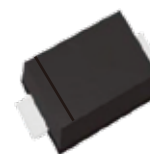


FEATURES

- | Glass passivated chip
- | Built-in strain relief
- | Low inductance
- | High peak reverse power dissipation
- | Low reverse leakage
- | For use in stabilizing and clipping with high power rating
- | Meet AEC-Q101 Requirements



SOD-123FL



Schematic Symbol

MECHANICAL DATA

- | Case : Molded plastic body
- | Polarity : Polarity symbol marking on body
- | Mounting Position : Any

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

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

Parameter	Symbol	Value	Unit
DC Power dissipation at $T_L = 75^{\circ}\text{C}^{(1)}$	P_D	1.0	W
Maximum forward voltage at $I_F=200\text{mA}$	V_F	1.2	V
Junction temperature range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$
Storage temperature range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$

Note:

(1) T_L =Lead temperature at 3/8" (9.5mm) from body

ELECTRICAL CHARACTERISTICS

Part Number	Device Marking Code	Nominal Zener Voltage @I _T			I _{ZT} (mA)	Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
		V _{Z AVE.} (V)	V _{Z MIN.} (V)	V _{Z MAX.} (V)		Z _{ZT MAX.} (Ω) @I _{ZT}	Z _{ZK MAX.} (Ω) @I _{ZK}	I _{ZK} (mA)	I _R (uA)@V _R	V _R (V)	
SMF4728AQ	28A	3.3	3.14	3.47	76.0	10.0	400.0	1.00	100.0	1.0	274.0
SMF4729AQ	29A	3.6	3.42	3.78	69.0	10.0	400.0	1.00	100.0	1.0	251.0
SMF4730AQ	30A	3.9	3.71	4.10	64.0	9.0	400.0	1.00	50.0	1.0	232.0
SMF4731AQ	31A	4.3	4.09	4.52	58.0	9.0	400.0	1.00	10.0	1.0	210.0
SMF4732AQ	32A	4.7	4.47	4.94	53.0	8.0	500.0	1.00	10.0	1.0	192.0
SMF4733AQ	33A	5.1	4.85	5.36	49.0	7.0	550.0	1.00	10.0	1.0	177.0
SMF4734AQ	34A	5.6	5.32	5.88	45.0	5.0	600.0	1.00	10.0	2.0	161.0
SMF4735AQ	35A	6.2	5.89	6.51	41.0	2.0	700.0	1.00	10.0	3.0	146.0
SMF4736AQ	36A	6.8	6.46	7.14	37.0	4.0	700.0	1.00	10.0	4.0	133.0
SMF4737AQ	37A	7.5	7.13	7.88	34.0	4.0	700.0	0.50	10.0	5.0	121.0
SMF4738AQ	38A	8.2	7.79	8.61	31.0	5.0	700.0	0.50	10.0	6.0	110.0
SMF4739AQ	39A	9.1	8.65	9.56	28.0	5.0	700.0	0.50	10.0	7.0	100.0
SMF4740AQ	40A	10.0	9.50	10.50	25.0	7.0	700.0	0.25	10.0	7.6	91.0
SMF4741AQ	41A	11.0	10.45	11.55	23.0	8.0	700.0	0.25	0.5	8.4	83.0
SMF4742AQ	42A	12.0	11.40	12.60	21.0	9.0	700.0	0.25	0.5	9.1	76.0
SMF4743AQ	43A	13.0	12.35	13.65	19.0	10.0	700.0	0.25	0.5	9.9	69.0
SMF4744AQ	44A	15.0	14.25	15.75	17.0	14.0	700.0	0.25	0.5	11.4	61.0
SMF4745AQ	45A	16.0	15.20	16.80	15.5	16.0	700.0	0.25	0.5	12.2	57.0
SMF4746AQ	46A	18.0	17.10	18.90	14.0	20.0	750.0	0.25	0.5	13.7	50.0
SMF4747AQ	47A	20.0	19.00	21.00	12.5	22.0	750.0	0.25	0.5	15.2	45.0
SMF4748AQ	48A	22.0	20.90	23.10	11.5	23.0	750.0	0.25	0.5	16.7	41.0
SMF4749AQ	49A	24.0	22.80	25.20	10.5	25.0	750.0	0.25	0.5	18.2	38.0
SMF4750AQ	50A	27.0	25.65	28.35	9.5	35.0	750.0	0.25	0.5	20.6	34.0
SMF4751AQ	51A	30.0	28.50	31.50	8.5	40.0	1000.0	0.25	0.5	22.8	30.0
SMF4752AQ	52A	33.0	31.35	34.65	7.5	45.0	1000.0	0.25	0.5	25.1	27.0
SMF4753AQ	53A	36.0	34.20	37.80	7.0	50.0	1000.0	0.25	0.5	27.4	25.0
SMF4754AQ	54A	39.0	37.05	40.95	6.5	60.0	1000.0	0.25	0.5	29.7	23.0
SMF4755AQ	55A	43.0	40.85	45.15	6.0	70.0	1500.0	0.25	0.5	32.7	22.0
SMF4756AQ	56A	47.0	44.65	49.35	5.5	80.0	1500.0	0.25	0.5	35.8	19.0
SMF4757AQ	57A	51.0	48.45	53.55	5.0	95.0	1500.0	0.25	0.5	38.8	18.0
SMF4758AQ	58A	56.0	53.20	58.80	4.5	110.0	2000.0	0.25	0.5	42.6	16.0

Part Number	Device Marking Code	Nominal Zener Voltage @ I_T			I_{ZT} (mA)	Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
		$V_{Z AVE.}$ (V)	$V_{Z MIN.}$ (V)	$V_{Z MAX.}$ (V)		$Z_{ZT MAX.}$ (Ω) @ I_{ZT}	$Z_{ZK MAX.}$ (Ω) @ I_{ZK}	I_{ZK} (mA)	I_R (uA) @ V_R	V_R (V)	
SMF4759AQ	59A	62.0	58.90	65.10	4.0	125.0	2000.0	0.25	0.5	47.1	14.0
SMF4760AQ	60A	68.0	64.60	71.40	3.7	150.0	2000.0	0.25	0.5	51.7	13.0
SMF4761AQ	61A	75.0	71.25	78.75	3.3	175.0	2000.0	0.25	0.5	56.0	12.0
SMF4762AQ	62A	82.0	77.90	86.10	3.0	200.0	3000.0	0.25	0.5	62.2	11.0
SMF4763AQ	63A	91.0	86.45	95.55	2.8	250.0	3000.0	0.25	0.5	69.2	10.0
SMF4764AQ	64A	100.0	95.00	105.00	2.5	350.0	3000.0	0.25	0.5	76.0	9.0
SZF1110AQ	11Z	110.0	104.50	115.50	2.3	450.0	4000.0	0.25	0.5	83.6	8.6
SZF1120AQ	12Z	120.0	114.00	126.00	2.0	550.0	4500.0	0.25	0.5	91.2	7.8
SZF1130AQ	13Z	130.0	123.50	136.50	1.9	700.0	5000.0	0.25	0.5	98.8	7.0
SZF1150AQ	15Z	150.0	142.50	157.50	1.7	1000.0	6000.0	0.25	0.5	114.0	6.4
SZF1160AQ	16Z	160.0	152.00	168.00	1.6	1100.0	6500.0	0.25	0.5	121.6	5.8
SZF1180AQ	18Z	180.0	171.00	189.00	1.4	1200.0	7000.0	0.25	0.5	136.8	5.2
SZF1200AQ	20Z	200.0	190.00	210.00	1.2	1900.0	9990.0	0.25	0.5	152.0	4.7

CHARACTERISTIC CURVES

Fig.1-Power Temperature Derating Curve

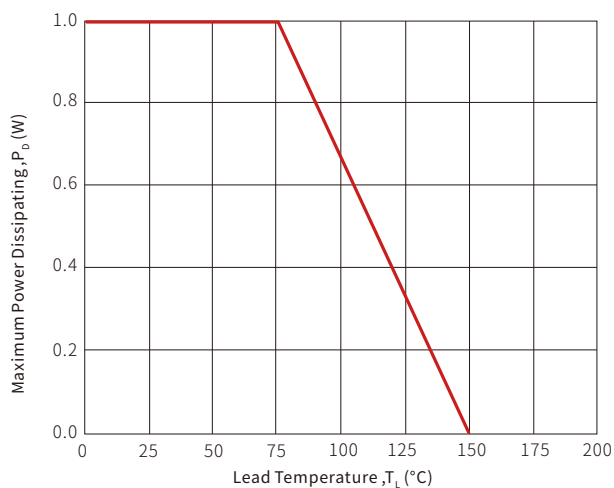


Fig.2-Temperature Coefficients v.s. Zener Voltage

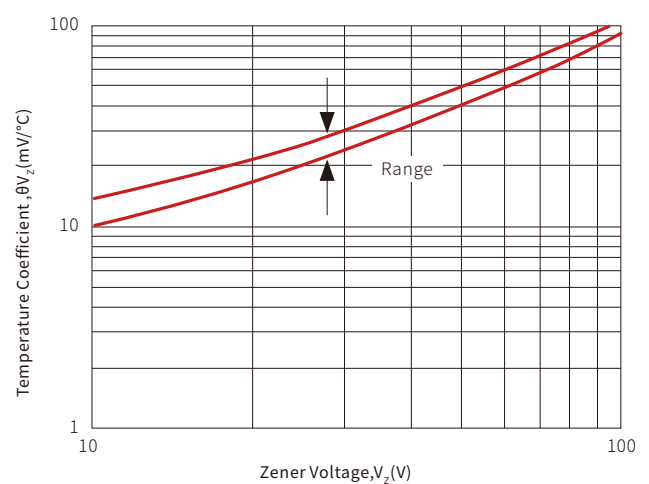
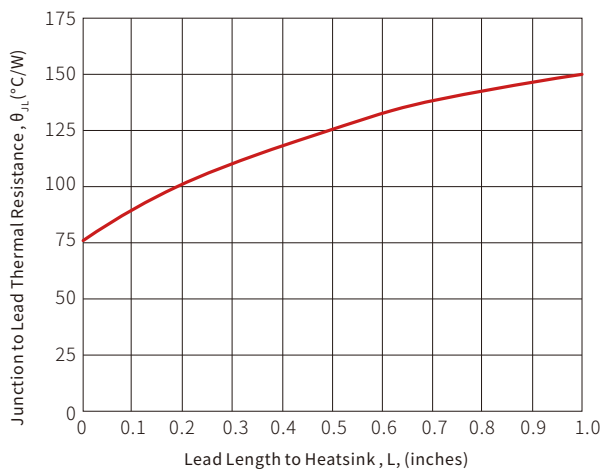
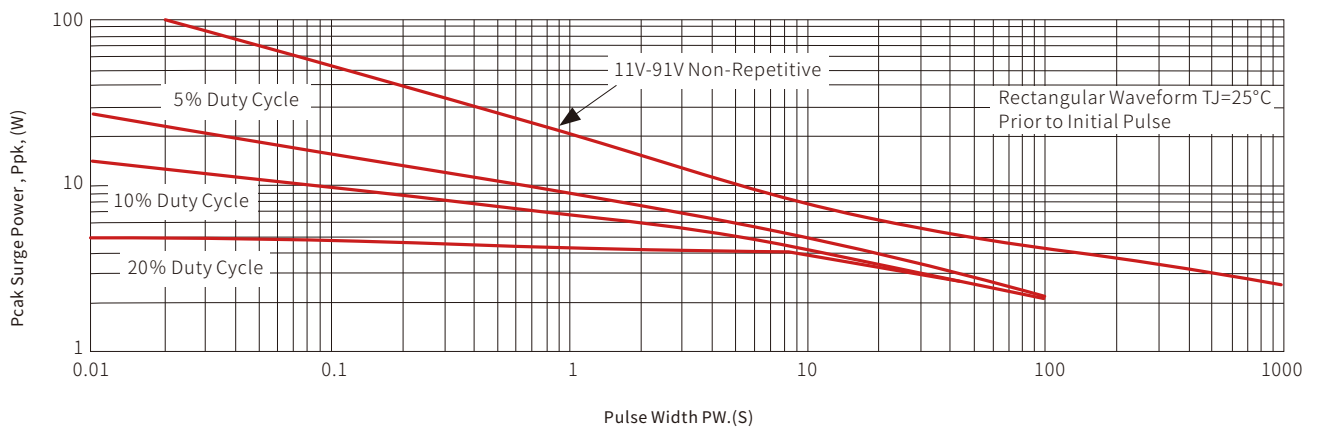
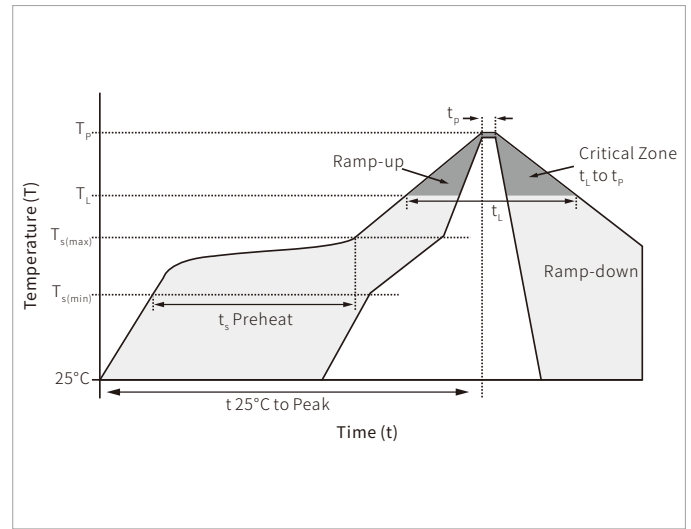


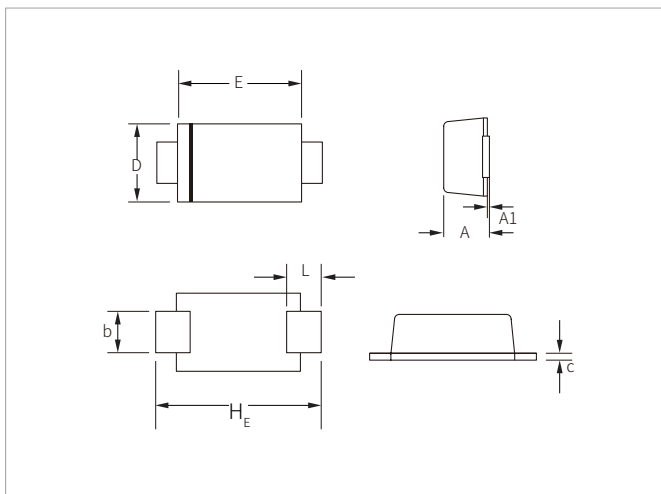
Fig.3-Typical Thermal Resistance v.s. Lead Length

Fig.4-Maximum Surge Power


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

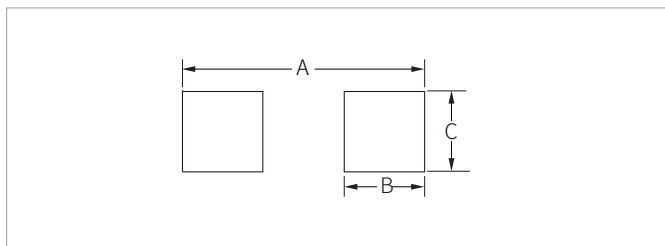


SOD-123FL PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.95	1.45	0.037	0.057
A1	0.00	0.10	0.000	0.004
b	0.70	1.20	0.028	0.047
c	0.05	0.30	0.002	0.012
D	1.50	2.00	0.059	0.079
E	2.50	3.10	0.098	0.122
L	0.35	0.90	0.014	0.035
H _E	3.40	3.90	0.134	0.154

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
A	4.20	0.165
B	1.50	0.059
C	1.20	0.047

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SMF47xxAQ Series	SOD-123FL	3000PCS	7"

Headquarters

No.3387 Shendu Road
Pujiang I&E Park
Minhang Shanghai China
201000

Hotline

400-021-5756

Web

<https://www.semiware.com>

Sales Center

Tel: 86-21-3463-7458
Email: sales18@semiware.com

Customer Service

Tel: 86-21-5484-1001
Email: sales17@semiware.com

Technical Support

Tel: 86-21-3463-7654
Email: fae01@semiware.com

Complaint & Suggestions

Tel: 86-21-3463-7172
Ext: 8868
Email: cs03@semiware.com

By QR Code

Website



Wechat

To find your local partner within Semiware's global website: www.semiware.com

© 2022 Semiware Semiconductor Inc.

The content of this document has been carefully checked and understood. However, neither Semiware nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Semiware does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Chinese law and resulting disputes shall be settled by the courts at the place of business of Semiware. Latest publications and a complete disclaimer can be downloaded from the Semiware website. All trademarks recognized.