

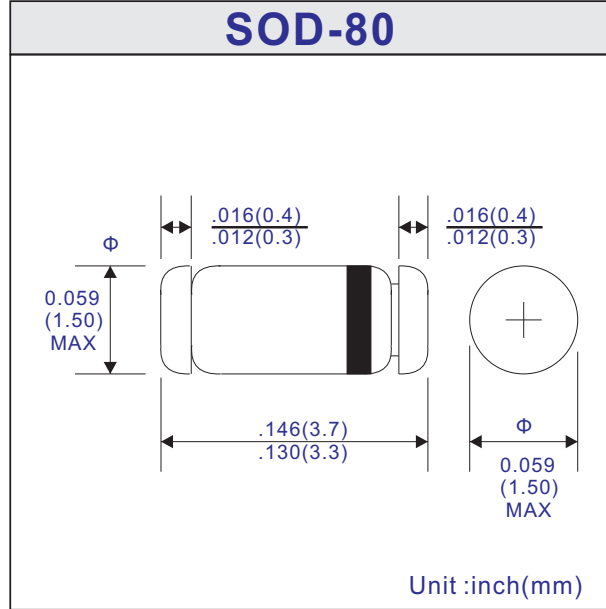


LLZ Series

500mW Surface Mount Zener Diodes - 2.0V - 39V



FEATURES
<ul style="list-style-type: none"> • For use as low voltage stabilizer or voltage reference • Silicon epitaxial planar chip struction • High reliability • $\pm 2.5\%$ voltage regulaion tolerance • Glass sealed envelope • Small surface mounting type • Lead-free parts for green partner, meet RoHS environment substance directive request



MECHANICAL DATA
<ul style="list-style-type: none"> • Case: SOD-80 (Glass Mini-Melf) • Terminals: Solderable per MIL-STD-750 Method 2026 • Polarity: Color band denotes cathode end • Mounting Position: Any • Weight: approx. 0.05 grams

MAXIMUM RATING AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

	Symbols	LLZ Series	Units
Power Dissipation	P _d	500	mW
Junction Temperature	T _J	-65 ~ +175	°C
Thermal Resistance	R _{θJA}	500	K/W
Storage Temperature	T _{STG}	-65 ~ +175	°C
Forward Voltage at I _F =100mA	V _F	1.0	Volt

Note 1. Mounted on PCB 50mm x 50mm x 1.6mm

Type	Zener Voltage Vz(Volts)			I _z (mA)	Operating Resistance Resistance Z _{zt} (Ω)		Rising Operating Resistance Z _{zk} (Ω)		Reverse Current I _R (μA)	
	Rank	Min.	Max.		Max.	I _{zt} (mA)	Max.	I _{zk} (mA)	Max.	V _R (Volts)
LLZ2.0	A	1.88	2.10	20	140	20	2000	1.0	120	0.5
	B	2.02	2.20							
LLZ2.2	A	2.12	2.30	20	120	20	2000	1.0	120	0.7
	B	2.22	2.41							
LLZ2.4	A	2.33	2.52	20	100	20	2000	1.0	120	1.0
	B	2.43	2.63							
LLZ2.7	A	2.54	2.75	20	100	20	1000	1.0	120	1.0
	B	2.69	2.91							
LLZ3.0	A	2.85	3.07	20	80	20	1000	1.0	50	1.0
	B	3.01	3.22							
LLZ3.3	A	3.16	3.38	20	70	20	1000	1.0	20	1.0
	B	3.32	3.53							
LLZ3.6	A	3.46	3.69	20	60	20	1000	1.0	10	1.0
	B	3.60	3.84							

T_J=25°C



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Type	Zener Voltage Vz(Volts)			Iz(mA)	Operating Resistance Resistance Zzt (Ω)		Rising Operating Resistance Zzk(Ω)		Reverse Current IR(μA)	
	Rank	Min.	Max.		Max.	Izt(mA)	Max.	Izk(mA)	Max.	VR(Volts)
LLZ3.9	A	3.74	4.01	20	50	20	1000	1.0	5	1.0
	B	3.89	4.16							
LLZ4.3	A	4.04	4.29	20	40	20	1000	1.0	5	1.0
	B	4.17	4.43							
	C	4.30	4.57							
LLZ4.7	A	4.44	4.68	20	25	20	900	1.0	5	1.0
	B	4.55	4.80							
	C	4.68	4.93							
LLZ5.1	A	4.81	5.07	20	20	20	800	1.0	5	1.5
	B	4.94	5.20							
	C	5.09	5.37							
LLZ5.6	A	5.28	5.55	20	13	20	500	1.0	5	2.5
	B	5.45	5.73							
	C	5.61	5.91							
LLZ6.2	A	5.78	6.09	20	10	20	300	1.0	5	3.0
	B	5.96	6.27							
	C	6.12	6.44							
LLZ6.8	A	6.29	6.63	20	8	20	150	0.5	2	3.5
	B	6.49	6.83							
	C	6.66	7.01							
LLZ7.5	A	6.85	7.22	20	8	20	120	0.5	0.5	4.0
	B	7.07	7.45							
	C	7.29	7.67							
LLZ8.2	A	7.53	7.92	20	8	20	120	0.5	0.5	5.0
	B	7.78	8.19							
	C	8.03	8.45							
LLZ9.1	A	8.29	8.73	20	8	20	120	0.5	0.5	6.0
	B	8.57	9.01							
	C	8.83	9.30							
LLZ10	A	9.12	9.59	20	8	20	120	0.5	0.2	7.0
	B	9.41	9.90							
	C	9.70	10.20							
	D	9.94	10.44							
LLZ11	A	10.18	10.71	10	10	10	120	0.5	0.2	8.0
	B	10.50	11.05							
	C	10.82	11.38							
LLZ12	A	11.13	11.71	10	12	10	110	0.5	0.2	9.0
	B	11.44	12.03							
	C	11.74	12.35							
LLZ13	A	12.11	12.75	10	14	10	110	0.5	0.2	10
	B	12.55	13.21							
	C	12.99	13.66							
LLZ15	A	13.44	14.13	10	16	10	110	0.5	0.2	11
	B	13.89	14.62							
	C	14.35	15.09							
LLZ16	A	14.80	15.57	10	18	10	150	0.5	0.2	12
	B	15.25	16.04							
	C	15.69	16.51							
LLZ18	A	16.22	17.06	10	23	10	150	0.5	0.2	13
	B	16.82	17.70							
	C	17.42	18.33							



MAXIMUM RATING AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

Type	Zener Voltage Vz(Volts)			Iz(mA)	Operating Resistance Resistance Zzt (Ω)		Rising Operating Resistance Zzk(Ω)		Reverse Current IR(μA)	
	Rank	Min.	Max.		Max.	Izt(mA)	Max.	Izk(mA)	Max.	VR(Volts)
LLZ20	A	18.20	18.96	10	28	10	200	0.5	0.2	15
	B	18.63	19.59							
	C	19.23	20.22							
	D	19.72	20.72							
LLZ22	A	20.15	21.20	5	30	5	200	0.5	0.2	17
	B	20.64	21.71							
	C	21.08	22.17							
	D	21.52	22.63							
LLZ24	A	22.05	23.18	5	35	5	200	0.5	0.2	19
	B	22.61	23.77							
	C	23.12	24.13							
	D	23.63	24.85							
LLZ27	A	24.26	25.52	5	45	5	250	0.5	0.2	21
	B	24.97	26.26							
	C	25.63	26.95							
	D	26.29	27.64							
LLZ30	A	26.99	28.39	5	55	5	250	0.5	0.2	23
	B	27.70	29.13							
	C	28.36	29.82							
	D	29.02	30.51							
LLZ33	A	29.68	31.22	5	65	5	250	0.5	0.2	25
	B	30.32	31.88							
	C	30.90	32.50							
	D	31.49	33.11							
LLZ36	A	32.14	33.79	5	75	5	250	0.5	0.2	27
	B	32.79	34.49							
	C	33.40	35.13							
	D	34.01	35.77							
LLZ39	A	34.68	36.47	5	85	5	250	0.5	0.2	30
	B	35.36	37.19							
	C	36.00	37.85							
	D	36.63	38.52							

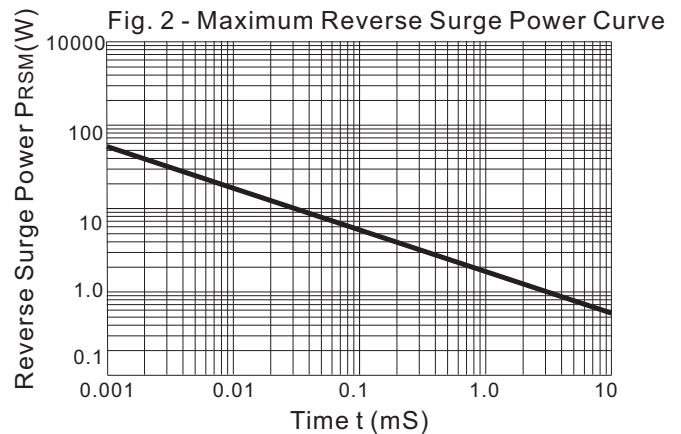
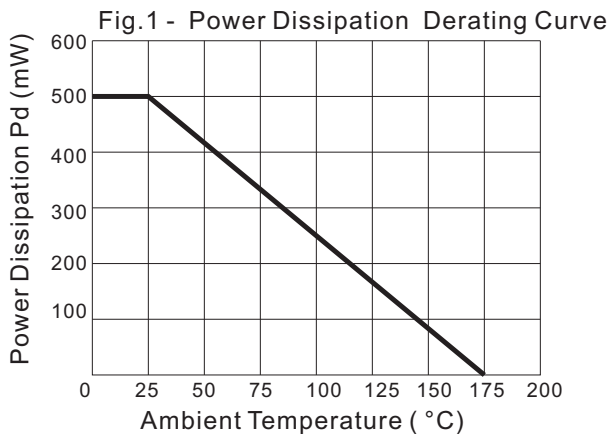




Fig. 3 - Zener Voltage vs Zener Current Curve

