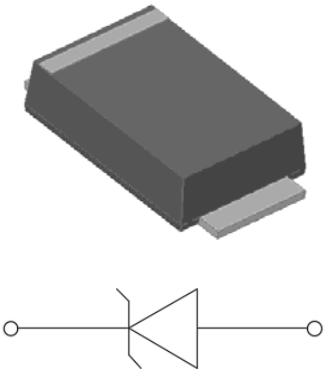
Surface Mount Zener Diodes



Features

- Low profile package
- Ideal for automated placement
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

Mechanical Data

- **Package**: SMAF
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

■Maximum Ratings (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MAX
DC power dissipation at TL = 75 °C	P_D	W	1
Maximum instantaneous forward voltage@ I_F=200mA	V_F	V	1.2
Maximum junction temperature	T_j	℃	-55 to +150
Storage temperature range	T_{stg}	℃	-55 to +150

■Thermal Characteristics (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Conditions	VALUE
Thermal resistance(Typical)	$R_{\theta J-L}$(1)	℃/W	junction to lead	30
	$R_{\theta J-A}$(1)	℃/W	junction to ambient	150

Note
(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

■Electrical Characteristics (Ta=25℃ Unless otherwise specified)

Part Number	Nominal Zener voltage			Test current	Maximum dynamic impedance resistance			Maximum reverse leakage current		Maximum Surge Current	Maximum DC Zener Current
	Min V_Z(1) at I_{ZT}	Typ. V_Z(1) at I_{ZT}	Max V_Z(1) at I_{ZT}	I_{ZT}	Z_{ZT} at I_{ZT}	Z_{ZK} at I_{ZK}	I_{ZK}	I_R	Test voltage V_R	I_{RM}(2)	I_{ZM}
	V	V	V	mA	Ω	Ω	mA	μA	V	mA	mA
SMAF4728A	3.14	3.3	3.47	76.0	10.0	500	1.00	100.0	1.0	1370	274.0
SMAF4729A	3.42	3.6	3.78	69.0	10.0	500	1.00	100.0	1.0	1255	251.0
SMAF4730A	3.71	3.9	4.10	64.0	9.0	500	1.00	50.0	1.0	1160	232.0
SMAF4731A	4.09	4.3	4.52	58.0	9.0	500	1.00	10.0	1.0	1050	210.0
SMAF4732A	4.47	4.7	4.94	53.0	8.0	500	1.00	10.0	1.0	960	192.0
SMAF4733A	4.85	5.1	5.36	49.0	7.0	550	1.00	10.0	1.0	885	177.0

Part Number	Nominal Zener voltage			Test current	Maximum dynamic impedance resistance			Maximum reverse leakage current		Maximum Surge Current	Maximum DC Zener Current
	Min V_Z[1] at I_{ZT}	Typ. V_Z[1] at I_{ZT}	Max V_Z[1] at I_{ZT}	I_{ZT}	Z_{ZT} at I_{ZT}	Z_{ZK} at I_{ZK}	I_{ZK}	I_R	Test voltage V_R	I_{RM}[2]	I_{ZM}
	V	V	V	mA	Ω	Ω	mA	μA	V	mA	mA
SMAF4734A	5.32	5.6	5.88	45.0	5.0	600	1.00	10.0	2.0	805	161.0
SMAF4735A	5.89	6.2	6.51	41.0	2.0	700	1.00	10.0	3.0	730	146.0
SMAF4736A	6.46	6.8	7.14	37.0	3.5	700	1.00	10.0	4.0	660	133.0
SMAF4737A	7.13	7.5	7.88	34.0	4.0	700	0.50	10.0	5.0	605	121.0
SMAF4738A	7.79	8.2	8.61	31.0	4.5	700	0.50	10.0	6.0	550	110.0
SMAF4739A	8.65	9.1	9.56	28.0	5.0	700	0.50	10.0	7.0	500	100.0
SMAF4740A	9.50	10.0	10.50	25.0	7.0	700	0.25	10.0	7.6	454	91.0
SMAF4741A	10.45	11.0	11.55	23.0	8.0	700	0.25	5.0	8.4	414	83.0
SMAF4742A	11.40	12.0	12.60	21.0	9.0	700	0.25	5.0	9.1	380	76.0
SMAF4743A	12.35	13.0	13.65	19.0	10.0	700	0.25	5.0	9.9	344	69.0
SMAF4744A	14.25	15.0	15.75	17.0	14.0	700	0.25	5.0	11.4	304	61.0
SMAF4745A	15.20	16.0	16.80	15.5	16.0	700	0.25	5.0	12.2	285	57.0
SMAF4746A	17.10	18.0	18.90	14.0	20.0	750	0.25	5.0	13.7	250	50.0
SMAF4747A	19.00	20.0	21.00	12.5	22.0	750	0.25	5.0	15.2	225	45.0
SMAF4748A	20.90	22.0	23.10	11.5	23.0	750	0.25	5.0	16.7	205	41.0
SMAF4749A	22.80	24.0	25.20	10.5	25.0	750	0.25	5.0	18.2	190	38.0
SMAF4750A	25.65	27.0	28.35	9.5	35.0	750	0.25	5.0	20.6	170	34.0
SMAF4751A	28.50	30.0	31.50	8.5	40.0	1000	0.25	5.0	22.8	150	30.0
SMAF4752A	31.35	33.0	34.65	7.5	45.0	1000	0.25	5.0	25.1	135	27.0
SMAF4753A	34.20	36.0	37.80	7.0	50.0	1000	0.25	5.0	27.4	125	25.0
SMAF4754A	37.05	39.0	40.95	6.5	60.0	1000	0.25	5.0	29.7	115	23.0
SMAF4755A	40.85	43.0	45.15	6.0	70.0	1500	0.25	5.0	32.7	110	22.0
SMAF4756A	44.65	47.0	49.35	5.5	80.0	1500	0.25	5.0	35.8	95	19.0
SMAF4757A	48.45	51.0	53.55	5.0	95.0	1500	0.25	5.0	38.8	90	18.0
SMAF4758A	53.20	56.0	58.80	4.5	110.0	2000	0.25	5.0	42.6	80	16.0
SMAF4759A	58.90	62.0	65.10	4.0	125.0	2000	0.25	5.0	47.1	70	14.0
SMAF4760A	64.60	68.0	71.40	3.7	150.0	2000	0.25	5.0	51.7	65	13.0
SMAF4761A	71.25	75.0	78.75	3.3	175.0	2000	0.25	5.0	56.0	60	12.0
SMAF4762A	77.90	82.0	86.10	3.0	200.0	3000	0.25	5.0	62.2	55	11.0
SMAF4763A	86.45	91.0	95.55	2.8	250.0	3000	0.25	5.0	69.2	50	10.0
SMAF4764A	95.00	100.0	105.00	2.5	350.0	3000	0.25	5.0	76.0	45	9.0

Notes:

（1）Nominal Zener voltage Range：95% Typ.Vz (1)at Izt----105% Typ.Vz (1)at Izt

（2）Surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on IZT per JEDEC method

■ **Characteristics** (Typical)

FIG1: Power Temperature Derating Crue

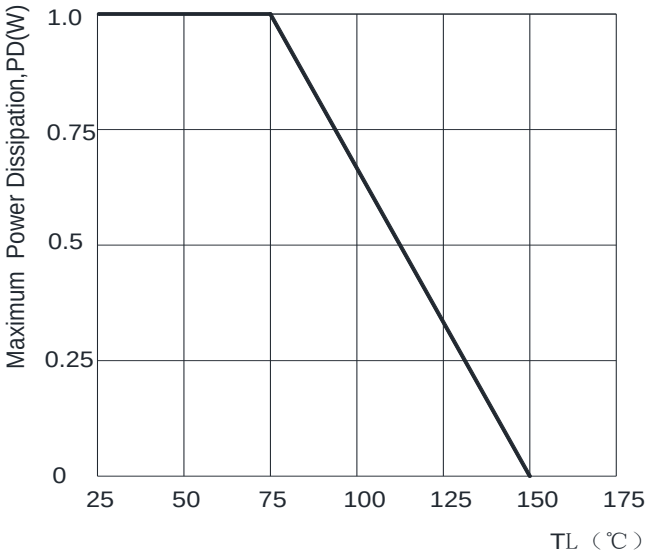


FIG2: Typical Temperature Coefficients

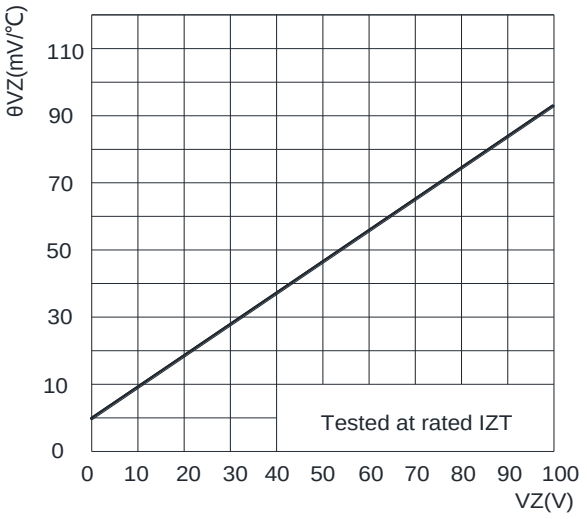


FIG3:Typical Instantaneous Forward Characteristics

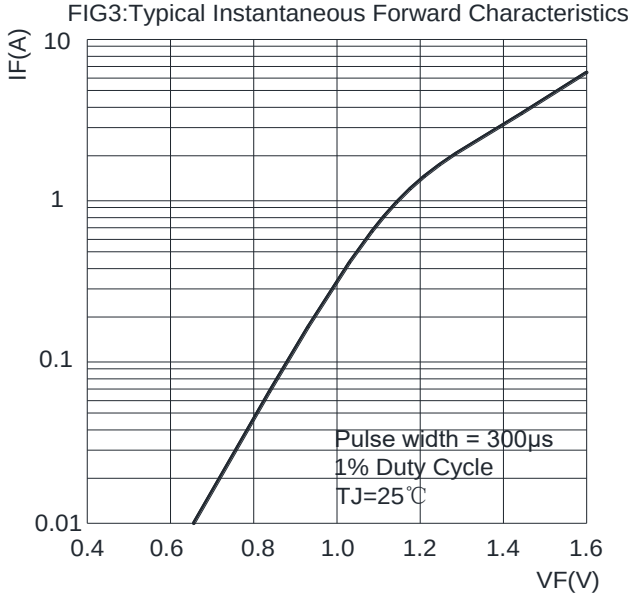
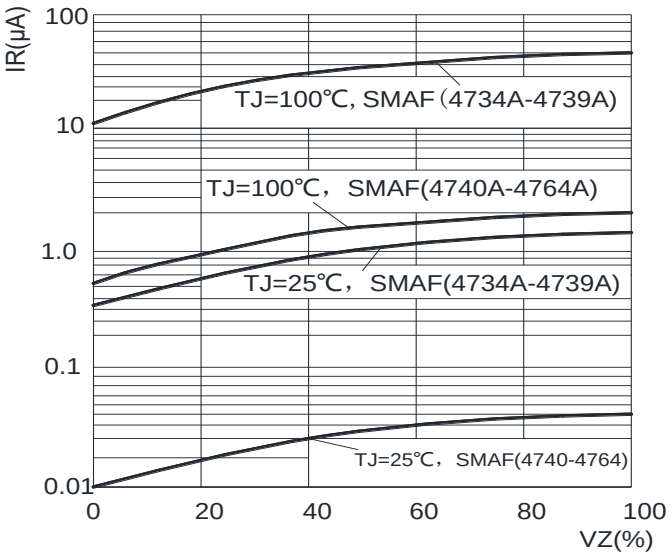


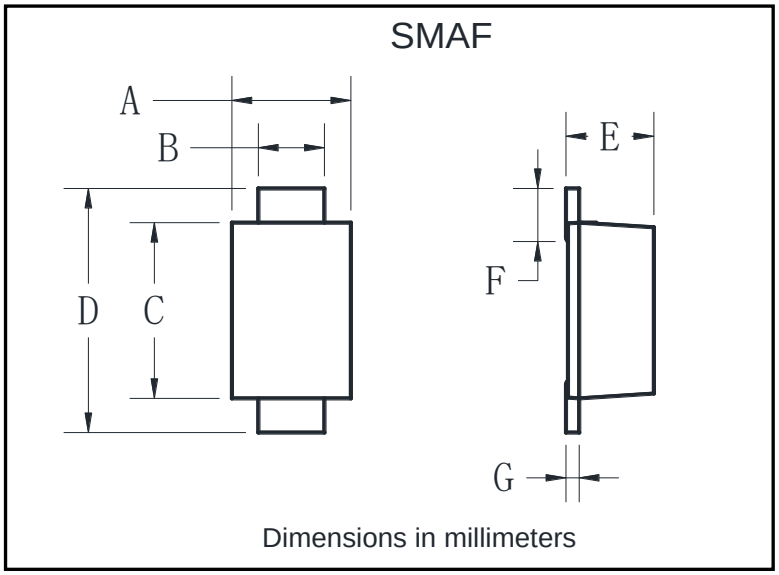
FIG4:Typical Reverse Characteristics



■**Ordering Information** (Example)

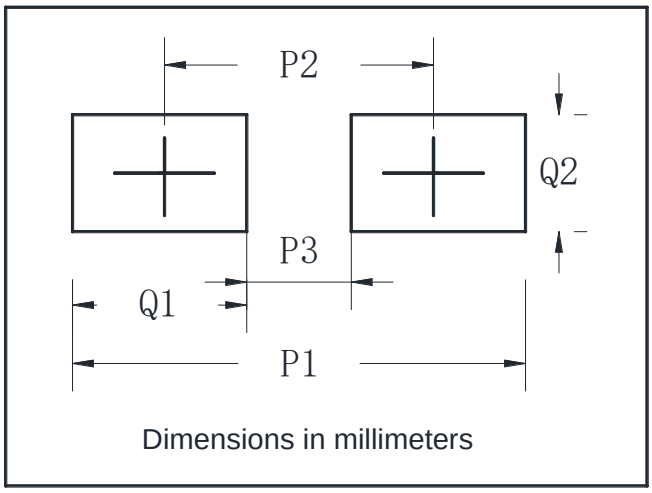
PREFERED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SMAF47XXA SERIES	F1	Approximate 0.034	3000	24000	96000	13” reel

■ Outline Dimensions



SMAF		
Dim	Min	Max
A	2.40	2.80
B	1.35	1.45
C	3.40	3.60
D	4.40	4.80
E	1.05	1.25
F	0.50	1.00
G	0.16	0.25

■Suggested Pad Layout



SMAF	
Dim	Millimeters
P1	6.50
P2	4.00
P3	1.50
Q1	2.50
Q2	1.70

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