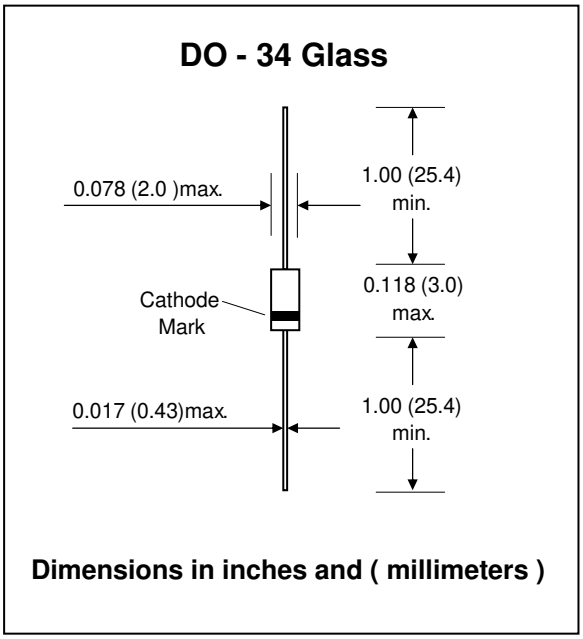
RD2.0ES SERIES

ZENER DIODES

V_Z : 2.0 - 37.5Volts
P_D : 400 mW



FEATURES :
* High reliability
* Low leakage current
* Suitable for 5mm - pitch high speed automatical insertion
* Pb / RoHS Free

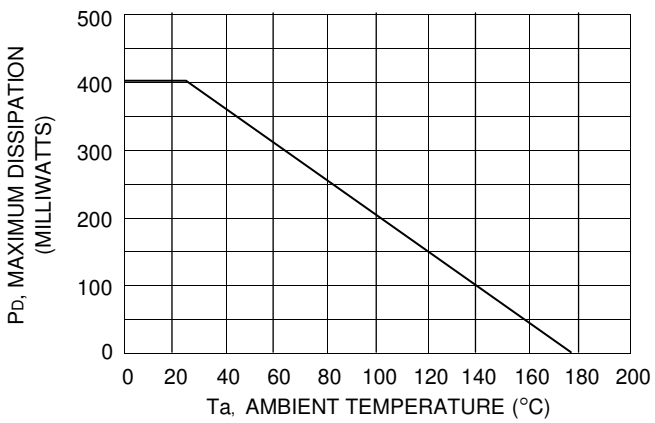
MECHANICAL DATA
Case: DO-34 Glass Case
Weight: approx. 0.093g

ORDERING INFORMATION
RD2.0ES to RD39ES with suffix "AB1", "AB2", or "AB3" should be applied for oders for suffix "AB"

MAXIMUM RATINGS
Rating at 25 °C ambient temperature unless otherwise specified

Parameter	Symbol	Value	Unit
Forward Rectifier Current	I_F	150	mA
Power Dissipation	P_D	400	mW
Surge Reverse Power (t = 10μs)	P_{RSM}	100	W
Junction Temperature	Tj	175	°C
Storage Temperature Range	Tstg	- 65 to + 175	°C

Fig. 1 POWER DISSIPATION vs. AMBIENT TEMPERATURE



ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

Type	Suffix	Zener Voltage(1) Vz (V) at IZT		Test Current IZT	Maximum Zener(2) Impedance			Maximum Reverse Current	
					ZZT @ IZT	ZZK @ IZK	IZK	IR	at VR
		min.	max.	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)
RD2.0ES	AB	1.88	2.20	5	100	1000	0.5	120	0.5
	AB1	1.88	2.10						
	AB2	2.02	2.20						
RD2.2ES	AB	2.12	2.41	5	100	1000	0.5	120	0.7
	AB1	2.12	2.30						
	AB2	2.22	2.41						
RD2.4ES	AB	2.33	2.63	5	100	1000	0.5	120	1.0
	AB1	2.33	2.52						
	AB2	2.43	2.63						
RD2.7ES	AB	2.54	2.91	5	110	1000	0.5	100	1.0
	AB1	2.54	2.75						
	AB2	2.69	2.91						
RD3.0ES	AB	2.85	3.22	5	120	1000	0.5	50	1.0
	AB1	2.85	3.07						
	AB2	3.01	3.22						
RD3.3ES	AB	3.16	3.53	5	120	1000	0.5	20	1.0
	AB1	3.16	3.38						
	AB2	3.32	3.53						
RD3.6ES	AB	3.47	3.83	5	120	1100	0.5	10	1.0
	AB1	3.47	3.68						
	AB2	3.62	3.83						
RD3.9ES	AB	3.77	4.14	5	120	1200	0.5	5	1.0
	AB1	3.77	3.98						
	AB2	3.92	4.14						
RD4.3ES	AB	4.05	4.53	5	120	1200	0.5	5	1.0
	AB1	4.05	4.26						
	AB2	4.20	4.40						
	AB3	4.34	4.53						
RD4.7ES	AB	4.47	4.91	5	100	1200	0.5	5	1.0
	AB1	4.47	4.65						
	AB2	4.59	4.77						
	AB3	4.71	4.91						
RD5.1ES	AB	4.85	5.35	5	70	1200	0.5	5	1.5
	AB1	4.85	5.03						
	AB2	4.97	5.18						
	AB3	5.12	5.35						
RD5.6ES	AB	5.29	5.88	5	40	900	0.5	5	2.5
	AB1	5.29	5.52						
	AB2	5.46	5.70						
	AB3	5.64	5.88						
RD6.2ES	AB	5.81	6.40	5	30	500	0.5	5	3.0
	AB1	5.81	6.06						
	AB2	5.99	6.24						
	AB3	6.16	6.40						
RD6.8ES	AB	6.32	6.97	5	25	150	0.5	2	3.5
	AB1	6.32	6.59						
	AB2	6.52	6.79						
	AB3	6.70	6.97						

ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

Type	Suffix	Zener Voltage(1) Vz (V) at IZT		Test Current IZT	Maximum Zener(2) Impedance			Maximum Reverse Current	
					ZZT @ IZT	ZZK @ IZK	IZK	IR	at VR
		min.	max.	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)
RD7.5ES	AB	6.88	7.64	5	25	120	0.5	0.5	4.0
	AB1	6.88	7.19						
	AB2	7.11	7.41						
	AB3	7.33	7.64						
RD8.2ES	AB	7.56	8.41	5	20	120	0.5	0.5	5.0
	AB1	7.56	7.90						
	AB2	7.82	8.15						
	AB3	8.07	8.41						
RD9.1ES	AB	8.33	9.29	5	20	120	0.5	0.5	6.0
	AB1	8.33	8.70						
	AB2	8.61	8.99						
	AB3	8.89	9.29						
RD10ES	AB	9.19	10.30	5	20	120	0.5	0.2	7.0
	AB1	9.19	9.59						
	AB2	9.48	9.90						
	AB3	9.82	10.30						
RD11ES	AB	10.18	11.26	5	20	120	0.5	0.2	8.0
	AB1	10.18	10.63						
	AB2	10.50	10.95						
	AB3	10.82	11.26						
RD12ES	AB	11.13	12.30	5	25	110	0.5	0.2	9.0
	AB1	11.13	11.63						
	AB2	11.50	11.92						
	AB3	11.80	12.30						
RD13ES	AB	12.18	13.62	5	25	110	0.5	0.2	10
	AB1	12.18	12.71						
	AB2	12.59	13.16						
	AB3	13.03	13.62						
RD15ES	AB	13.48	15.02	5	25	110	0.5	0.2	11
	AB1	13.48	14.09						
	AB2	13.95	14.56						
	AB3	14.42	15.02						
RD16ES	AB	14.87	16.50	5	25	150	0.5	0.2	12
	AB1	14.87	15.50						
	AB2	15.33	15.96						
	AB3	15.79	16.50						
RD18ES	AB	16.34	18.30	5	30	150	0.5	0.2	13
	AB1	16.34	17.06						
	AB2	16.90	17.67						
	AB3	17.51	18.30						
RD20ES	AB	18.14	20.45	5	30	200	0.5	0.2	15
	AB1	18.14	18.96						
	AB2	18.80	19.68						
	AB3	19.52	20.45						

ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

Type	Suffix	Zener Voltage(1) Vz (V) at IZT		Test Current IZT	Maximum Zener Impedance(2)			Maximum Reverse Current	
					ZZT @ IZT	ZZK @ IZK	IZK	IR	at VR
		min.	max.	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)
RD22ES	AB	20.23	22.61	5	30	200	0.5	0.2	17
	AB1	20.23	21.08						
	AB2	20.76	21.65						
	AB3	21.22	22.09						
	AB4	21.68	22.61						
RD24ES	AB	22.26	24.81	5	30	200	0.5	0.2	19
	AB1	22.26	23.12						
	AB2	22.75	23.73						
	AB3	23.29	24.27						
	AB4	23.81	24.81						
RD27ES	AB	24.26	27.64	5	45	250	0.5	0.2	21
	AB1	24.26	25.52						
	AB2	24.97	26.26						
	AB3	25.63	26.95						
	AB4	26.29	27.64						
RD30ES	AB	26.99	30.51	5	55	250	0.5	0.2	23
	AB1	26.99	28.39						
	AB2	27.70	29.13						
	AB3	28.36	29.82						
	AB4	29.02	30.51						
RD33ES	AB	29.68	33.11	5	65	250	0.5	0.2	25
	AB1	29.68	31.22						
	AB2	30.32	31.88						
	AB3	30.90	32.50						
	AB4	31.49	33.11						
RD36ES	AB	32.14	35.77	5	75	250	0.5	0.2	27
	AB1	32.14	33.79						
	AB2	32.79	34.49						
	AB3	33.40	35.13						
	AB4	34.01	35.77						
RD39ES	AB	34.68	38.52	5	85	250	0.5	0.2	30
	AB1	34.68	36.47						
	AB2	35.36	37.19						
	AB3	36.00	37.85						
	AB4	36.63	38.52						

Notes :

(1) Tested with pulse (40 ms)

(2) Zz and Zzk are measured at Iz by given a very small AC. current signal.

(3) Suffix AB is Suffix AB1, AB2, AB3, or AB4