

Silicon Planar Zener Diodes

FEATURES

- ◆ Total power dissipation: Max. 1 W.
- ◆ Wide zener reverse voltage range 3.3V to 330V.
- ◆ Small plastic package suitable for surface mounted design.
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

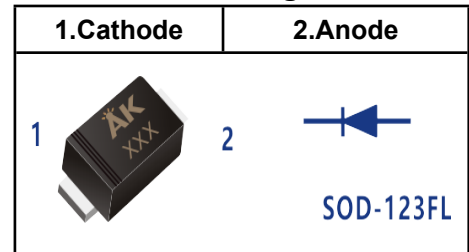
- ◆ Case: SOD-123FL
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 15mg /0.00048oz

Absolute Maximum Ratings And Characteristics (Ta = 25 °C)

Parameter	Symbol	Value	Unit
Power Dissipation at TL=75°C	P _D	1	W
Forward Voltage at I _F = 200 mA	V _F	1.2	V
Typical thermal resistance junction to ambient ⁽¹⁾	R _{θJA}	55	°C/W
Operating and Storage Temperature Range	T _j , T _{stg}	-55 ~ +150	°C

(1) Thermal resistance from junction to ambient at P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper areas pads.

Pinning



RoHS
COMPLIANT
HALOGEN
FREE

Fig.1 Maximum Continuous Power Derating

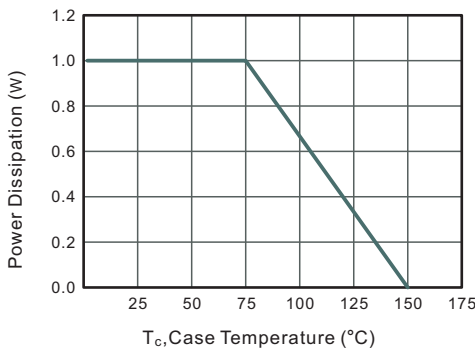
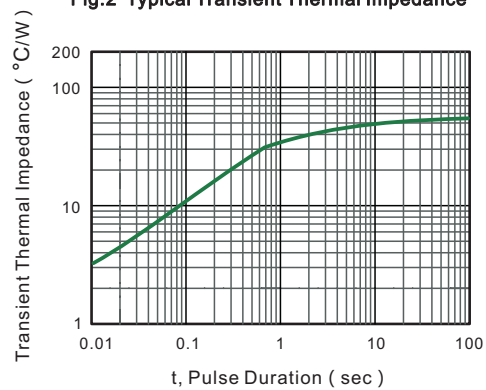


Fig.2 Typical Transient Thermal Impedance





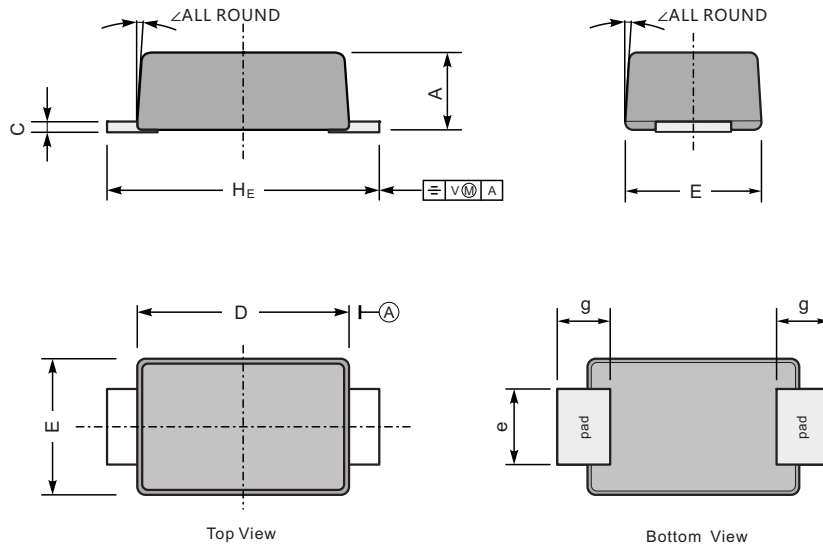
Characteristics at Ta = 25°C

Type	Marking	Zener Voltage Range ⁽¹⁾			I _{ZT} (mA)	Dynamic Impedance Z _{ZT} (at I _{ZT}) Max (Ω)	Reverse Current		Admissible Zener Current I _{ZM} (mA)
		V _{ZT} (at I _{ZT})					I _R Max (μA)	at V _R (V)	
		Min (V)	Nom (V)	Max (V)					
MM1W3V3	FHD	3.10	3.3	3.50	75	10	100	1	285
MM1W3V6	FHE	3.40	3.6	3.80	69	10	100	1	263
MM1W3V9	FHF	3.70	3.9	4.10	64	9.0	50	1	243
MM1W4V3	FHG	4.06	4.3	4.56	58	9.0	25	1	219
MM1W4V7	FHJ	4.50	4.7	4.93	53	8.0	10	1	203
MM1W5V1	FHK	4.84	5.1	5.36	49	7.0	10	1	186
MM1W5V6	FHL	5.32	5.6	5.92	45	5.0	10	2	170
MM1W6V2	FHN	5.86	6.2	6.51	41	2.0	10	3	154
MM1W6V8	FHO	6.46	6.8	7.18	37	3.5	10	4	140
MM1W7V5	FHQ	7.12	7.5	7.88	34	4.0	10	5	127
MM1W8V2	FHR	7.79	8.2	8.67	31	4.5	10	6	116
MM1W9V1	FHT	8.60	9.1	9.59	28	5.0	10	7	104
MM1W10	FHU	9.50	10	10.5	25	7.0	10	7	95
MM1W11	FHV	10.4	11	11.6	23	8.0	5	8	86
MM1W12	FHW	11.4	12	12.6	21	9.0	5	9	79
MM1W13	FHX	12.4	13	14.1	19	10	5	10	71
MM1W15	FHZ	13.8	15	15.8	17	14	5	11	63
MM1W16	FJA	15.2	16	17.1	16	16	5	12	58
MM1W18	FJF	16.8	18	19.2	14	20	5	13	52
MM1W20	FJG	19.0	20	21.2	13	22	5	15	47
MM1W22	FJK	20.8	22	23.3	12	23	5	17	43
MM1W24	FJL	22.8	24	26.0	11	25	5	18	38
MM1W27	FJN	25.3	27	28.9	9.5	35	5	21	35
MM1W30	FJQ	28.2	30	32.0	8.5	40	5	23	31
MM1W33	FJR	31.3	33	34.9	7.5	45	5	25	28
MM1W36	FJS	34.2	36	37.9	7.0	50	5	27	26
MM1W39	FJT	37.2	39	41.5	6.5	60	5	30	24
MM1W43	FLG	40.9	43	45.6	6.0	70	1	32	22
MM1W47	FLJ	44.9	47	49.8	5.5	80	1	35	20
MM1W51	FLK	48.6	51	54.0	5.0	95	1	38	18
MM1W56	FLL	53.6	56	58.8	4.5	110	1	42	17
MM1W62	FLN	58.9	62	65.6	4.0	125	1	47	15
MM1W68	FLO	64.6	68	71.7	3.7	150	1	52	14
MM1W75	FLQ	71.2	75	78.8	3.3	175	1	56	12
MM1W82	FLR	77.9	82	87.0	3.0	200	1	62	11
MM1W91	FLT	86.0	91	96.0	2.8	250	1	69	10
MM1W100	FLU	95.0	100	105	2.5	350	1	76	9.5
MM1W110	FLV	104	110	116	2.3	450	1	84	8.6
MM1W120	FLW	114	120	127	2.0	550	1	91	7.8
MM1W135	FLX	125	135	142	1.9	700	1	100	7.0
MM1W150	FLZ	140	150	157	1.7	900	1	110	6.3
MM1W165	FPA	155	165	172	1.6	1100	1	120	5.8
MM1W180	FPF	170	180	191	1.4	1200	1	135	5.2
MM1W200	FPG	189	200	211	1.2	1400	1	150	4.7
MM1W220	FPK	209	220	231	1.0	1600	1	165	4.3
MM1W240	FPL	229	240	251	1.0	1800	1	180	3.9
MM1W260	FPM	249	260	271	1.0	2000	1	190	3.7
MM1W280	FPN	269	280	291	1.0	2100	1	205	3.4
MM1W300	FPQ	289	300	315	1.0	2300	1	230	3.1
MM1W330	FLR	313	330	346	1.0	2500	1	250	2.8

(1) V_{ZT} is tested with pulses (20 ms)

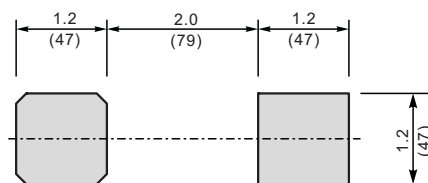
Package Outline SOD-123FL

Plastic surface mounted package; 2 leads



UNIT		A	C	D	E	e	g	H_E	\angle
mm	max	1.3	0.20	2.9	1.9	1.1	0.9	3.8	7°
	min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	max	43	7.9	114	75	43	35	150	
	min	35	4.7	102	67	31	28	138	

The recommended mounting pad size



Unit: $\frac{\text{mm}}{\text{(mil)}}$

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOD-123FL	Tape/Reel, 13" reel	10000	EIA-481-1
	Tape/Reel, 7" reel	3000	EIA-481-1