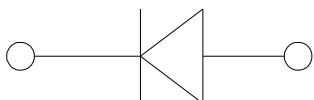
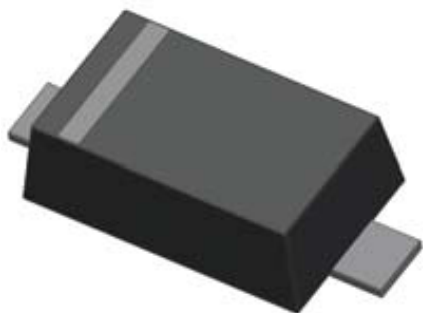


Zener Diodes



Features

- Moisture sensitivity level 1
- Zener voltage 5.1V~36V

Application

- Linear voltage regulator
- DC regulator
- Small-signal surge protection

Mechanical data

- **Package:** SOD-523
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

■ Maximum Ratings ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

Parameter	Symbol	Unit	Value
Forward voltage @ $I_F=10\text{mA}$	V_F	V	0.9
Power dissipation	P_D	mW	200
Maximum regulator current	I_{ZM}	mA	P_D / V_Z
Junction temperature	T_J	$^{\circ}\text{C}$	-55 to +150
Storage temperature	T_{STG}	$^{\circ}\text{C}$	-55 to +150



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

Type number	Device marking	V _Z @ I _{ZT} (V)			Z _{ZT} (Ω)		Z _{ZK} (Ω)		I _R (μA) @V _R	
		Min.	Typ.	Max.	I _{ZT} (ma)	Max.	I _{ZK} (ma)	Max.	Max	V _R (V)
MMSZ58431C	C1	5.0	5.1	5.2	20	17	0.25	1600	5	2.0
MMSZ58432C	C2	5.49	5.6	5.71	20	11	0.25	1600	5	3.0
MMSZ58434C	C3	6.08	6.2	6.32	20	7	0.25	1000	5	4.0
MMSZ58435C	C4	6.66	6.8	6.94	20	5	0.25	750	3	5.0
MMSZ58436C	E1	7.35	7.5	7.65	20	6	0.25	500	3	6.0
MMSZ58437C	E2	8.04	8.2	8.36	20	8	0.25	500	3	6.0
MMSZ58439C	E3	8.92	9.1	9.28	20	10	0.25	600	3	6.5
MMSZ58440C	E4	9.8	10	10.2	20	17	0.25	600	3	8.0
MMSZ58441C	EA	10.78	11	11.22	20	22	0.25	600	3	8.4
MMSZ58442C	EB	11.76	12	12.24	20	30	0.25	600	2	9.1
MMSZ58443C	EC	12.74	13	13.26	9.5	13	0.25	600	1	9.9
MMSZ58444C	ED	13.7	14	14.3	9	15	0.25	600	0.5	10.5
MMSZ58445C	EE	14.7	15	15.3	8.5	16	0.25	600	0.5	11.0
MMSZ58446C	EF	15.68	16	16.3	7.8	17	0.25	600	0.1	12.0
MMSZ58448C	EG	17.64	18	18.36	7	21	0.25	600	0.1	14.0
MMSZ58450C	EH	19.6	20	20.4	6.2	25	0.25	600	0.1	15.0
MMSZ58451C	EK	21.56	22	22.44	5.6	29	0.25	600	0.1	17.0
MMSZ58452C	EL	23.52	24	24.48	5.2	33	0.25	600	0.1	18.0
MMSZ58454C	EM	26.46	27	27.54	4.6	41	0.25	600	0.1	21.0
MMSZ58456C	EN	29.4	30	30.6	4.2	49	0.25	600	0.1	23.0
MMSZ58457C	EP	32.34	33	33.66	3.8	58	0.25	700	0.1	25.0
MMSZ58458C	ER	35.28	36	36.72	3.4	70	0.25	700	0.1	27.0



■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	$R_{\theta J-A}^{(1)}$	$^{\circ}\text{C/W}$	625
Thermal resistance, junction-to-case	$R_{\theta J-C}^{(1)}$	$^{\circ}\text{C/W}$	500

Note:

(1) Device mounted on PCB, single-sided copper, with standard footprint



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Fig 1: P_D -Ta Curve

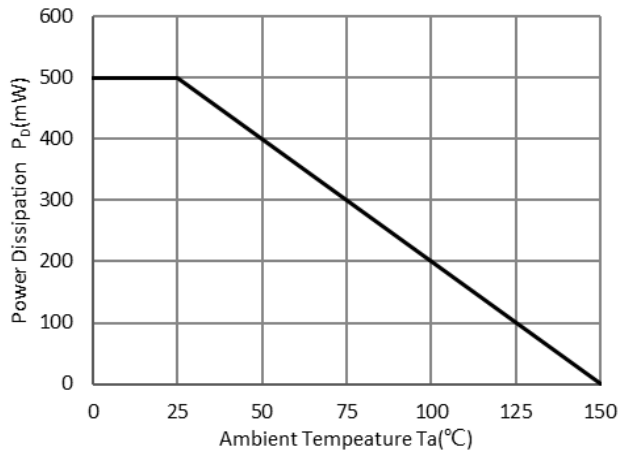


Fig 2: Zener Breakdown Characteristics

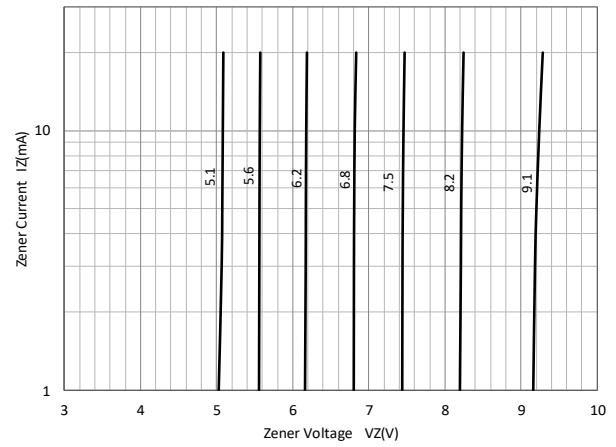


Fig 3: Zener Breakdown Characteristics

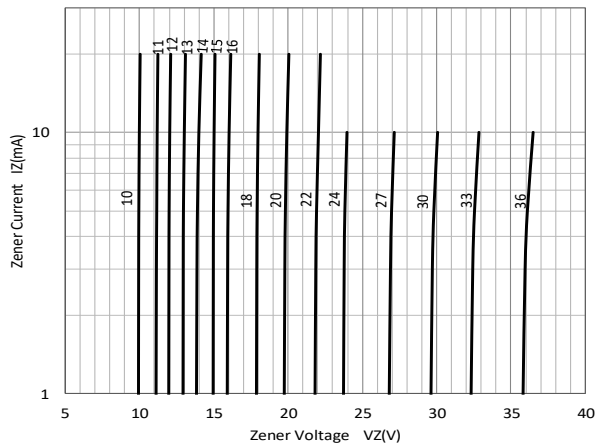


Fig 4: Typical Temperature Coefficient

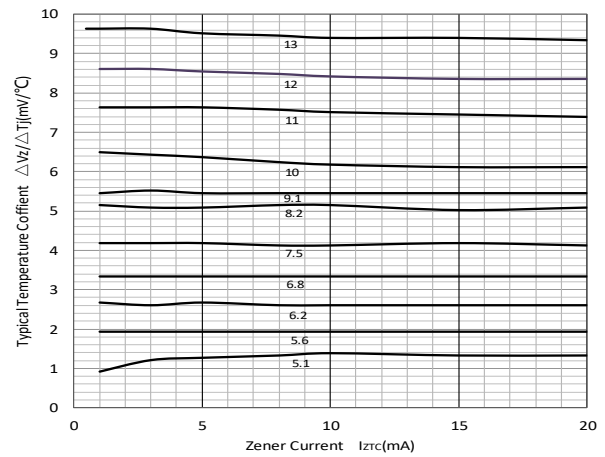


Fig 5: Typical Temperature Coefficient

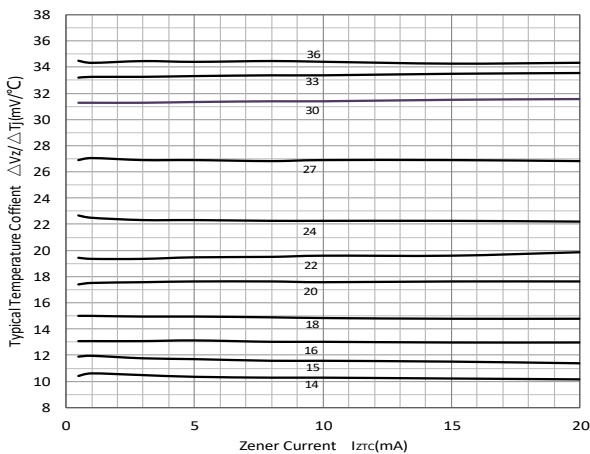
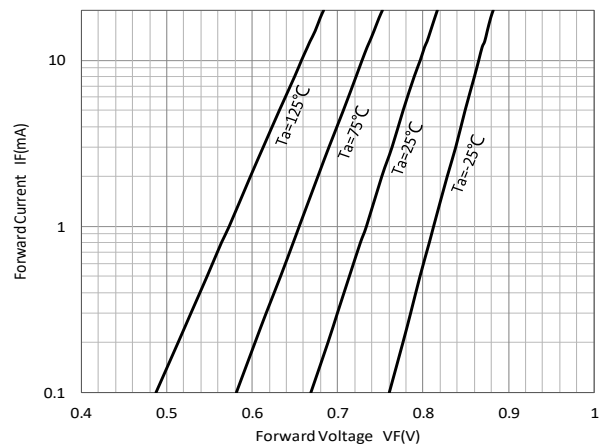


Fig 6: Typical Forward Voltage





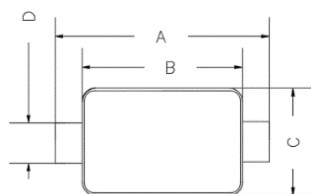
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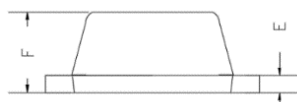
■ Ordering Information

Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
MMSZ58431C THRU MMSZ58458C	F2	Approximate 0.002	8000	80000	320000	7" reel
MMSZ58431C THRU MMSZ58458C	F3	Approximate 0.002	3000	30000	120000	7" reel

■ Outline Dimensions



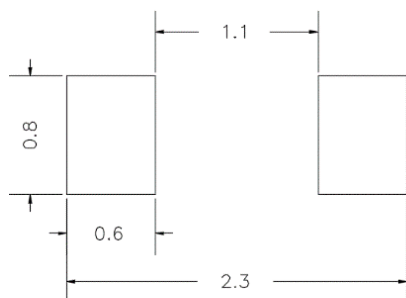
TOP VIEW



SIDE VIEW

DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.059	0.067	1.500	1.700
B	0.043	0.051	1.100	1.300
C	0.028	0.035	0.700	0.900
D	0.010	0.014	0.250	0.350
E	0.002	0.008	0.050	0.200
F	0.020	0.028	0.500	0.700

■ Suggested Pad Layout



UNIT: mm



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