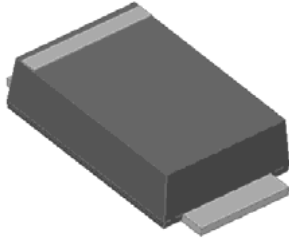


Surface Mount Zener Diodes

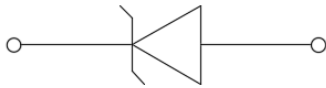


Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- Fast switching for high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Part no. with suffix "Q" means AEC-Q101 qualified

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 (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MAX
DC power dissipation at T _L = 75 °C	P _D	W	1
Maximum instantaneous forward voltage@ I _F =200mA	V _F	V	1.2
Maximum junction temperature	T _j	°C	-55 to +150
Storage temperature range	T _{stg}	°C	-55 to +150

■Thermal Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Conditions	VALUE
Thermal resistance(Typical)	R _{θJ-L} ⁽¹⁾	°C/W	junction to lead	30
	R _{θJ-A} ⁽¹⁾	°C/W	junction to ambient	120

Note: Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 3mm*3mm.

■Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SMAF4735AQ ~ SMAF4764AQ	F1	0.034	3000	24000	96000	7" reel



SMAF4735AQ THRU SMAF4764AQ

■Electrical Characteristics (Ta=25°C unless otherwise noted)

Part Number	Nominal Zener voltage			Test current	Maximum dynamic impedance resistance			Maximum reverse leakage 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 _{KT} at I _{ZT}	Z _{KK} at I _{ZK}	I _{ZK}	I _R	Test voltage V _R	I _{ZM}
	V	V	V	mA	Ω	Ω	mA	μA	V	mA
SMAF4735AQ	5.89	6.2	6.51	41.0	2.0	700	1.00	10.0	3.0	146.0
SMAF4736AQ	6.46	6.8	7.14	37.0	3.5	700	1.00	10.0	4.0	133.0
SMAF4737AQ	7.13	7.5	7.88	34.0	4.0	700	0.50	10.0	5.0	121.0
SMAF4738AQ	7.79	8.2	8.61	31.0	4.5	700	0.50	10.0	6.0	110.0
SMAF4739AQ	8.65	9.1	9.56	28.0	5.0	700	0.50	10.0	7.0	100.0
SMAF4740AQ	9.50	10.0	10.50	25.0	7.0	700	0.25	10.0	7.6	91.0
SMAF4741AQ	10.45	11.0	11.55	23.0	8.0	700	0.25	5.0	8.4	83.0
SMAF4742AQ	11.40	12.0	12.60	21.0	9.0	700	0.25	5.0	9.1	76.0
SMAF4743AQ	12.35	13.0	13.65	19.0	10.0	700	0.25	5.0	9.9	69.0
SMAF4744AQ	14.25	15.0	15.75	17.0	14.0	700	0.25	5.0	11.4	61.0
SMAF4745AQ	15.20	16.0	16.80	15.5	16.0	700	0.25	5.0	12.2	57.0
SMAF4746AQ	17.10	18.0	18.90	14.0	20.0	750	0.25	5.0	13.7	50.0
SMAF4747AQ	19.00	20.0	21.00	12.5	22.0	750	0.25	5.0	15.2	45.0
SMAF4748AQ	20.90	22.0	23.10	11.5	23.0	750	0.25	5.0	16.7	41.0
SMAF4749AQ	22.80	24.0	25.20	10.5	25.0	750	0.25	5.0	18.2	38.0
SMAF4750AQ	25.65	27.0	28.35	9.5	35.0	750	0.25	5.0	20.6	34.0
SMAF4751AQ	28.50	30.0	31.50	8.5	40.0	1000	0.25	5.0	22.8	30.0
SMAF4752AQ	31.35	33.0	34.65	7.5	45.0	1000	0.25	5.0	25.1	27.0
SMAF4753AQ	34.20	36.0	37.80	7.0	50.0	1000	0.25	5.0	27.4	25.0
SMAF4754AQ	37.05	39.0	40.95	6.5	60.0	1000	0.25	5.0	29.7	23.0
SMAF4755AQ	40.85	43.0	45.15	6.0	70.0	1500	0.25	5.0	32.7	22.0
SMAF4756AQ	44.65	47.0	49.35	5.5	80.0	1500	0.25	5.0	35.8	19.0
SMAF4757AQ	48.45	51.0	53.55	5.0	95.0	1500	0.25	5.0	38.8	18.0
SMAF4758AQ	53.20	56.0	58.80	4.5	110.0	2000	0.25	5.0	42.6	16.0
SMAF4759AQ	58.90	62.0	65.10	4.0	125.0	2000	0.25	5.0	47.1	14.0
SMAF4760AQ	64.60	68.0	71.40	3.7	150.0	2000	0.25	5.0	51.7	13.0
SMAF4761AQ	71.25	75.0	78.75	3.3	175.0	2000	0.25	5.0	56.0	12.0
SMAF4762AQ	77.90	82.0	86.10	3.0	200.0	3000	0.25	5.0	62.2	11.0
SMAF4763AQ	86.45	91.0	95.55	2.8	250.0	3000	0.25	5.0	69.2	10.0
SMAF4764AQ	95.00	100.0	105.00	2.5	350.0	3000	0.25	5.0	76.0	9.0

Notes:

(1) Nominal Zener voltage Range: 95% Typ.V_Z (1)at I_{ZT}----105% Typ.V_Z (1)at I_{ZT}



SMAF4735AQ THRU SMAF4764AQ

■ Characteristics (Typical)

Fig1 : Power Temperature Derating Curve

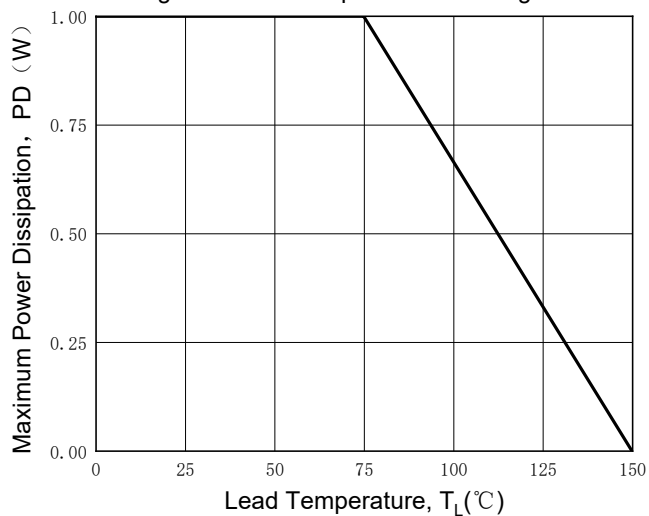


Fig2 : Typical Zener Breakdown Characteristics

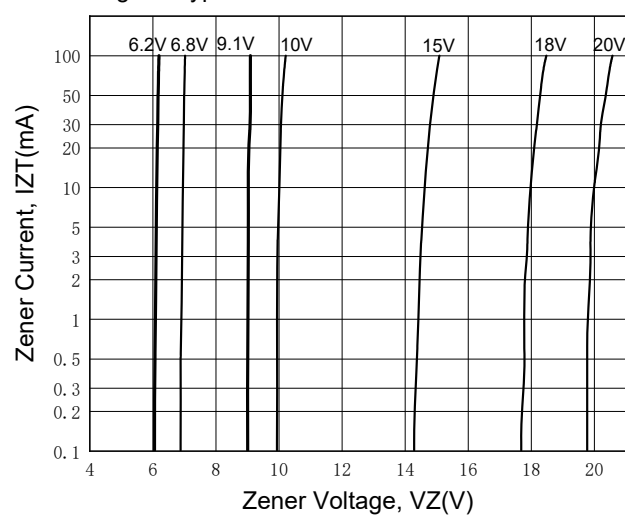
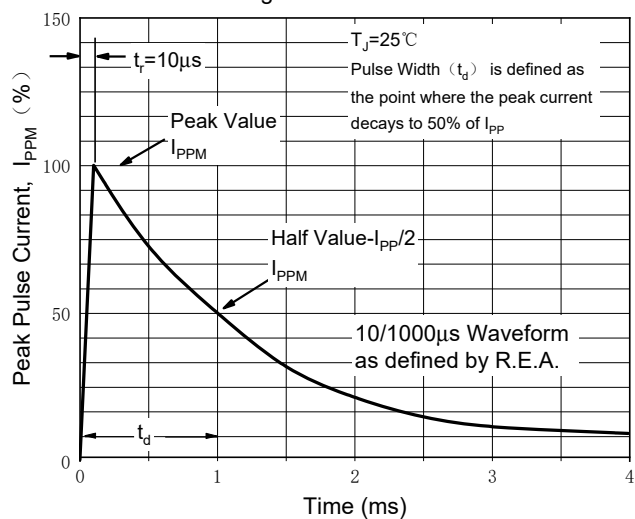


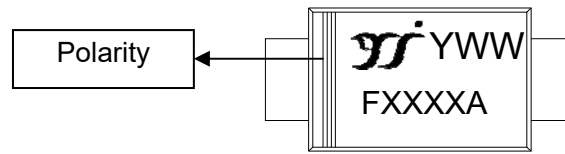
Fig.3 Pulse Waveform





SMAF4735AQ THRU SMAF4764AQ

■ Marking Information



Note:

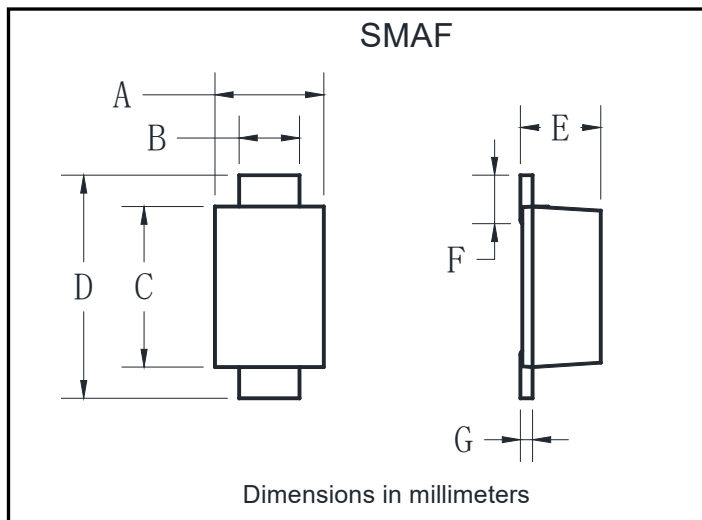
1. All marking is at middle of the product body
2. All marking is in laser printing
3. FXXXXA is marking code, like SMAF4735AQ marking code is F4735A
4. Body color: Black
5. YWW is date code, "Y" is year. "WW" is week.

For instance:

The 45th week of 2021, date code is 145

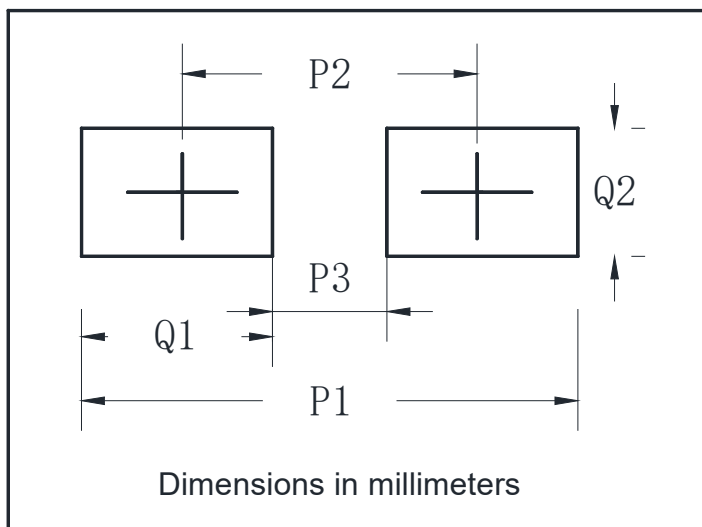
The 45th week of 2022, date code is 245

■ 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



SMAF4735AQ THRU SMAF4764AQ

Disclaimer

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