

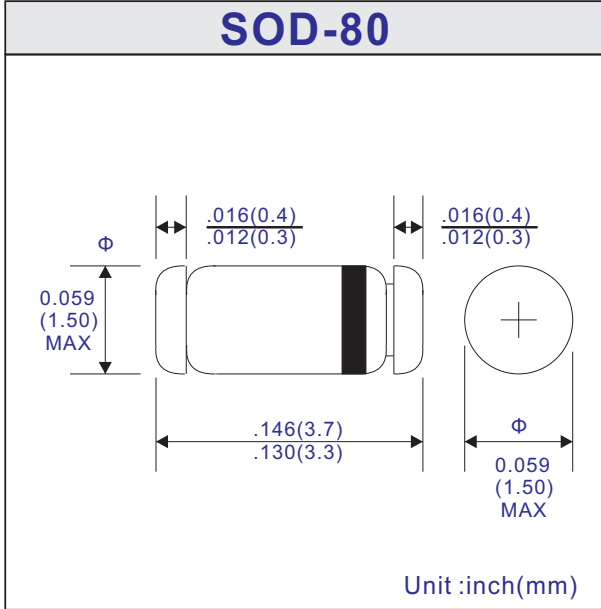


# LLZJ Series

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



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



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

### MAXIMUM RATING AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

	Symbols	LLZJ Series	Units
Power Dissipation	$P_d$	500	mW
Junction Temperature	$T_J$	175	°C
Thermal Resistance	$R_{\theta JA}$	500	°C/W
Storage Temperature	$T_{STG}$	-65 ~ +175	°C
Forward Voltage at $I_F=100mA$	$V_F$	1.0	Volt

Type	Zener Voltage $V_z$ (Volts)			$I_z$ (mA)	Operating Resistance $Z_z$ ( $\Omega$ )		Rising Operating Resistance $Z_{zk}$ ( $\Omega$ )		Reverse Current $I_R$ ( $\mu A$ )	
	Rank	Min.	Max.		Max.	$I_{zT}$ (mA)	Max.	$I_{zk}$ (mA)	Max.	$V_R$ (Volts)
LLZJ2.0	A	1.88	2.10	5	100	5	1000	0.5	120	0.5
	B	2.02	2.20							
LLZJ2.2	A	2.12	2.30	5	100	5	1000	0.5	120	0.7
	B	2.22	2.41							
LLZJ2.4	A	2.33	2.52	5	100	5	1000	0.5	120	1.0
	B	2.43	2.63							
LLZJ2.7	A	2.54	2.75	5	110	5	1000	0.5	100	1.0
	B	2.69	2.91							
LLZJ3.0	A	2.85	3.07	5	120	5	1000	0.5	50	1.0
	B	3.01	3.22							
LLZJ3.3	A	3.16	3.38	5	120	5	1000	0.5	20	1.0
	B	3.32	3.53							
LLZJ3.6	A	3.46	3.69	5	100	5	1000	1.0	10	1.0
	B	3.6	3.84							

$T_J=25^\circ C$



**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)
LLZJ3.9	A	3.74	4.01	5	100	5	1000	1.0	5	1.0
	B	3.89	4.16							
LLZJ4.3	A	4.04	4.29	5	100	5	1000	1.0	5	1.0
	B	4.17	4.43							
	C	4.30	4.57							
LLZJ4.7	A	4.44	4.68	5	90	5	900	1.0	5	1.0
	B	4.55	4.80							
	C	4.68	4.93							
LLZJ5.1	A	4.81	5.07	5	80	5	800	1.0	5	1.5
	B	4.94	5.20							
	C	5.09	5.37							
LLZJ5.6	A	5.28	5.55	5	60	5	500	1.0	5	2.5
	B	5.45	5.73							
	C	5.61	5.91							
LLZJ6.2	A	5.78	6.09	5	60	5	300	1.0	5	3.0
	B	5.96	6.27							
	C	6.12	6.44							
LLZJ6.8	A	6.29	6.63	5	20	5	150	0.5	2	3.5
	B	6.49	6.83							
	C	6.66	7.01							
LLZJ7.5	A	6.85	7.22	5	20	5	120	0.5	0.5	4.0
	B	7.07	7.45							
	C	7.29	7.67							
LLZJ8.2	A	7.53	7.92	5	20	5	120	0.5	0.5	5.0
	B	7.78	8.19							
	C	8.03	8.45							
LLZJ9.1	A	8.29	8.73	5	25	5	120	0.5	0.5	6.0
	B	8.57	9.01							
	C	8.83	9.30							
LLZJ10	A	9.12	9.59	5	30	5	120	0.5	0.2	7
	B	9.41	9.90							
	C	9.70	10.20							
	D	9.94	10.44							
LLZJ11	A	10.18	10.71	5	30	5	120	0.5	0.2	8
	B	10.50	11.05							
	C	10.82	11.38							
LLZJ12	A	11.13	11.71	5	30	5	110	0.5	0.2	9
	B	11.44	12.03							
	C	11.74	12.35							
LLZJ13	A	12.11	12.75	5	35	5	110	0.5	0.2	10
	B	12.55	13.21							
	C	12.99	13.66							
LLZJ15	A	13.44	14.13	5	40	5	110	0.5	0.2	11
	B	13.89	14.62							
	C	14.35	15.09							
LLZJ16	A	14.80	15.57	5	40	5	150	0.5	0.2	12
	B	15.25	16.04							
	C	15.69	16.51							
LLZJ18	A	16.22	17.06	5	45	5	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)
LLZJ20	A	18.20	18.96	5	55	5	200	0.5	0.2	15
	B	18.63	19.59							
	C	19.23	20.22							
	D	19.72	20.72							
LLZJ22	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							
LLZJ24	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							
LLZJ27	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							
LLZJ30	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							
LLZJ33	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							
LLZJ36	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							
LLZJ39	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	36.36	38.52							

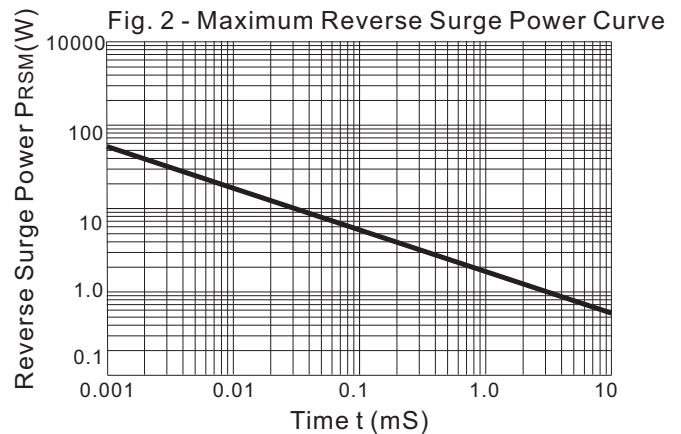
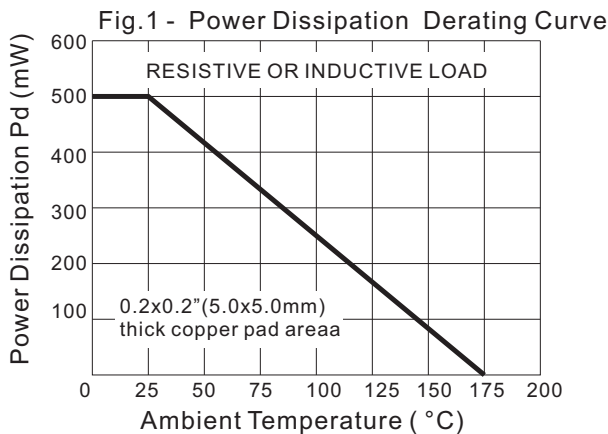




Fig. 3 - Zener Voltage vs Zener Current Curve

