

1SMAF4728A THRU 1SMAF4777A

SURFACE MOUNT ZENER DIODES

SMAF SURFACE MOUNT SILICON ZENER DIODES

Features

- Low Zener Impedance
- Power Dissipation of 1000mW
- High Stability and High Reliability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Applications

Zener diode is generally used as reference voltage sources in regulated power supplies or as protective diode in overvoltage protection circuits.

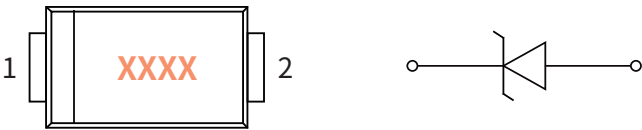
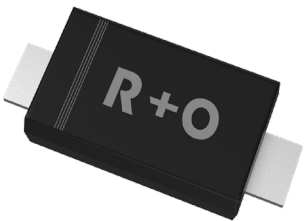
Mechanical Data

- Case: SMAF
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

Function Diagram

Zener Diode
3.3 to 330 Volts
Power Dissipation
1 Watts

SMAF



Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Power Dissipation at Tc=75°C	P _D	mW	1000
Forward Voltage @ I _F =200mA	V _F	V	1.2
Storage Temperature	T _{stg}	°C	-55 ~+150
Junction Temperature	T _j	°C	-55 ~+150
Typical Thermal Resistance	R _{θJA}	°C /W	250

Electrical Parameter

SYMBOL	PARAMETER
V _Z	Reverse zener voltage @ I _{ZT}
I _{ZT}	Reverse current
Z _{ZT}	Maximum Zener Impedance @ I _{ZT}
I _{ZK}	Reverse Current
Z _{ZK}	Maximum Zener Impedance @ I _{ZK}
I _R	Reverse leakage current @ V _R
V _R	Reverse voltage
I _F	Forward current
V _F	Forward voltage @ I _F

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● Electrical Characteristics (Ta=25°C Unless otherwise noted)

Type Number	Type Code	Nominal Zener Voltage				Zener Impedance	Leakage Current		Admissible Zener Current
		V _Z			I _{ZT}	Z _{ZT} @I _{ZT}	I _R @V _R		
		Min.(V)	Nom.(V)	Max.(V)	(mA)	Z _{ZT} (Ω)	I _R (μA)	V _R (V)	I _{ZM} (mA)
1SMAF4728A	728A	3 . 10	3.3	3.50	75	10	100	1	285
1SMAF4729A	729A	3.40	3.6	3.80	69	10	100	1	263
1SMAF4730A	730A	3.70	3.9	4.10	64	9.0	50	1	243
1SMAF4731A	731A	4.06	4.3	4.56	58	9.0	25	1	219
1SMAF4732A	732A	4.50	4.7	4.93	53	8.0	10	1	203
1SMAF4733A	733A	4.84	5.1	5.36	49	7.0	10	1	186
1SMAF4734A	734A	5.32	5.6	5.92	45	5.0	10	2	170
1SMAF4735A	735A	5.86	6.2	6.51	41	2.0	10	3	154
1SMAF4736A	736A	6.46	6.8	7.18	37	3.5	10	4	140
1SMAF4737A	737A	7.12	7.5	7.88	34	4.0	10	5	127
1SMAF4738A	738A	7.79	8.2	8.67	31	4.5	10	6	116
1SMAF4739A	739A	8.60	9.1	9.59	28	5.0	10	7	104
1SMAF4740A	740A	9.50	10	10.5	25	7.0	10	7	95
1SMAF4741A	741A	10.4	11	11.6	23	8.0	5	8	86
1SMAF4742A	742A	11.4	12	12.6	21	9.0	5	9	79
1SMAF4743A	743A	12.4	13	14.1	19	10	5	10	71
1SMAF4744A	744A	13.8	15	15.8	17	14	5	11	63
1SMAF4745A	745A	15.2	16	17.1	16	16	5	12	58
1SMAF4746A	746A	16.8	18	19.2	14	20	5	13	52
1SMAF4747A	747A	19.0	20	21.2	13	22	5	15	47
1SMAF4748A	748A	20.8	22	23.3	12	23	5	17	43
1SMAF4749A	749A	22.8	24	26.0	11	25	5	18	38
1SMAF4750A	750A	25.3	27	28.9	9.5	35	5	21	35
1SMAF4751A	751A	28.2	30	32.0	8.5	40	5	23	31
1SMAF4752A	752A	31.3	33	34.9	7.5	45	5	25	28
1SMAF4753A	753A	34.2	36	37.9	7.0	50	5	27	26
1SMAF4754A	754A	37.2	39	41.5	6.5	60	5	30	24
1SMAF4755A	755A	40.9	43	45.6	6.0	70	1	32	22
1SMAF4756A	756A	44.9	47	49.8	5.5	80	1	35	20
1SMAF4757A	757A	48.6	51	54.0	5.0	95	1	38	18
1SMAF4758A	758A	53.6	56	58.8	4.5	110	1	42	17
1SMAF4759A	759A	58.9	62	65.6	4.0	125	1	47	15
1SMAF4760A	760A	64.6	68	71.7	3.7	150	1	52	14
1SMAF4761A	761A	71.2	75	78.8	3.3	175	1	56	12
1SMAF4762A	762A	77.9	82	87.0	3.0	200	1	62	11
1SMAF4763A	763A	86.0	91	96.0	2.8	250	1	69	10

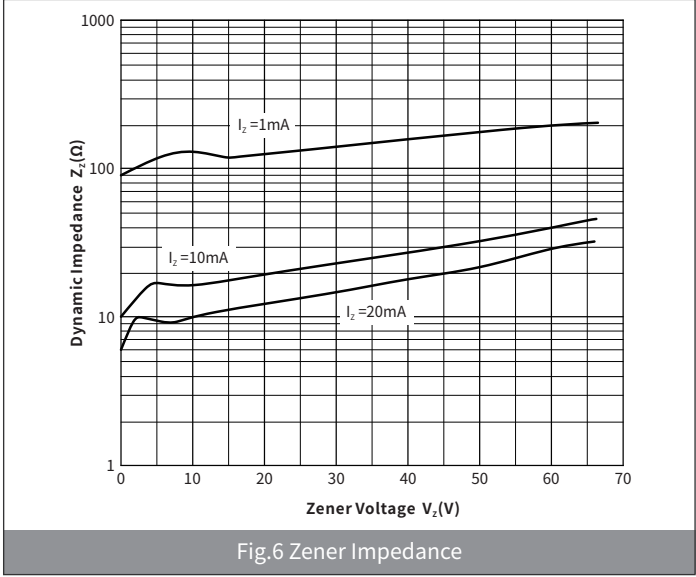
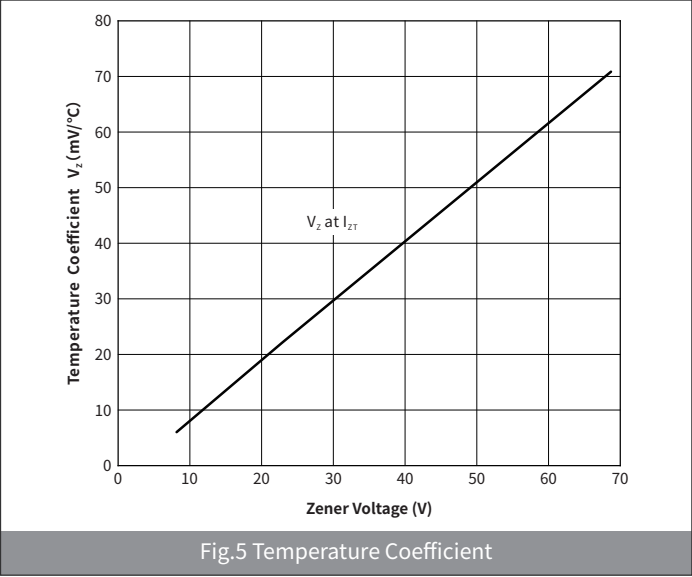
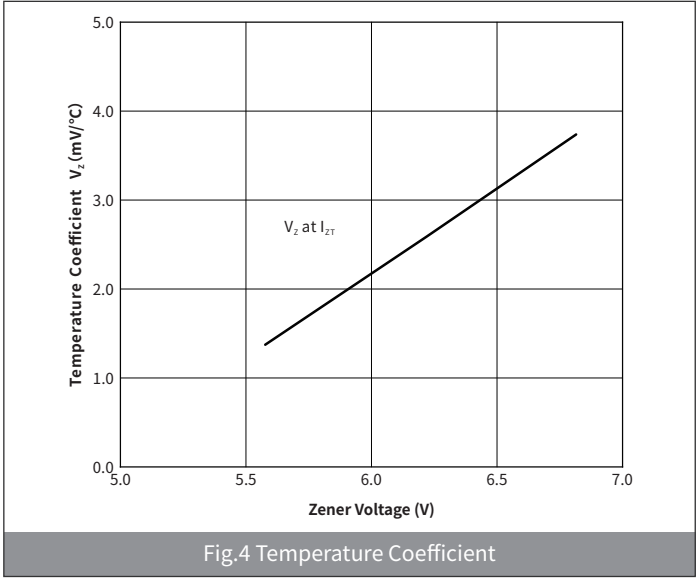
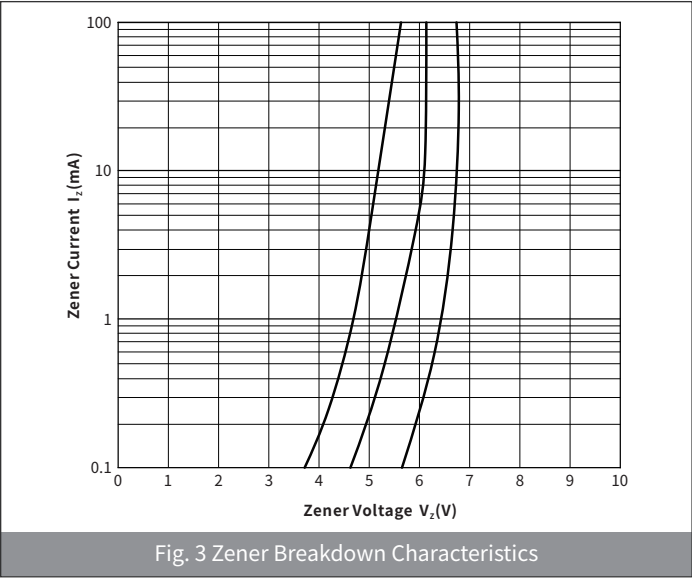
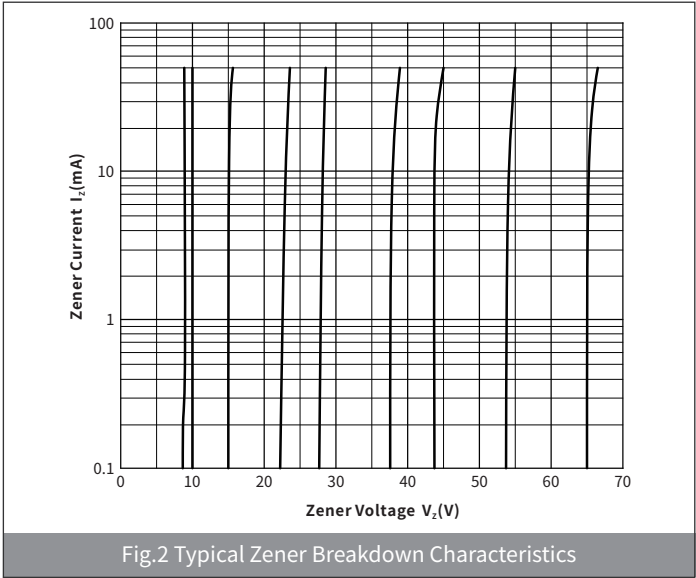
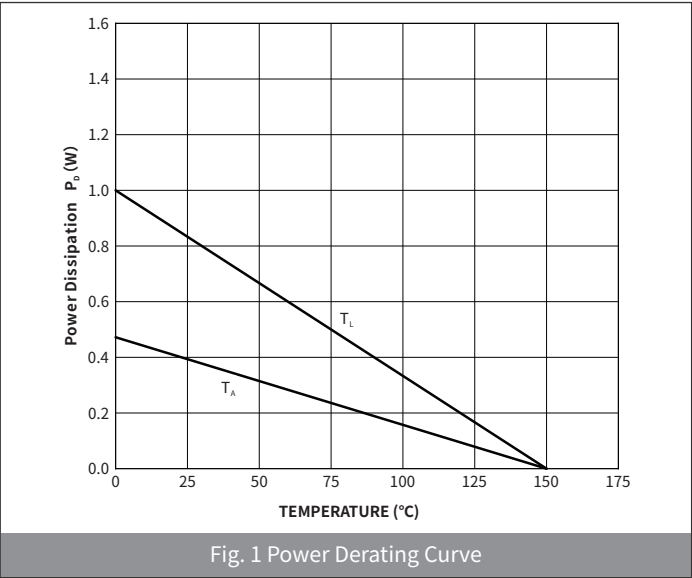
● Electrical Characteristics (Ta=25°C Unless otherwise noted)

Type Number	Type Code	Nominal Zener Voltage				Zener Impedance	Leakage Current		Admissible Zener Current
		V _Z			I _{ZT}	Z _{ZT} @I _{ZT}	I _R @V _R		
		Min.(V)	Nom.(V)	Max.(V)	(mA)	Z _{ZT} (Ω)	I _R (μA)	V _R (V)	I _{ZM} (mA)
1SMAF4764A	764A	95.0	100	105	2.5	350	1	76	9.5
1SMAF4765A	765A	104	110	116	2.3	450	1	84	8.6
1SMAF4766A	766A	114	120	127	2.0	550	1	91	7.8
1SMAF4767A	767A	125	135	142	1.9	700	1	100	7.0
1SMAF4768A	768A	140	150	157	1.7	900	1	110	6.3
1SMAF4769A	769A	155	165	172	1.6	1100	1	120	5.8
1SMAF4770A	770A	170	180	191	1.4	1200	1	135	5.2
1SMAF4771A	771A	189	200	211	1.2	1400	1	150	4.7
1SMAF4772A	772A	209	220	231	1.0	1600	1	165	4.3
1SMAF4773A	773A	229	240	251	1.0	1800	1	180	3.9
1SMAF4774A	774A	249	260	271	1.0	2000	1	190	3.7
1SMAF4775A	775A	269	280	291	1.0	2100	1	205	3.4
1SMAF4776A	776A	289	300	315	1.0	2300	1	230	3.1
1SMAF4777A	777A	313	330	346	1.0	2500	1	250	2.8

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● **Ratings And Characteristics Curves** (Ta=25°C Unless otherwise specified)



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● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SMAF	R1	0.034	3000	12000	120000	7"
SMAF	R2	0.034	7500	15000	120000	11"
SMAF	R3	0.034	7500	/	120000	13"

● Package Outline Dimensions (SMAF)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.30	1.60	0.051	0.063
B	3.30	3.70	0.129	0.145
C	2.40	2.70	0.094	0.105
D	4.40	4.90	0.172	0.191
E	0.90	1.20	0.035	0.047
F	0.80	1.20	0.031	0.047
G	0.12	0.20	0.005	0.008

● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
M	1.80	-	0.070	-
J	1.60	-	0.063	-
K	-	2.2	-	0.086