

# Zener diode

## Features

1. Small surface mounting type
2. High reliability



## Applications

Voltage stabilization

## Construction

Silicon epitaxial planar

## Absolute Maximum Ratings

$T_j=25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Value	Unit
Power dissipation	$R_{thJA}$ ? 300K/W		$P_V$	500	mW
Junction temperature			$T_j$	175	?
Storage temperature range			$T_{stg}$	-65~+175	?

## Maximum Thermal Resistance

$T_j=25^\circ\text{C}$

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	on PC board 50mm× 50mm× 1.6mm	$R_{thJA}$	500	K/W

## Electrical Characteristics

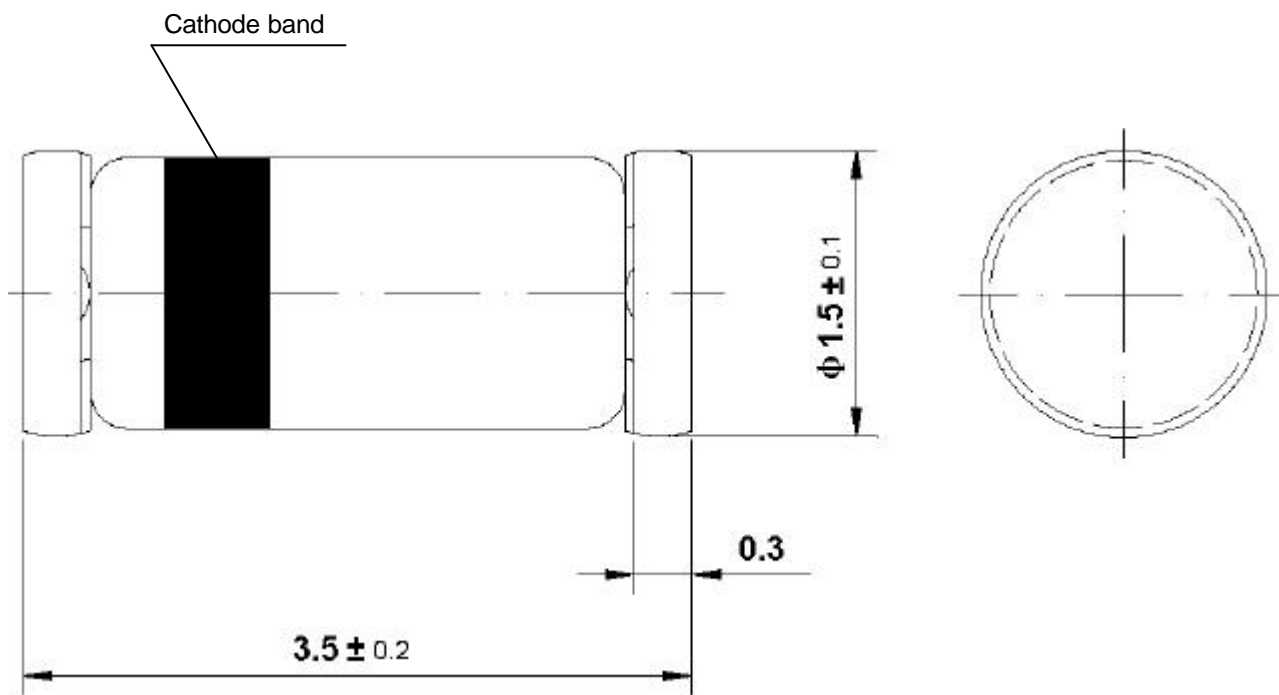
T<sub>j</sub>=25°

Type	Zener voltage				Operating resistance		Rising operating resistance		Reverse current	
	Rank	V <sub>z</sub> (V)		I <sub>z</sub> (mA)	Z <sub>zt</sub> (Ω)		Z <sub>zk</sub> (Ω)		I <sub>R</sub> (μA)	
		Min.	Max.		Max.	I <sub>z</sub> (mA)	Max.	I <sub>z</sub> (mA)	Max.	V <sub>R</sub> (V)
LLZJ 2.0	A	1.88	2.10	5	100	5	1000	0.5	120	0.5
	B	2.02	2.20							
LLZJ 2.2	A	2.12	2.30	5	100	5	1000	0.5	100	0.7
	B	2.22	2.41							
LLZJ 2.4	A	2.33	2.52	5	100	5	1000	0.5	120	1.0
	B	2.43	2.63							
LLZJ 2.7	A	2.54	2.75	5	110	5	1000	0.5	100	1.0
	B	2.69	2.91							
LLZJ 3.0	A	2.85	3.07	5	120	5	1000	0.5	50	1.0
	B	3.01	3.22							
LLZJ 3.3	A	3.16	3.38	5	120	5	1000	0.5	20	1.0
	B	3.32	3.53							
LLZJ 3.6	A	3.46	3.69	5	100	5	1000	1	10	1.0
	B	3.60	3.84							
LLZJ 3.9	A	3.74	4.01	5	100	5	1000	1	5	1.0
	B	3.89	4.16							
LLZJ 4.3	A	4.04	4.29	5	100	5	1000	1	5	1.0
	B	4.17	4.43							
	C	4.30	4.57							
LLZJ 4.7	A	4.44	4.68	5	90	5	900	1	5	1.0
	B	4.55	4.80							
	C	4.68	4.93							
LLZJ 5.1	A	4.81	5.07	5	80	5	800	1	5	1.5
	B	4.94	5.20							
	C	5.09	5.37							
LLZJ 5.6	A	5.28	5.55	5	60	5	500	1	5	2.5
	B	5.45	5.73							
	C	5.61	5.91							
LLZJ 6.2	A	5.78	6.09	5	60	5	300	1	5	3.0
	B	5.96	6.27							
	C	6.12	6.44							
LLZJ 6.8	A	6.29	6.63	5	20	5	150	0.5	2	3.5
	B	6.49	6.83							
	C	6.66	7.01							
LLZJ 7.5	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							
LLZJ 8.2	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							
LLZJ 9.1	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							

Type	Zener voltage				Operating resistance		Rising operating resistance		Reverse current	
	Rank	Vz (V)		Iz (mA)	Zzt (Ω)		Zzk (Ω)		I <sub>R</sub> (μA)	
		Min.	Max.		Max.	Iz (mA)	Max.	Iz (mA)	Max.	V <sub>R</sub> (V)
LLZJ 10	A	9.12	9.59	5	30	5	120	0.5	0.2	7.0
	B	9.41	9.90							
	C	9.70	10.20							
	D	9.94	10.44							
LLZJ 11	A	10.18	10.71	5	30	5	120	0.5	0.2	8.0
	B	10.50	11.05							
	C	10.82	11.38							
LLZJ 12	A	11.13	11.71	5	30	5	110	0.5	0.2	9.0
	B	11.44	12.03							
	C	11.74	12.35							
LLZJ 13	A	12.11	12.75	5	35	5	110	0.5	0.2	10
	B	12.55	13.21							
	C	12.99	13.66							
LLZJ 15	A	13.44	14.13	5	40	5	110	0.5	0.2	11
	B	13.89	14.62							
	C	14.35	15.09							
LLZJ 16	A	14.80	15.57	5	40	5	150	0.5	0.2	12
	B	15.25	16.04							
	C	15.69	16.51							
LLZJ 18	A	16.22	17.06	5	45	5	150	0.5	0.2	13
	B	16.82	17.70							
	C	17.42	18.33							
LLZJ 20	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							
LLZJ 22	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							
LLZJ 24	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							
LLZJ 27	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							
LLZJ 30	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							

Type	Zener voltage				Operating resistance		Rising operating resistance		Reverse current	
	Rank	Vz (V)		Iz (mA)	Zzt (Ω)		Zzk (Ω)		IR (μA)	
		Min.	Max.		Max.	Iz (mA)	Max.	Iz (mA)	Max.	VR (V)
LLZJ 33	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							
LLZJ 36	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							
LLZJ 39	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							

**Dimensions in mm**



Glass Case  
 Mini Melf / SOD 80  
 JEDEC DO 213 AA