3.3V to 200V 1.0W Zener Diode

Description

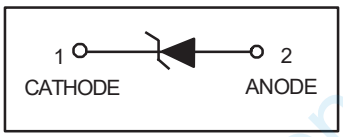
Type OVZSMF47xxA & OVZSZF1xxxA series are 2-pin SOD123FL package zener diodes possessing an allowable power dissipation of 1.0 Watt.

Features

- ✧ zener voltage from 3.3V to 200V
- ✧ 1.0 Watt Power Dissipation
- ✧ Standard zener voltage tolerance is ± 5%.

Applications

- ✧ Circuits for Constant Voltage
- ✧ Constant Current, Waveform clipper
- ✧ Surge absorber



Circuit Diagram



SOD123FL

Absolute Maximum Rating （T_A = 25 °C, unless otherwise specified）

Parameter	Symbols	Value	Unit
DC Power dissipation at TL = 75 °C(1)	P_D	1.0	W
Maximum forward voltage at if=200mA	V_F	1.2	V
Junction temperature range	T_J , T_{STG}	-55 to +150	℃
Storage temperature range	T_J , T_{STG}	-55 to +150	℃

Note：

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

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Electrical Characteristics （T_A = 25 °C, unless otherwise specified, V_F = 1.2 V Max. IF = 10 mA for all types）

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)	I_{ZM} (mA)
OVZSMF4728A	28A	3.3	3.14	3.47	76.0	10.0	400.0	1.00	100.0	1.0	274.0
OVZSMF4729A	29A	3.6	3.42	3.78	69.0	10.0	400.0	1.00	100.0	1.0	251.0
OVZSMF4730A	30A	3.9	3.71	4.10	64.0	9.0	400.0	1.00	50.0	1.0	232.0
OVZSMF4731A	31A	4.3	4.09	4.52	58.0	9.0	400.0	1.00	10.0	1.0	210.0
OVZSMF4732A	32A	4.7	4.47	4.94	53.0	8.0	500.0	1.00	10.0	1.0	192.0
OVZSMF4733A	33A	5.1	4.85	5.36	49.0	7.0	550.0	1.00	10.0	1.0	177.0
OVZSMF4734A	34A	5.6	5.32	5.88	45.0	5.0	600.0	1.00	10.0	2.0	161.0
OVZSMF4735A	35A	6.2	5.89	6.51	41.0	2.0	700.0	1.00	10.0	3.0	146.0
OVZSMF4736A	36A	6.8	6.46	7.14	37.0	3.5	700.0	1.00	10.0	4.0	133.0
OVZSMF4737A	37A	7.5	7.13	7.88	34.0	4.0	700.0	0.50	10.0	5.0	121.0
OVZSMF4738A	38A	8.2	7.79	8.61	31.0	4.5	700.0	0.50	10.0	6.0	110.0
OVZSMF4739A	39A	9.1	8.65	9.56	28.0	5.0	700.0	0.50	10.0	7.0	100.0
OVZSMF4740A	40A	10.0	9.50	10.50	25.0	7.0	700.0	0.25	10.0	7.6	91.0
OVZSMF4741A	41A	11.0	10.45	11.55	23.0	8.0	700.0	0.25	0.5	8.4	83.0
OVZSMF4742A	42A	12.0	11.40	12.60	21.0	9.0	700.0	0.25	0.5	9.1	76.0
OVZSMF4743A	43A	13.0	12.35	13.65	19.0	10.0	700.0	0.25	0.5	9.9	69.0
OVZSMF4744A	44A	15.0	14.25	15.75	17.0	14.0	700.0	0.25	0.5	11.4	61.0
OVZSMF4745A	45A	16.0	15.20	16.80	15.5	16.0	700.0	0.25	0.5	12.2	57.0
OVZSMF4746A	46A	18.0	17.10	18.90	14.0	20.0	750.0	0.25	0.5	13.7	50.0
OVZSMF4747A	47A	20.0	19.00	21.00	12.5	22.0	750.0	0.25	0.5	15.2	45.0
OVZSMF4748A	48A	22.0	20.90	23.10	11.5	23.0	750.0	0.25	0.5	16.7	41.0
OVZSMF4749A	49A	24.0	22.80	25.20	10.5	25.0	750.0	0.25	0.5	18.2	38.0
OVZSMF4750A	50A	27.0	25.65	28.35	9.5	35.0	750.0	0.25	0.5	20.6	34.0
OVZSMF4751A	51A	30.0	28.50	31.50	8.5	40.0	1000.0	0.25	0.5	22.8	30.0
OVZSMF4752A	52A	33.0	31.35	34.65	7.5	45.0	1000.0	0.25	0.5	25.1	27.0
OVZSMF4753A	53A	36.0	34.20	37.80	7.0	50.0	1000.0	0.25	0.5	27.4	25.0
OVZSMF4754A	54A	39.0	37.05	40.95	6.5	60.0	1000.0	0.25	0.5	29.7	23.0
OVZSMF4755A	55A	43.0	40.85	45.15	6.0	70.0	1500.0	0.25	0.5	32.7	22.0
OVZSMF4756A	56A	47.0	44.65	49.35	5.5	80.0	1500.0	0.25	0.5	35.8	19.0
OVZSMF4757A	57A	51.0	48.45	53.55	5.0	95.0	1500.0	0.25	0.5	38.8	18.0
OVZSMF4758A	58A	56.0	53.20	58.80	4.5	110.0	2000.0	0.25	0.5	42.6	16.0
OVZSMF4759A	59A	62.0	58.90	65.10	4.0	125.0	2000.0	0.25	0.5	47.1	14.0
OVZSMF4760A	60A	68.0	64.60	71.40	3.7	150.0	2000.0	0.25	0.5	51.7	13.0
OVZSMF4761A	61A	75.0	71.25	78.75	3.3	175.0	2000.0	0.25	0.5	56.0	12.0
OVZSMF4762A	62A	82.0	77.90	86.10	3.0	200.0	3000.0	0.25	0.5	62.2	11.0
OVZSMF4763A	63A	91.0	86.45	95.55	2.8	250.0	3000.0	0.25	0.5	69.2	10.0
OVZSMF4764A	64A	100.0	95.00	105.00	2.5	350.0	3000.0	0.25	0.5	76.0	9.0
OVZSZF1110A	11Z	110.0	104.50	115.50	2.3	450.0	4000.0	0.25	0.5	83.6	8.6
OVZSZF1120A	12Z	120.0	114.00	126.00	2.0	550.0	4500.0	0.25	0.5	91.2	7.8
OVZSZF1130A	13Z	130.0	123.50	136.50	1.9	700.0	5000.0	0.25	0.5	98.8	7.0
OVZSZF1150A	15Z	150.0	142.50	157.50	1.7	1000.0	6000.0	0.25	0.5	114.0	6.4
OVZSZF1160A	16Z	160.0	152.00	168.00	1.6	1100.0	6500.0	0.25	0.5	121.6	5.8
OVZSZF1180A	18Z	180.0	171.00	189.00	1.4	1200.0	7000.0	0.25	0.5	136.8	5.2
OVZSZF1200A	20Z	200.0	190.00	210.00	1.2	1900.0	9990.0	0.25	0.5	152.0	4.7

Typical Characteristics （at TA = 25 °C, unless otherwise specified）

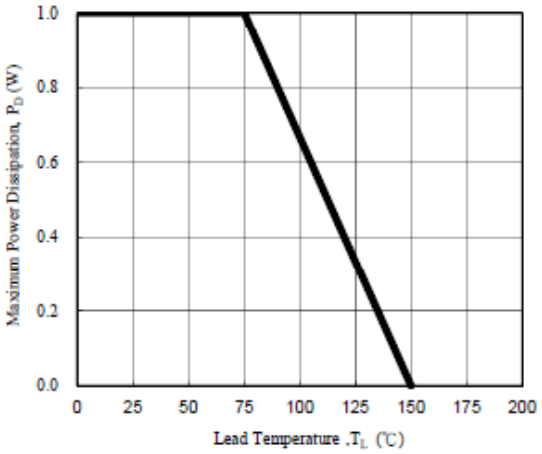


Fig. 1 - Power Temperature Derating Curve

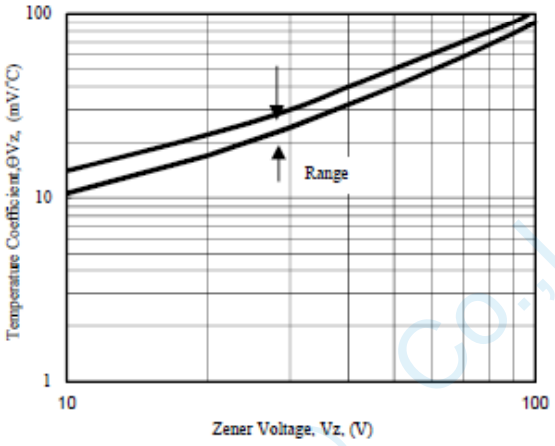


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

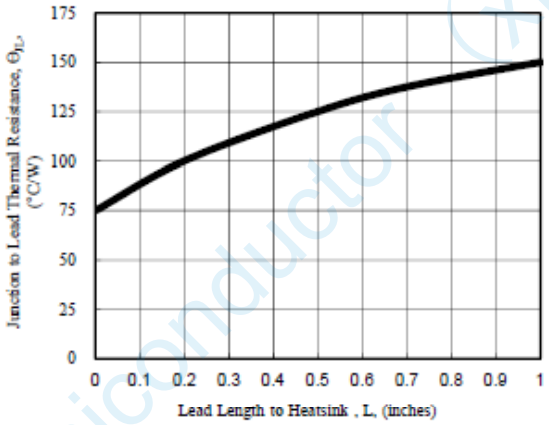
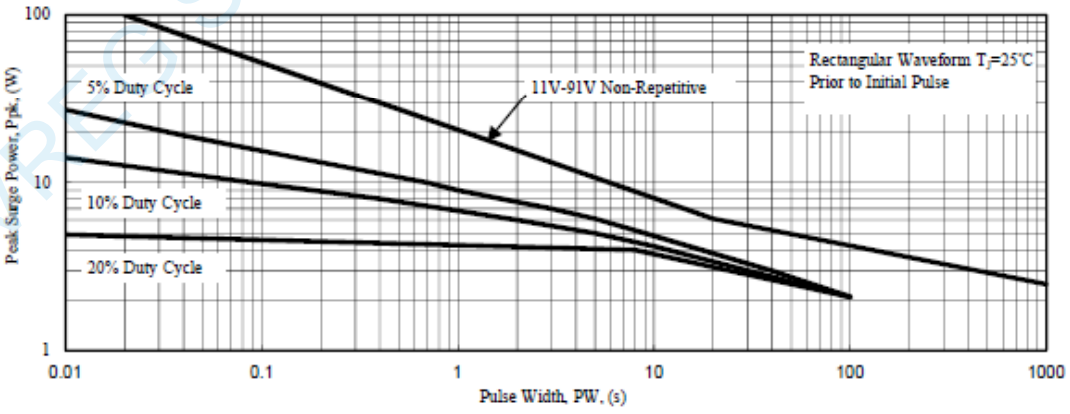


Fig. 3 - Typical Thermal Resistance v.s. Lead Length



Fg. 4 - Maximum Surge Power

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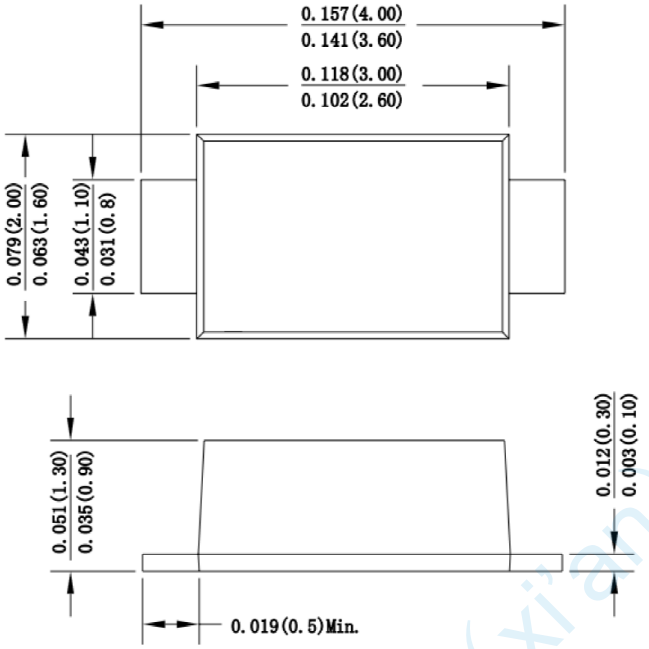
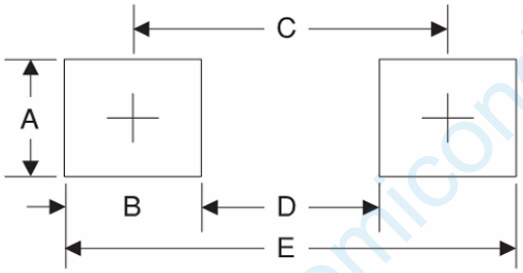
Package Information



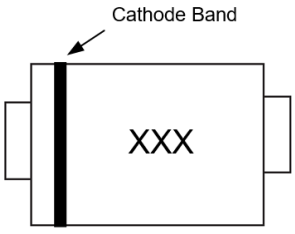
Recommend PCB Layout



Symbol	Unit (mm)	Unit (inch)
A	1.2	0.048
B	1.15	0.045
C	3.10	0.122
D	1.95	0.077
E	4.25	0.167

Notes: This PCB Layout Is For Reference Purposes Only

Marking



XXX：Marking Code

Ordering Information

Part number	Material	Type	Reel size	MOQ	MOQ/internal box	MOQ/carton
OVZSMF47xxA Series OVZSZF1xxxA Series	GREEN	T/R	7 inch	3k/reel	5reel= 15k/box	10boxes=150k/carton

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