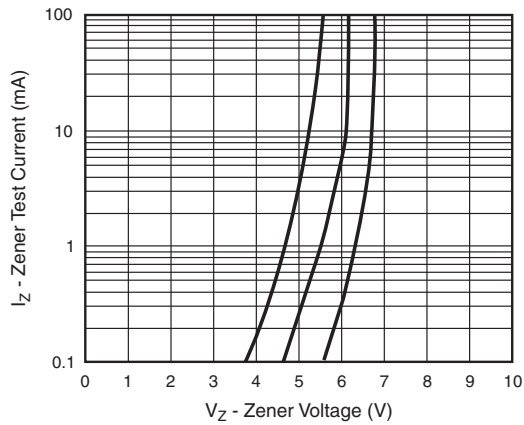
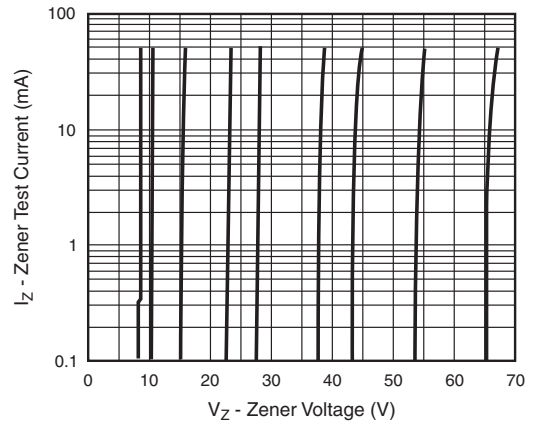
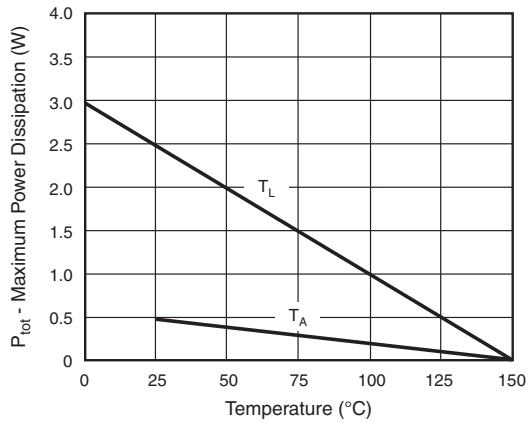
MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Maximum steady state power dissipation at $T_L = 75^\circ\text{C}$ (fig. 1) ⁽¹⁾	P_{tot}	1000	mW
Maximum steady state power dissipation at $T_A = 25^\circ\text{C}$ (fig. 1) ⁽²⁾	P_{tot}	500	mW
Maximum instantaneous forward voltage at 200 mA for all types ⁽³⁾	V_F	1.5	V
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +150	°C
Typical thermal resistance, junction to lead	$R_{\theta JL}$ ⁽¹⁾	50	°C/W
Typical thermal resistance, junction to ambient	$R_{\theta JA}$ ⁽²⁾	250	°C/W

Notes

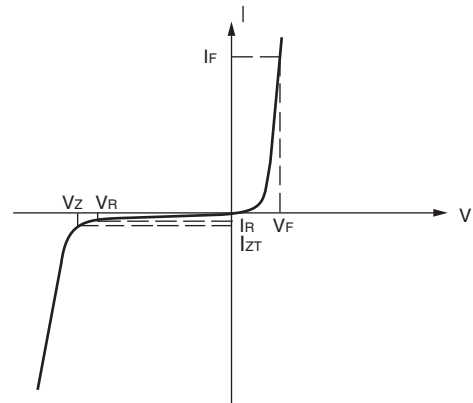
- ⁽¹⁾ Mounted on PCB with 5.0 mm x 5.0 mm copper pads attached to each terminal
- ⁽²⁾ Mounted on minimum recommended pad layout
- ⁽³⁾ Pulse test: 300 μs pulse width, 1 % duty cycle

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ELECTRICAL CHARACTERISTICS	
SYMBOL	PARAMETER
V_Z	Reverse Zener voltage at I_{ZT}
I_{ZT}	Reverse current
Z_{ZT}	Maximum Zener impedance at I_{ZT}
I_{ZK}	Reverse current
Z_{ZK}	Maximum Zener impedance at I_{ZK}
I_R	Reverse leakage current at V_R
V_R	Reverse voltage
I_F	Forward current
V_F	Forward voltage at I_F
I_{ZM}	Maximum DC Zener current



Zener Voltage Regulator

Characteristics at $T_a = 25^\circ\text{C}$

Type	Marking	Zener Voltage Range ⁽¹⁾				Dynamic Impedance	Reverse Current		Admissible Zener Current
		V _{ZT} (at I _{ZT})			I _{ZT}	Z _{ZT} (at I _{ZT})	I _R	at V _R	
		Min (V)	Nom (V)	Max (V)	(mA)	Max (Ω)	Max (μA)	(V)	I _{ZM} (mA)
1 SMA4728A	728A	3.10	3.3	3.50	75	10	100	1	285
1 SMA4729A	729A	3.40	3.6	3.80	69	10	100	1	263
1 SMA4730A	730A	3.70	3.9	4.10	64	9.0	50	1	243
1 SMA4731A	731A	4.06	4.3	4.56	58	9.0	25	1	219
1 SMA4732A	732A	4.50	4.7	4.93	53	8.0	10	1	203
1 SMA4733A	733A	4.84	5.1	5.36	49	7.0	10	1	186
1 SMA4734A	734A	5.32	5.6	5.92	45	5.0	10	2	170
1 SMA4735A	735A	5.86	6.2	6.51	41	2.0	10	3	154
1 SMA4736A	736A	6.46	6.8	7.18	37	3.5	10	4	140
1 SMA4737A	737A	7.12	7.5	7.88	34	4.0	10	5	127
1 SMA4738A	738A	7.79	8.2	8.67	31	4.5	10	6	116
1 SMA4739A	739A	8.60	9.1	9.59	28	5.0	10	7	104
1 SMA4740A	740A	9.50	10	10.5	25	7.0	10	7	95
1 SMA4741A	741A	10.4	11	11.6	23	8.0	5	8	86
1 SMA4742A	742A	11.4	12	12.6	21	9.0	5	9	79
1 SMA4743A	743A	12.4	13	14.1	19	10	5	10	71
1 SMA4744A	744A	13.8	15	15.8	17	14	5	11	63
1 SMA4745A	745A	15.2	16	17.1	16	16	5	12	58
1 SMA4746A	746A	16.8	18	19.2	14	20	5	13	52
1 SMA4747A	747A	19.0	20	21.2	13	22	5	15	47
1 SMA4748A	748A	20.8	22	23.3	12	23	5	17	43
1 SMA4749A	749A	22.8	24	26.0	11	25	5	18	38
1 SMA4750A	750A	25.3	27	28.9	9.5	35	5	21	35

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1SMA4751A	751A	28.2	30	32.0	8.5	40	5	23	31
1SMA4752A	752A	31.3	33	34.9	7.5	45	5	25	28
1SMA4753A	753A	34.2	36	37.9	7.0	50	5	27	26
1SMA4754A	754A	37.2	39	41.5	6.5	60	5	30	24
1SMA4755A	755A	40.9	43	45.6	6.0	70	1	32	22
1SMA4756A	756A	44.9	47	49.8	5.5	80	1	35	20
1SMA4757A	757A	48.6	51	54.0	5.0	95	1	38	18
1SMA4758A	758A	53.6	56	58.8	4.5	110	1	42	17
1SMA4759A	759A	58.9	62	65.6	4.0	125	1	47	15
1SMA4760A	760A	64.6	68	71.7	3.7	150	1	52	14
1SMA4761A	761A	71.2	75	78.8	3.3	175	1	56	12
1SMA4762A	762A	77.9	82	87.0	3.0	200	1	62	11
1SMA4763A	763A	86.0	91	96.0	2.8	250	1	69	10
1SMA4764A	764A	95.0	100	105	2.5	350	1	76	9.5
1SMA4765A	765A	104	110	116	2.3	450	1	84	8.6
1SMA4766A	766A	114	120	127	2.0	550	1	91	7.8
1SMA4767A	767A	125	135	142	1.9	700	1	100	7.0
1SMA4768A	768A	140	150	157	1.7	900	1	110	6.3
1SMA4769A	769A	155	165	172	1.6	1100	1	120	5.8
1SMA4770A	770A	170	180	191	1.4	1200	1	135	5.2
1SMA4771A	771A	189	200	211	1.2	1400	1	150	4.7
1SMA4772A	772A	209	220	231	1.0	1600	1	165	4.3
1SMA4773A	773A	229	240	251	1.0	1800	1	180	3.9
1SMA4774A	774A	249	260	271	1.0	2000	1	190	3.7
1SMA4775A	775A	269	280	291	1.0	2100	1	205	3.4
1SMA4776A	776A	289	300	315	1.0	2300	1	230	3.1
1SMA4777A	777A	313	330	346	1.0	2500	1	250	2.8