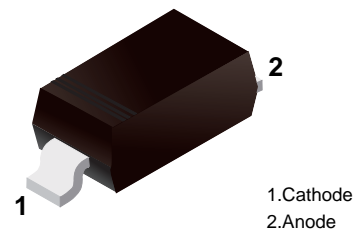


Zener Diodes

■ Features

- Zener Voltage 1.8V-43V
- Wide Zener Reverse Voltage Range
- Small Package Size for High Density Applications



■ Simplified outline(SOD-123)



■ Absolute Maximum Ratings Ta = 25°C

Characteristic	Symbol	Value	Unit
Forward voltage @ $I_F=10\text{mA}$	V_F	0.9	V
Power Dissipation	P_D	350	mW
Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	357	°C/W
Operating and Storage Temperature Range	T_{STG}	-65 ~ +150	°C

Notes: Device mounted on ceramic PCB; 5.0mm×7.0mm with pad areas 35 mm²

■ Electrical Characteristics Ta = 25°C

Device	Device Marking	Zener Voltage (Notes 1)				Leakage Current		
		Vz (Volts)			@ Izr	IR @ VR		
		Min	Norn	Max	μA	μA	Volts	
MMSZ4678	CC	1.71	1.8	1.89	50	7.5	1	
MMSZ4679	CD	1.90	2.0	2.10	50	5	1	
MMSZ4680	CE	2.09	2.2	2.31	50	4	1	
MMSZ4681	CF	2.28	2.4	2.52	50	2	1	
MMSZ4682	CH	2.565	2.7	2.835	50	1	1	
MMSZ4683	CJ	2.85	3.0	3.15	50	0.8	1	
MMSZ4684	CK	3.13	3.3	3.47	50	7.5	1.5	
MMSZ4685	CM	3.42	3.6	3.78	50	7.5	2	
MMSZ4686	CN	3.70	3.9	4.10	50	5	2	
MMSZ4687	CP	4.09	4.3	4.52	50	4	2	
MMSZ4688	CT	4.47	4.7	4.94	50	10	3	
MMSZ4689	CU	4.85	5.1	5.36	50	10	3	
MMSZ4690	CV	5.32	5.6	5.88	50	10	4	
MMSZ4691	CA	5.89	6.2	6.51	50	10	5	
MMSZ4692	CX	6.46	6.8	7.14	50	10	5.1	
MMSZ4693	CY	7.13	7.5	7.88	50	10	5.7	
MMSZ4694	CZ	7.79	8.2	8.61	50	1	6.2	
MMSZ4695	DC	8.27	8.7	9.14	50	1	6.6	
MMSZ4696	DD	8.65	9.1	9.56	50	1	6.9	
MMSZ4697	DE	9.50	10	10.50	50	1	7.6	
MMSZ4698	DF	10.45	11	11.55	50	0.05	8.4	
MMSZ4699	DH	11.40	12	12.60	50	0.05	9.1	
MMSZ4700	DJ	12.35	13	13.65	50	0.05	9.8	
MMSZ4701	DM	13.30	14	14.70	50	0.05	10.6	
MMSZ4702	DK	14.25	15	15.75	50	0.05	11.4	
MMSZ4703	DN	15.20	16	16.80	50	0.05	12.1	
MMSZ4704	DP	16.15	17	17.85	50	0.05	12.9	
MMSZ4705	DT	17.10	18	18.90	50	0.05	13.6	
MMSZ4706	DU	18.05	19	19.95	50	0.05	14.4	
MMSZ4707	DV	19.00	20	21.00	50	0.01	15.2	
MMSZ4708	DA	20.90	22	23.10	50	0.01	16.7	
MMSZ4709	DX	22.80	24	25.20	50	0.01	18.2	
MMSZ4710	DY	23.75	25	26.25	50	0.01	19.0	
MMSZ4711	EA	25.65	27	28.35	50	0.01	20.4	
MMSZ4712	EC	26.60	28	29.40	50	0.01	21.2	
MMSZ4713	ED	28.50	30	31.50	50	0.01	22.8	
MMSZ4714	EE	31.35	33	34.65	50	0.01	25.0	
MMSZ4715	EF	34.20	36	37.80	50	0.01	27.3	
MMSZ4716	EH	37.05	39	40.95	50	0.01	29.6	
MMSZ4717	EJ	40.85	43	45.15	50	0.01	32.6	

Notes :

 (1) Nominal Zener voltage is measured with the device junction in thermal equilibrium at $T_L = 30^\circ\text{C} \pm 1^\circ\text{C}$

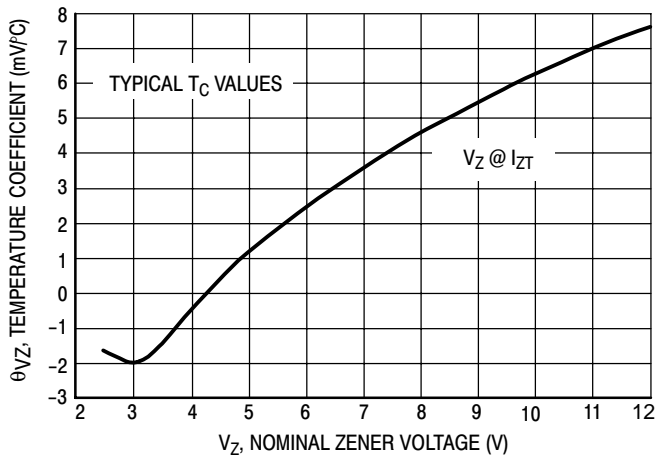


Figure 1. Temperature Coefficients (Temperature Range -55°C to +150°C)

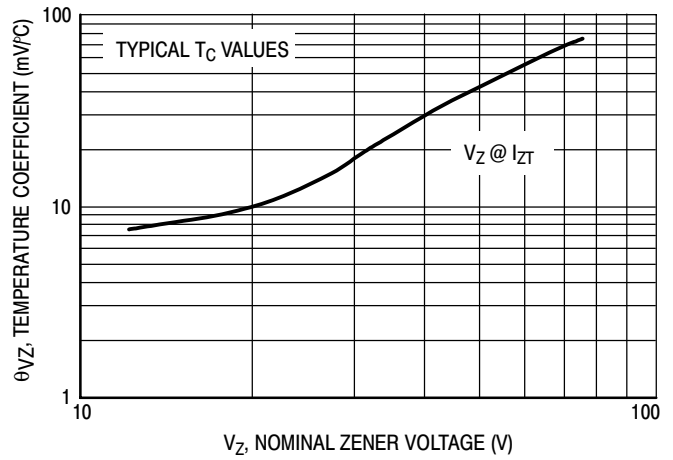


Figure 2. Temperature Coefficients (Temperature Range -55°C to +150°C)

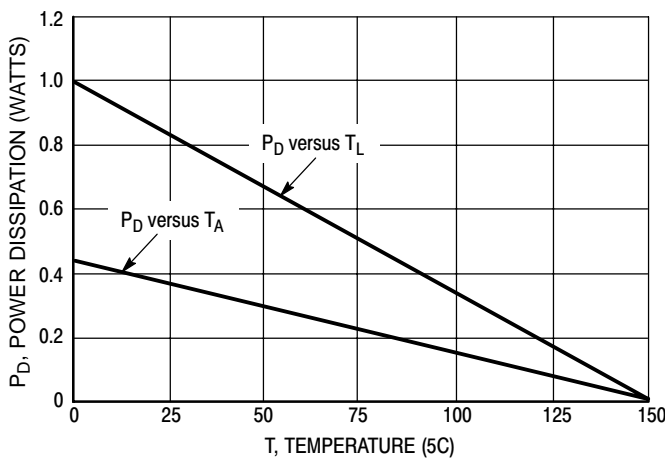


Figure 3. Steady State Power Derating

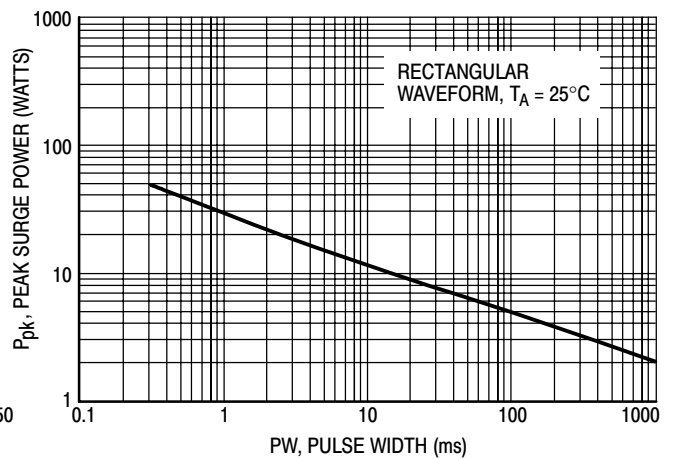


Figure 4. Maximum Nonrepetitive Surge Power

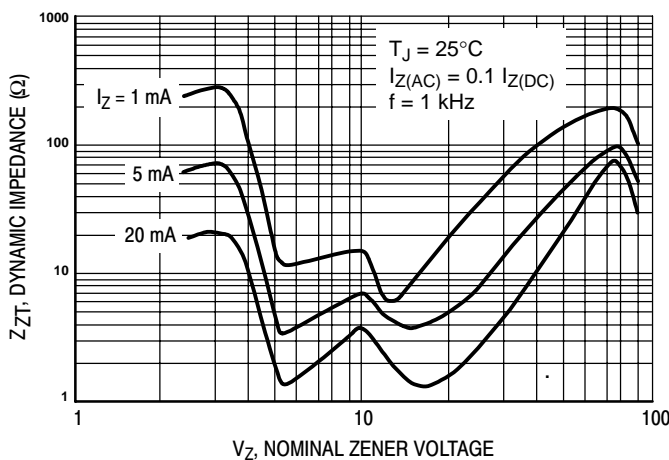


Figure 5. Effect of Zener Voltage on Zener Impedance

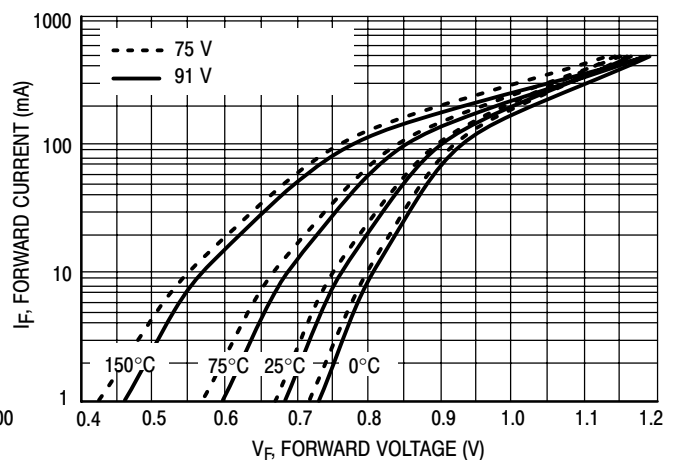


Figure 6. Typical Forward Voltage

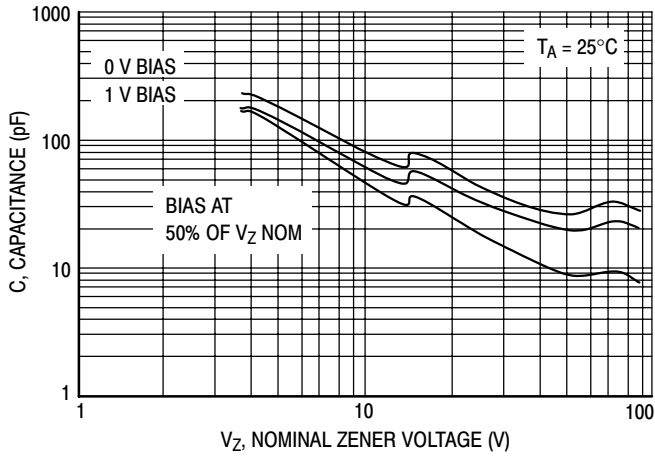


Figure 7. Typical Capacitance

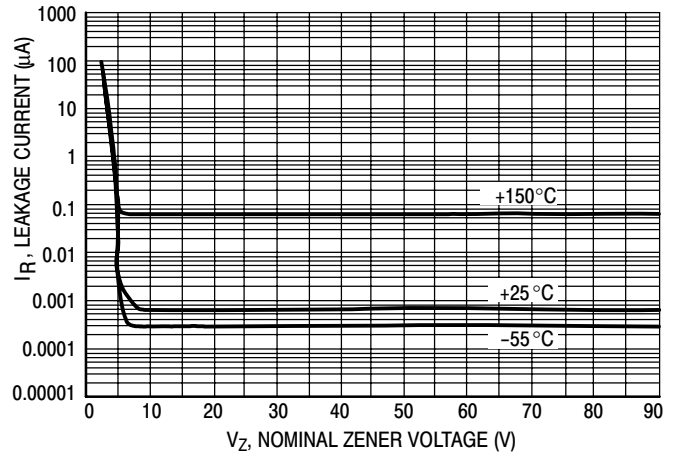


Figure 8. Typical Leakage Current

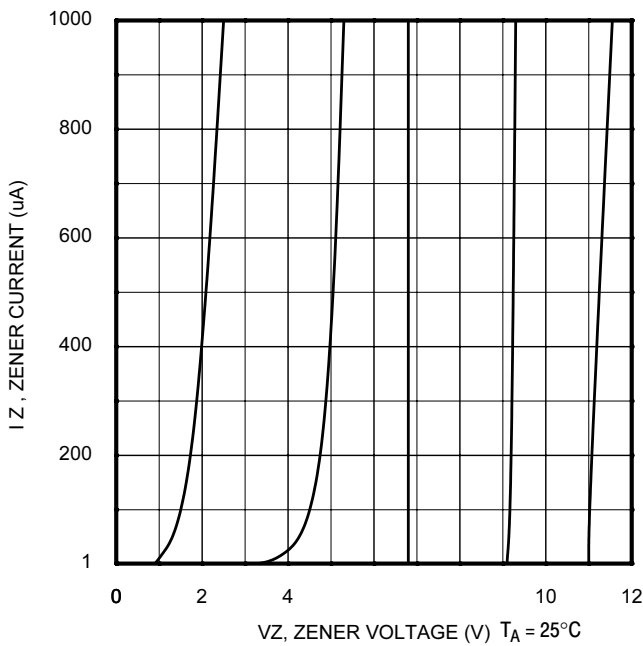


Figure 9. Zener Voltage versus Zener Current (VZ Up to 12 V)

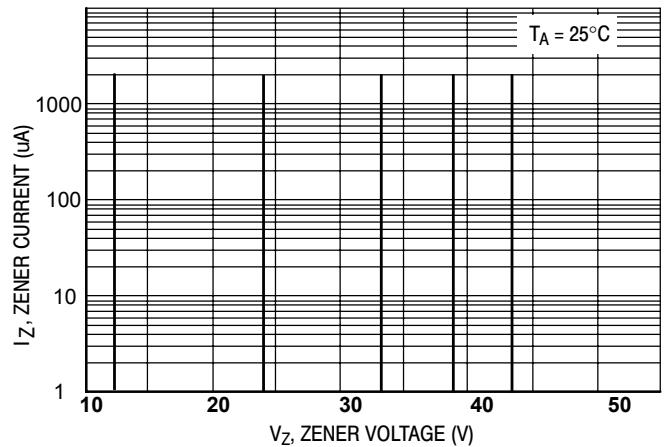
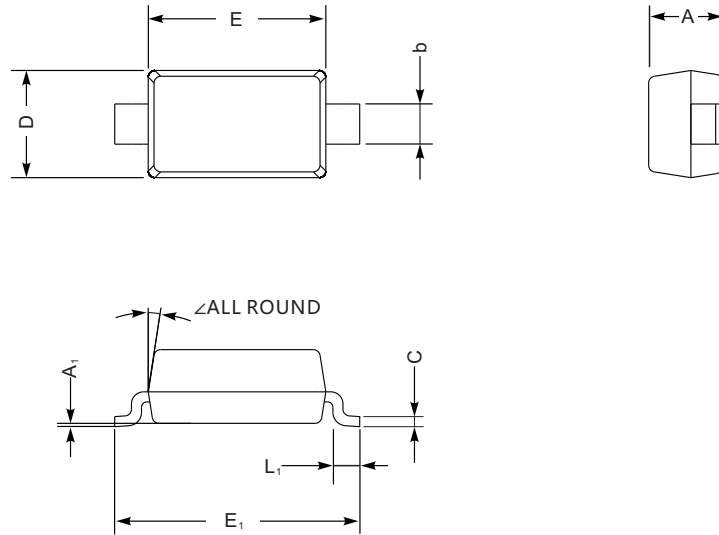


Figure 10. Zener Voltage versus Zener Current (12 V to 43 V)

■ SOD-123



SOD-123 mechanical data

UNIT		A	C	D	E	E ₁	L ₁	b	A ₁	∠
mm	max	1.3	0.22	1.8	2.8	3.9	0.45	0.7	0.2	9°
	min	0.9	0.09	1.5	2.5	3.6	0.25	0.5	—	
mil	max	51	8.7	71	110	154	18	28	8	
	min	35	3.5	59	98	142	10	20	—	

■ The recommended mounting pad size

