



# Zener diode

## Features

1. DO-35 Glass sealed package
2. Planar process
3. Vz applied E24 standard

## Applications

Circuits for constant voltage, constant current, waveform clipper, surge absorber, etc.



## Absolute Maximum Ratings

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

Parameter	Symbol	Value	Unit
Forward Current	$I_f$	150	mA
Power Dissipation	$P_V$	400	mW
Surge Reverse Power	$P_{RSM}$	100	W
Junction Temperature	$T_j$	175	$^{\circ}\text{C}$
Storage Temperature	$T_{stg}$	-65~+175	$^{\circ}\text{C}$

Stresses exceeding maximum ratings may damage the device. Maximum ratings are stress ratings only. Functional operation above the recommended operating conditions is not implied. Extended exposure to stresses above the recommended operating conditions may affect device reliability.



**Electrical Characteristics**

T<sub>j</sub>=25°C

Type Number	Suffix	Zener voltage			Dynamic Impedance		Knee Dynamic Impedance		Reverse current	
		V <sub>z</sub> (V)			Z <sub>zt</sub> (Ω)		Z <sub>zk</sub> (Ω)		I <sub>R</sub> (μA)	
		Min.	Max.	I <sub>z</sub> (mA)	Max.	I <sub>z</sub> (mA)	Max.	I <sub>z</sub> (mA)	Max.	V <sub>R</sub> (V)
RD 2.0 E	-	1.88	2.24	5	100	5	1000	0.5	120	0.5
	A	1.88	2.12							
	B	2.01	2.24							
RD 2.2 E	-	2.11	2.44	5	100	5	1000	0.5	120	0.7
	A	2.11	2.34							
	B	2.22	2.44							
RD 2.4 E	-	2.32	2.65	5	100	5	1000	0.5	120	1.0
	A	2.32	2.54							
	B	2.41	2.65							
RD 2.7 E	-	2.52	2.93	5	110	5	1000	0.5	100	1.0
	A	2.52	2.77							
	B	2.68	2.93							
RD 3.0 E	-	2.84	3.24	5	120	5	1000	0.5	50	1.0
	A	2.84	3.08							
	B	2.99	3.24							
RD 3.3 E	-	3.15	3.54	5	120	5	1000	0.5	20	1.0
	A	3.15	3.39							
	B	3.31	3.54							
RD 3.6 E	-	3.46	3.84	5	120	5	1100	0.5	10	1.0
	A	3.46	3.69							
	B	3.60	3.84							
RD 3.9 E	-	3.74	4.16	5	120	5	1200	0.5	5	1.0
	A	3.74	4.01							
	B	3.89	4.16							
RD 4.3 E	-	4.04	4.57	5	120	5	1200	0.5	5	1.0
	A	4.04	4.29							
	B	4.17	4.43							
	C	4.30	4.57							
RD 4.7 E	-	4.44	4.93	5	100	5	1200	0.5	5	1.0
	A	4.44	4.68							
	B	4.55	4.80							
	C	4.68	4.93							
RD 5.1 E	-	4.81	5.37	5	70	5	1200	0.5	5	1.5
	A	4.81	5.07							
	B	4.94	5.20							
	C	5.09	5.37							
RD 5.6 E	-	5.28	5.91	5	40	5	900	0.5	5	2.5
	A	5.28	5.55							
	B	5.45	5.73							
	C	5.61	5.91							
RD 6.2 E	-	5.78	6.44	5	30	5	500	0.5	5	3.0
	A	5.78	6.09							
	B	5.96	6.27							
	C	6.12	6.44							

**Excel Semiconductor**



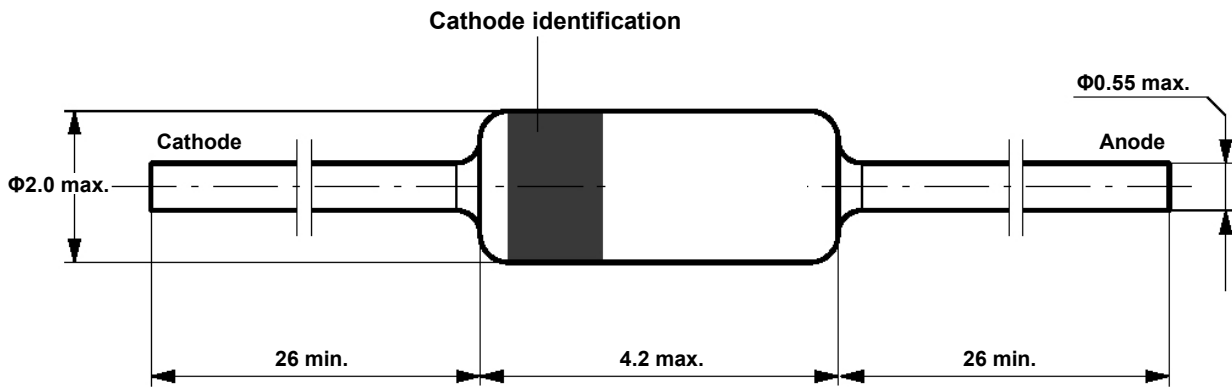
Type Number	Suffix	Zener voltage			Dynamic Impedance		Knee Dynamic Impedance		Reverse current	
		Vz (V)		Iz (mA)	Zzt (Ω)		Zzk (Ω)		IR (μA)	
		Min.	Max.	Iz (mA)	Max.	Iz (mA)	Max.	Iz (mA)	Max.	VR (V)
RD 6.8 E	-	6.29	7.01	5	25	5	150	0.5	2	3.5
	A	6.29	6.63							
	B	6.49	6.83							
	C	6.66	7.01							
RD 7.5 E	-	6.85	7.67	5	25	5	120	0.5	0.5	4.0
	A	6.85	7.22							
	B	7.07	7.45							
	C	7.29	7.67							
RD 8.2 E	-	7.53	8.45	5	20	5	120	0.5	0.5	5.0
	A	7.53	7.92							
	B	7.78	8.19							
	C	8.03	8.45							
RD 9.1 E	-	8.29	9.30	5	20	5	120	0.5	0.5	6.0
	A	8.29	8.73							
	B	8.57	9.01							
	C	8.83	9.30							
RD 10 E	-	9.12	10.39	5	20	5	120	0.5	0.2	7.0
	A	9.12	9.65							
	B	9.46	10.02							
	C	9.82	10.39							
RD 11 E	-	10.18	11.38	5	20	5	120	0.5	0.2	8.0
	A	10.18	10.71							
	B	10.50	11.05							
	C	10.82	11.38							
RD 12 E	-	11.13	12.35	5	25	5	110	0.5	0.2	9.0
	A	11.13	11.71							
	B	11.44	12.03							
	C	11.74	12.35							
RD 13 E	-	12.11	13.66	5	25	5	110	0.5	0.2	10
	A	12.11	12.75							
	B	12.55	13.21							
	C	12.99	13.66							
RD 15 E	-	13.44	15.09	5	25	5	110	0.5	0.2	11
	A	13.44	14.13							
	B	13.89	14.62							
	C	14.35	15.09							
RD 16 E	-	14.80	16.51	5	25	5	150	0.5	0.2	12
	A	14.80	15.57							
	B	15.25	16.04							
	C	15.69	16.51							
RD 18 E	-	16.22	18.33	5	30	5	150	0.5	0.2	13
	A	16.22	17.06							
	B	16.82	17.70							
	C	17.42	18.33							



Type Number	Suffix	Zener voltage			Dynamic Impedance		Knee Dynamic Impedance		Reverse current	
		Vz (V)		Iz (mA)	Zzt ( $\Omega$ )		Zzk ( $\Omega$ )		IR ( $\mu$ A)	
		Min.	Max.		Max.	Iz (mA)	Max.	Iz (mA)	Max.	VR (V)
RD 20 E	-	18.14	20.45	5	30	5	200	0.5	0.2	15
	A	18.14	19.07							
	B	18.80	19.76							
	C	19.45	20.45							
RD 22 E	-	20.15	22.63	5	30	5	200	0.5	0.2	17
	A	20.15	21.20							
	B	20.64	21.71							
	C	21.08	22.17							
RD 24 E	-	22.05	24.85	5	35	5	200	0.5	0.2	19
	A	22.05	23.18							
	B	22.61	23.77							
	C	23.12	24.13							
RD 27 E	-	24.26	27.64	5	45	5	250	0.5	0.2	21
	A	24.26	25.52							
	B	24.97	26.26							
	C	25.63	26.95							
RD 30 E	-	26.99	30.51	5	55	5	250	0.5	0.2	23
	A	26.99	28.39							
	B	27.70	29.13							
	C	28.36	29.82							
RD 33 E	-	29.68	33.11	5	65	5	250	0.5	0.2	25
	A	29.68	31.22							
	B	30.32	31.88							
	C	30.90	32.50							
RD 36 E	-	32.14	35.77	5	75	5	250	0.5	0.2	27
	A	32.14	33.79							
	B	32.79	34.49							
	C	33.40	35.13							
RD 39 E	-	34.68	38.52	5	85	5	250	0.5	0.2	30
	A	34.68	36.47							
	B	35.36	37.19							
	C	36.00	37.85							
	D	36.63	38.52							



**Dimensions in mm**



Standard Glass Case  
JEDEC DO-35