

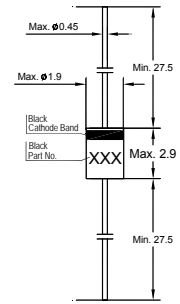
ZJ Series

Silicon Epitaxial Planar Zener Diodes

Constant voltage control applications

Features

- Glass sealed envelope
- High reliability



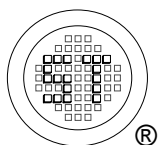
Glass Case DO-34
Dimensions in mm

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Power Dissipation	P_{tot}	500	mW
Junction Temperature	T_j	175	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 175	$^\circ\text{C}$

Characteristics at $T_a = 25\text{ }^\circ\text{C}$ ($V_F = 1\text{ V Max. at } I_F = 100\text{ mA}$)

Type	Zener Voltage ¹⁾		Operating Resistance		Rising Operating Resistance		Reverse Current		
	V_Z		at I_{ZT}	Z_{ZT}	at I_{ZT}	Z_{ZK}	at I_{ZK}	I_R	at V_R
	Min. (V)	Max. (V)	(mA)	Max. (Ω)	(mA)	Max. (Ω)	(mA)	Max. (μA)	(V)
ZJ2V0	1.88	2.2	5	100	5	1000	1	120	0.5
ZJ2V0A	1.88	2.1	5	100	5	1000	1	120	0.5
ZJ2V0B	2.02	2.2	5	100	5	1000	1	120	0.5
ZJ2V2	2.12	2.41	5	100	5	1000	1	120	0.7
ZJ2V2A	2.12	2.3	5	100	5	1000	1	120	0.7
ZJ2V2B	2.22	2.41	5	100	5	1000	1	120	0.7
ZJ2V4	2.33	2.63	5	100	5	1000	1	120	1
ZJ2V4A	2.33	2.52	5	100	5	1000	1	120	1
ZJ2V4B	2.43	2.63	5	100	5	1000	1	120	1
ZJ2V7	2.54	2.91	5	110	5	1000	1	100	1
ZJ2V7A	2.54	2.75	5	110	5	1000	1	100	1
ZJ2V7B	2.69	2.91	5	110	5	1000	1	100	1
ZJ3V0	2.85	3.22	5	120	5	1000	1	50	1
ZJ3V0A	2.85	3.07	5	120	5	1000	1	50	1
ZJ3V0B	3.01	3.22	5	120	5	1000	1	50	1
ZJ3V3	3.16	3.53	5	120	5	1000	1	20	1
ZJ3V3A	3.16	3.38	5	120	5	1000	1	20	1
ZJ3V3B	3.32	3.53	5	120	5	1000	1	20	1
ZJ3V6	3.455	3.845	5	100	5	1000	1	10	1
ZJ3V6A	3.455	3.695	5	100	5	1000	1	10	1
ZJ3V6B	3.6	3.845	5	100	5	1000	1	10	1
ZJ3V9	3.74	4.16	5	100	5	1000	1	5	1
ZJ3V9A	3.74	4.01	5	100	5	1000	1	5	1
ZJ3V9B	3.89	4.16	5	100	5	1000	1	5	1
ZJ4V3	4.04	4.57	5	100	5	1000	1	5	1
ZJ4V3A	4.04	4.29	5	100	5	1000	1	5	1
ZJ4V3B	4.17	4.43	5	100	5	1000	1	5	1
ZJ4V3C	4.3	4.57	5	100	5	1000	1	5	1



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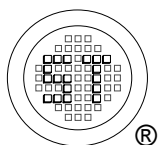
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ZJ Series

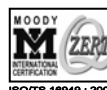
Characteristics at $T_a = 25\text{ }^\circ\text{C}$ ($V_F = 1\text{ V Max. at } I_F = 100\text{ mA}$)

Type	Zener Voltage ¹⁾		Operating Resistance		Rising Operating Resistance		Reverse Current		
	V_Z		at I_{ZT}	Z_{ZT}	at I_{ZT}	Z_{ZK}	at I_{ZK}	I_R	at V_R
	Min. (V)	Max. (V)	(mA)	Max. (Ω)	(mA)	Max. (Ω)	(mA)	Max. (μA)	(V)
ZJ4V7	4.44	4.93	5	80	5	900	0.5	5	1
ZJ4V7A	4.44	4.68	5	80	5	900	0.5	5	1
ZJ4V7B	4.55	4.8	5	80	5	900	0.5	5	1
ZJ4V7C	4.68	4.93	5	80	5	900	0.5	5	1
ZJ5V1	4.81	5.37	5	70	5	1200	1	5	1.5
ZJ5V1A	4.81	5.07	5	70	5	1200	1	5	1.5
ZJ5V1B	4.94	5.2	5	70	5	1200	1	5	1.5
ZJ5V1C	5.09	5.37	5	70	5	1200	1	5	1.5
ZJ5V6	5.28	5.91	5	40	5	900	1	5	2.5
ZJ5V6A	5.28	5.55	5	40	5	900	1	5	2.5
ZJ5V6B	5.45	5.73	5	40	5	900	1	5	2.5
ZJ5V6C	5.61	5.91	5	40	5	900	1	5	2.5
ZJ6V2	5.78	6.44	5	30	5	500	1	5	3
ZJ6V2A	5.78	6.09	5	30	5	500	1	5	3
ZJ6V2B	5.96	6.27	5	30	5	500	1	5	3
ZJ6V2C	6.12	6.44	5	30	5	500	1	5	3
ZJ6V8	6.29	7.01	5	20	5	150	0.5	2	3.5
ZJ6V8A	6.29	6.63	5	20	5	150	0.5	2	3.5
ZJ6V8B	6.49	6.83	5	20	5	150	0.5	2	3.5
ZJ6V8C	6.66	7.01	5	20	5	150	0.5	2	3.5
ZJ7V5	6.85	7.67	5	20	5	120	0.5	0.5	4
ZJ7V5A	6.85	7.22	5	20	5	120	0.5	0.5	4
ZJ7V5B	7.07	7.45	5	20	5	120	0.5	0.5	4
ZJ7V5C	7.29	7.67	5	20	5	120	0.5	0.5	4
ZJ8V2	7.53	8.45	5	20	5	120	0.5	0.5	5
ZJ8V2A	7.53	7.92	5	20	5	120	0.5	0.5	5
ZJ8V2B	7.78	8.19	5	20	5	120	0.5	0.5	5
ZJ8V2C	8.03	8.45	5	20	5	120	0.5	0.5	5
ZJ9V1	8.29	9.3	5	20	5	120	0.5	0.5	6
ZJ9V1A	8.29	8.73	5	20	5	120	0.5	0.5	6
ZJ9V1B	8.57	9.01	5	20	5	120	0.5	0.5	6
ZJ9V1C	8.83	9.3	5	20	5	120	0.5	0.5	6
ZJ10	9.12	10.44	5	20	5	120	0.5	0.2	7
ZJ10A	9.12	9.59	5	20	5	120	0.5	0.2	7
ZJ10B	9.41	9.9	5	20	5	120	0.5	0.2	7
ZJ10C	9.7	10.2	5	20	5	120	0.5	0.2	7
ZJ10D	9.94	10.44	5	20	5	120	0.5	0.2	7
ZJ11	10.18	11.38	5	20	5	120	0.5	0.2	8
ZJ11A	10.18	10.71	5	20	5	120	0.5	0.2	8
ZJ11B	10.5	11.05	5	20	5	120	0.5	0.2	8
ZJ11C	10.82	11.38	5	20	5	120	0.5	0.2	8
ZJ12	11.13	12.35	5	25	5	110	0.5	0.2	9
ZJ12A	11.13	11.71	5	25	5	110	0.5	0.2	9
ZJ12B	11.44	12.03	5	25	5	110	0.5	0.2	9
ZJ12C	11.74	12.35	5	25	5	110	0.5	0.2	9
ZJ13	12.11	13.66	5	25	5	110	0.5	0.2	10
ZJ13A	12.11	12.75	5	25	5	110	0.5	0.2	10
ZJ13B	12.55	13.21	5	25	5	110	0.5	0.2	10
ZJ13C	12.99	13.66	5	25	5	110	0.5	0.2	10



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ISO/TS 18949:2002 Certificate No. 08103

ISO 14001:2004 Certificate No. 7116

ISO 9001:2000 Certificate No. 080058

BS-OHSAS 18001:2007 Certificate No. 7116

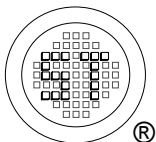
IEC QC 080000 Certificate No. 080058

Dated : 18/07/2009

ZJ Series

Characteristics at $T_a = 25\text{ }^\circ\text{C}$ ($V_F = 1\text{ V Max. at } I_F = 100\text{ mA}$)

Type	Zener Voltage ¹⁾			Operating Resistance		Rising Operating Resistance		Reverse Current	
	V_Z		at I_{ZT}	Z_{ZT}	at I_{ZT}	Z_{ZK}	at I_{ZK}	I_R	at V_R
	Min. (V)	Max. (V)	(mA)	Max. (Ω)	(mA)	Max. (Ω)	(mA)	Max. (μA)	(V)
ZJ15	13.44	15.09	5	25	5	110	0.5	0.2	11
ZJ15A	13.44	14.13	5	25	5	110	0.5	0.2	11
ZJ15B	13.89	14.62	5	25	5	110	0.5	0.2	11
ZJ15C	14.35	15.09	5	25	5	110	0.5	0.2	11
ZJ16	14.8	16.51	5	25	5	150	0.5	0.2	12
ZJ16A	14.8	15.57	5	25	5	150	0.5	0.2	12
ZJ16B	15.25	16.04	5	25	5	150	0.5	0.2	12
ZJ16C	15.69	16.51	5	25	5	150	0.5	0.2	12
ZJ18	16.22	18.33	5	30	5	150	0.5	0.2	13
ZJ18A	16.22	17.06	5	30	5	150	0.5	0.2	13
ZJ18B	16.82	17.7	5	30	5	150	0.5	0.2	13
ZJ18C	17.42	18.33	5	30	5	150	0.5	0.2	13
ZJ20	18.02	20.72	5	30	5	200	0.5	0.2	15
ZJ20A	18.02	18.96	5	30	5	200	0.5	0.2	15
ZJ20B	18.63	19.59	5	30	5	200	0.5	0.2	15
ZJ20C	19.23	20.22	5	30	5	200	0.5	0.2	15
ZJ20D	19.72	20.72	5	30	5	200	0.5	0.2	15
ZJ22	20.15	22.63	5	30	5	200	0.5	0.2	17
ZJ22A	20.15	21.2	5	30	5	200	0.5	0.2	17
ZJ22B	20.64	21.71	5	30	5	200	0.5	0.2	17
ZJ22C	21.08	22.17	5	30	5	200	0.5	0.2	17
ZJ22D	21.52	22.63	5	30	5	200	0.5	0.2	17
ZJ24	22.05	24.85	5	35	5	200	0.5	0.2	19
ZJ24A	22.05	23.18	5	35	5	200	0.5	0.2	19
ZJ24B	22.61	23.77	5	35	5	200	0.5	0.2	19
ZJ24C	23.12	24.31	5	35	5	200	0.5	0.2	19
ZJ24D	23.63	24.85	5	35	5	200	0.5	0.2	19
ZJ27	24.26	27.64	5	45	5	250	0.5	0.2	21
ZJ27A	24.26	25.52	5	45	5	250	0.5	0.2	21
ZJ27B	24.97	26.26	5	45	5	250	0.5	0.2	21
ZJ27C	25.63	26.95	5	45	5	250	0.5	0.2	21
ZJ27D	26.29	27.64	5	45	5	250	0.5	0.2	21
ZJ30	26.99	30.51	5	55	5	250	0.5	0.2	23
ZJ30A	26.99	28.39	5	55	5	250	0.5	0.2	23
ZJ30B	27.7	29.13	5	55	5	250	0.5	0.2	23
ZJ30C	28.36	29.82	5	55	5	250	0.5	0.2	23
ZJ30D	29.02	30.51	5	55	5	250	0.5	0.2	23
ZJ33	29.68	33.11	5	65	5	250	0.5	0.2	25
ZJ33A	29.68	31.22	5	65	5	250	0.5	0.2	25
ZJ33B	30.32	31.88	5	65	5	250	0.5	0.2	25
ZJ33C	30.9	32.5	5	65	5	250	0.5	0.2	25
ZJ33D	31.49	33.11	5	65	5	250	0.5	0.2	25
ZJ36	32.14	35.77	5	75	5	250	0.5	0.2	27
ZJ36A	32.14	33.79	5	75	5	250	0.5	0.2	27
ZJ36B	32.79	34.49	5	75	5	250	0.5	0.2	27
ZJ36C	33.4	35.13	5	75	5	250	0.5	0.2	27
ZJ36D	34.01	35.77	5	75	5	250	0.5	0.2	27
ZJ39	34.68	40.8	5	85	5	250	0.5	0.2	30
ZJ39A	34.68	36.47	5	85	5	250	0.5	0.2	30



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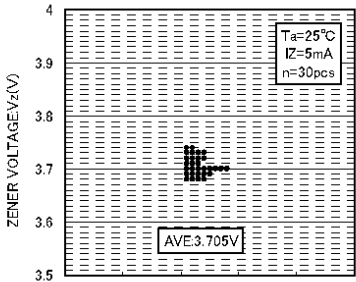
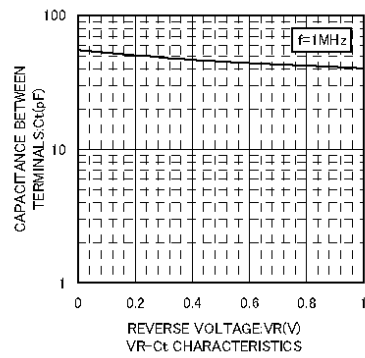
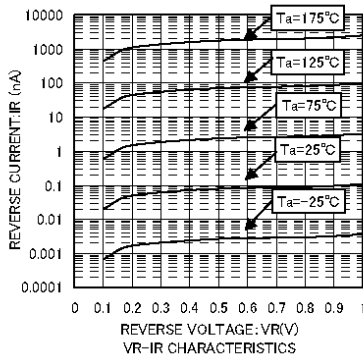
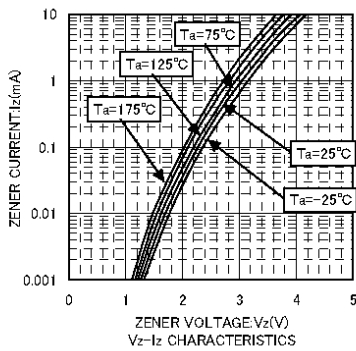
ZJ Series

Characteristics at $T_a = 25\text{ }^\circ\text{C}$ ($V_F = 1\text{ V Max. at } I_F = 100\text{ mA}$)

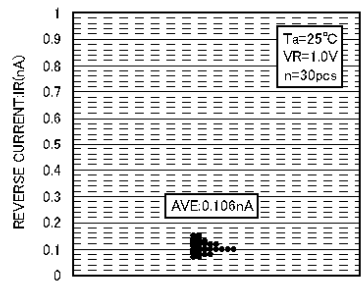
Type	Zener Voltage ¹⁾		Operating Resistance		Rising Operating Resistance		Reverse Current		
	V_Z		at I_{ZT}	Z_{ZT}	at I_{ZT}	Z_{ZK}	at I_{ZK}	I_R	at V_R
	Min. (V)	Max. (V)	(mA)	Max. (Ω)	(mA)	Max. (Ω)	(mA)	Max. (μA)	(V)
ZJ39B	35.36	37.19	5	85	5	250	0.5	0.2	30
ZJ39C	36	37.85	5	85	5	250	0.5	0.2	30
ZJ39D	36.63	38.52	5	85	5	250	0.5	0.2	30
ZJ39E	37.36	39.29	5	85	5	250	0.5	0.2	30
ZJ39F	38.14	40.11	5	85	5	250	0.5	0.2	30
ZJ39G	38.94	40.8	5	85	5	250	0.5	0.2	30
ZJ43	40	45	5	90	5	250	0.5	0.2	33
ZJ47	44	49	5	90	5	250	0.5	0.2	36
ZJ51	48	54	5	110	5	250	0.5	0.2	39
ZJ56	53	60	5	110	5	250	0.5	0.2	43

¹⁾ Tested with pulses $t_p = 20\text{ ms}$.

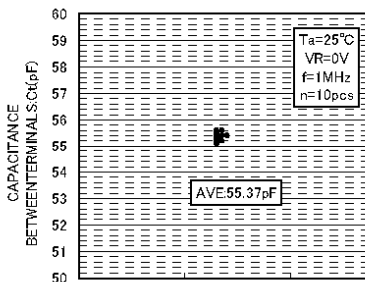
Not



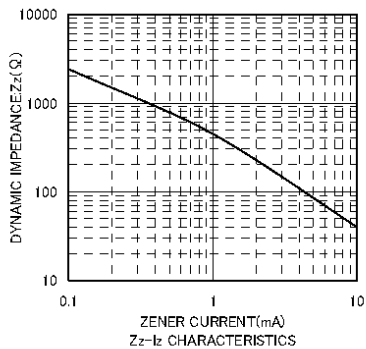
V_Z DISRESION MAP



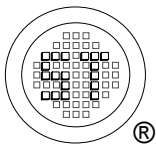
I_R DISRESION MAP



C_t DISRESION MAP

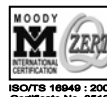


Z_z - I_Z CHARACTERISTICS



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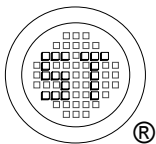
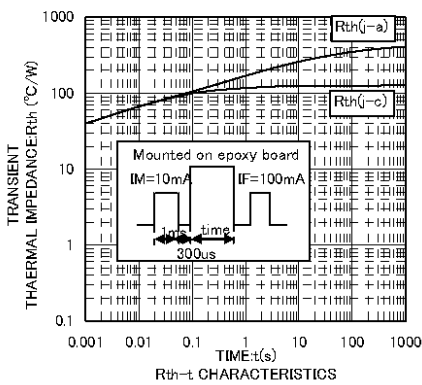
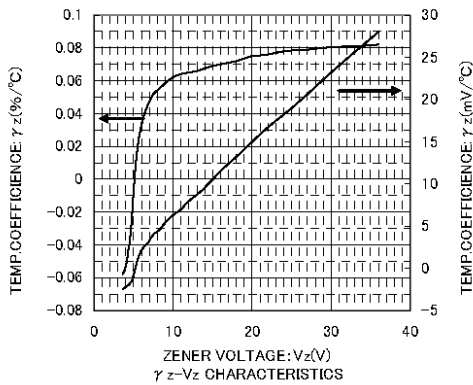
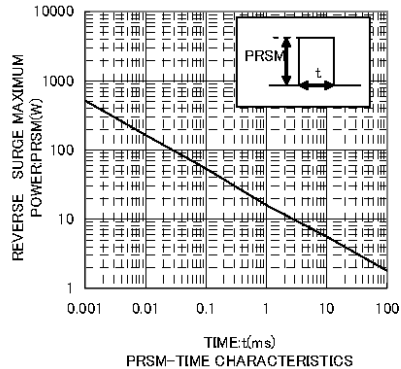
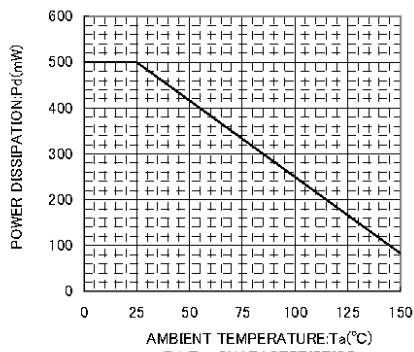
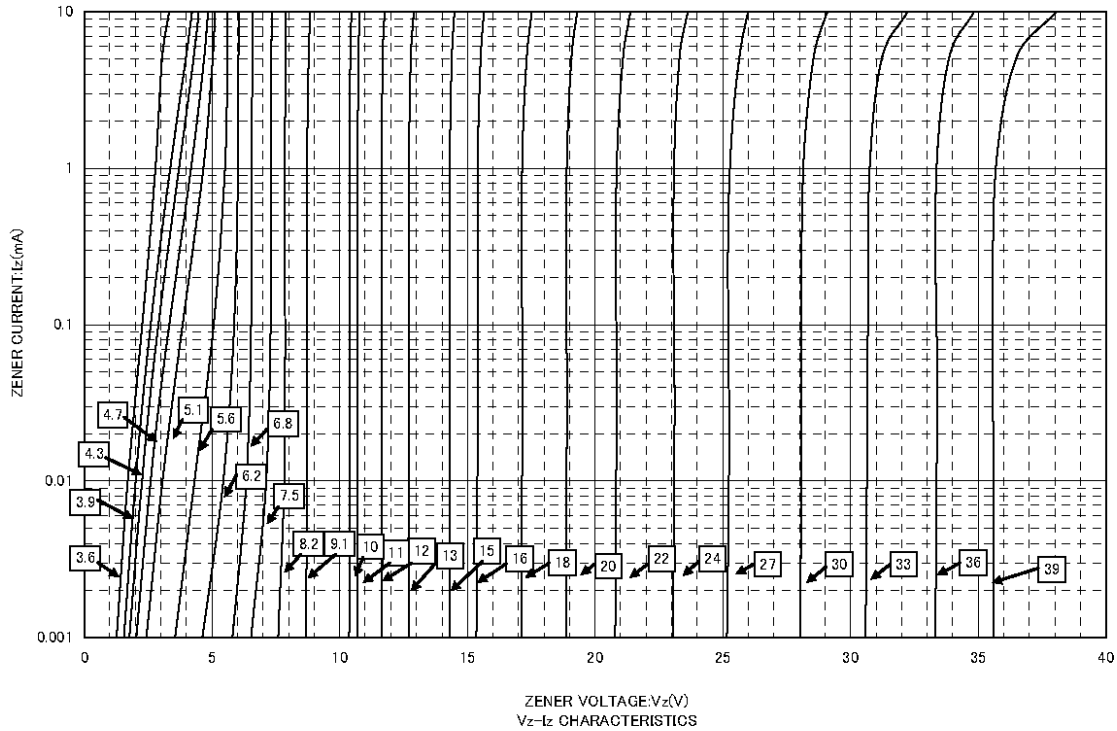
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ISO/TS 16949:2002 Certificate No. 08103 | ISO 14001:2004 Certificate No. 7116 | ISO 9001:2000 Certificate No. 080059 | BS-OHSAS 18001:2007 Certificate No. 7116 | IECQ QC 080000 Certificate No. 7116

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ZJ Series



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