NEC

ZENER DIODES

RD4.7JS to RD39JS

DO-34 Package
Low noise, Sharp Breakdown characteristics
400 mW Zener Diode

DESCRIPTION

NEC Type RD [ ] JS series are DHD (Double Heatsink Diode) construction Mini Package (DO-34; Body length 2.4 mm Max.) possessing an allowable power dissipation of 400 mW, featuring low noise, sharp breakdown characteristic.

FEATURES

- DO-34 Glass sealed package
- Low noise
- Sharp Breakdown characteristic
- V_Z Applied E24 standard

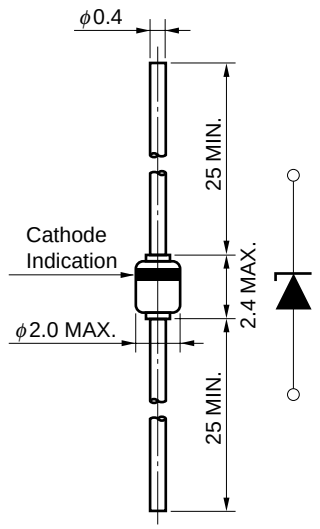
ORDER INFORMATION

RD4.7JS to RD39JS with suffix “AB1”, “AB2”, or “AB3” should be applied for orders for suffix “AB”.

APPLICATIONS

Circuits for, Constant Voltage, Constant Current, Wave form clipper, etc.

PACKAGE DIMENSIONS
(in milimeters)



DO-34 (JEDEC)
Marking color: Blue

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C)

Forward Current	I_F	150 mA	
Power Dissipation	P	400 mW	to see Fig. 5.
Surge Revese Power	P_{RSM}	2.4 W (t = 10 μs)	to see Fig. 9.
Junction Temperature	T_j	175 °C	
Storage Temperature	T_{stg}	–65 to +175 °C	

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ELECTRICAL CHARACTERISTICS (T_A = 25 °C)

Type Number	Suffix	Zener Voltage V_Z (V)[Note 1]			Dynamic Impedance Z_Z (Ω)[Note 2]		Knee Dynamic Impedance Z_{ZK} (Ω)[Note 2]		Reverse Current I_R (μA)	
		MIN.	MAX.	I_Z (mA)	MAX.	I_Z (mA)	MAX.	I_Z (mA)	MAX.	V_R (V)
RD4.7JS	AB	4.42	4.90	5	100	5	800	0.5	2	1.0
	AB1	4.42	4.61							
	AB2	4.55	4.75							
	AB3	4.69	4.90							
RD5.1JS	AB	4.84	5.37	5	80	5	500	0.5	2	1.5
	AB1	4.84	5.04							
	AB2	4.98	5.20							
	AB3	5.14	5.37							
RD5.6JS	AB	5.31	5.92	5	60	5	200	0.5	1	2.5
	AB1	5.31	5.55							
	AB2	5.49	5.73							
	AB3	5.67	5.92							
RD6.2JS	AB	5.86	6.53	5	60	5	100	0.5	1	3.0
	AB1	5.86	6.12							
	AB2	6.06	6.33							
	AB3	6.26	6.53							
RD6.8JS	AB	6.47	7.14	5	40	5	60	0.5	0.5	3.5
	AB1	6.47	6.73							
	AB2	6.65	6.93							
	AB3	6.86	7.14							
RD7.5JS	AB	7.06	7.84	5	30	5	60	0.5	0.5	4.0
	AB1	7.06	7.36							
	AB2	7.28	7.60							
	AB3	7.52	7.84							
RD8.2JS	AB	7.76	8.64	5	30	5	60	0.5	0.5	5.0
	AB1	7.76	8.10							
	AB2	8.02	8.36							
	AB3	8.28	8.64							
RD9.1JS	AB	8.56	9.55	5	30	5	60	0.5	0.5	6.0
	AB1	8.56	8.93							
	AB2	8.85	9.23							
	AB3	9.15	9.55							
RD10JS	AB	9.45	10.55	5	30	5	60	0.5	0.1	7.0
	AB1	9.45	9.87							
	AB2	9.77	10.21							
	AB3	10.11	10.55							
RD11JS	AB	10.44	11.56	5	30	5	60	0.5	0.1	8.0
	AB1	10.44	10.88							
	AB2	10.76	11.22							
	AB3	11.10	11.56							
RD12JS	AB	11.42	12.60	5	30	5	80	0.5	0.1	9.0
	AB1	11.42	11.90							
	AB2	11.74	12.24							
	AB3	12.08	12.60							
RD13JS	AB	12.47	13.69	5	37	5	80	0.5	0.1	10
	AB1	12.47	13.03							
	AB2	12.91	13.49							
	AB3	13.37	13.96							

Type Number	Suffix	Zener Voltage V_z (V)Note 1			Dynamic Impedance Z_z (Ω)Note 2		Knee Dynamic Impedance Z_{zk} (Ω)Note 2		Reverse Current I_R (μA)	
		MIN.	MAX.	I_z (mA)	MAX.	I_z (mA)	MAX.	I_z (mA)	MAX.	V_R (V)
RD15JS	AB	13.84	15.52	5	42	5	80	0.5	0.1	11
	AB1	13.84	14.46							
	AB2	14.34	14.98							
	AB3	14.85	15.52							
RD16JS	AB	15.37	17.09	5	50	5	80	0.5	0.1	12
	AB1	15.37	16.01							
	AB2	15.85	16.51							
	AB3	16.35	17.09							
RD18JS	AB	16.94	19.03	5	65	5	80	0.5	0.1	13
	AB1	16.94	17.70							
	AB2	17.56	18.35							
	AB3	18.21	19.03							
RD20JS	AB	18.86	21.08	5	85	5	100	0.5	0.1	15
	AB1	18.86	19.70							
	AB2	19.52	20.39							
	AB3	20.21	21.08							
RD22JS	AB	20.88	23.17	5	100	5	100	0.5	0.1	17
	AB1	20.88	21.77							
	AB2	21.54	22.47							
	AB3	22.23	23.17							
RD24JS	AB	22.93	25.57	5	120	5	120	0.5	0.1	19
	AB1	22.93	23.96							
	AB2	23.72	24.78							
	AB3	24.54	25.57							
RD27JS	AB	25.20	28.61	5	150	5	150	0.5	0.1	21
	AB1	25.20	26.50							
	AB2	26.19	27.53							
	AB3	27.21	28.61							
RD30JS	AB	28.22	31.74	5	200	5	200	0.5	0.1	23
	AB1	28.22	29.66							
	AB2	29.19	30.69							
	AB3	30.20	31.74							
RD33JS	AB	32.18	34.83	5	250	5	250	0.5	0.1	25
	AB1	32.18	32.78							
	AB2	32.15	33.79							
	AB3	33.13	34.83							
RD36JS	AB	34.12	37.91	5	300	5	300	0.5	0.1	27
	AB1	34.12	35.86							
	AB2	35.07	36.87							
	AB3	36.07	37.91							
RD39JS	AB	37.04	40.99	5	360	5	360	0.5	0.1	30
	AB1	37.04	38.94							
	AB2	38.00	39.94							
	AB3	38.99	40.99							

Note 1. tested with pulse (40 ms).

2. Z_z and Z_{zk} are measured at I_z by given a very small A.C. current signal.

3. Suffix AB is suffix AB1, AB2 or suffix AB3.

TYPICAL CHARACTERISTICS (T_A = 25 °C)

Fig. 1 I_Z-V_Z CHARACTERISTICS

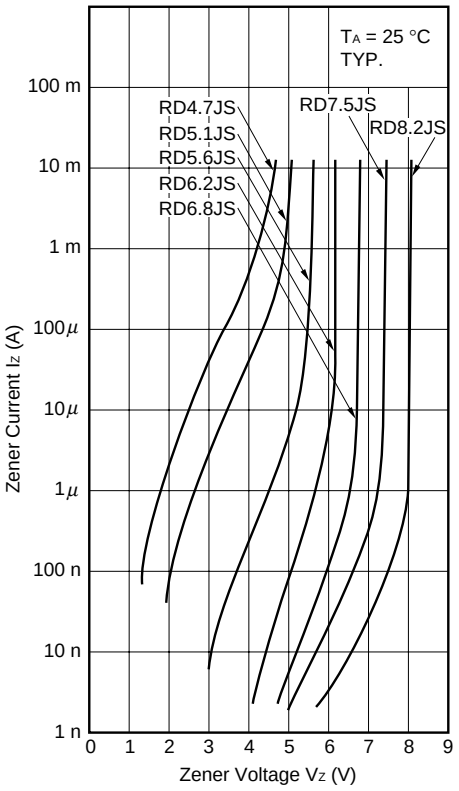


Fig. 2 I_Z-V_Z CHARACTERISTICS

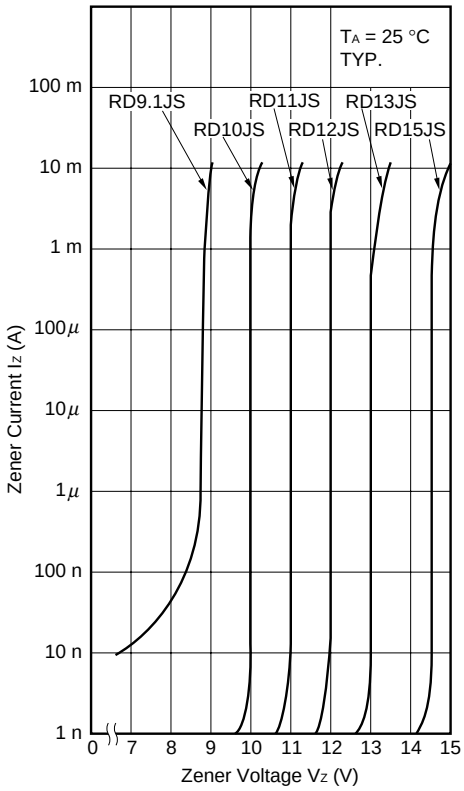


Fig. 3 I_Z-V_Z CHARACTERISTICS

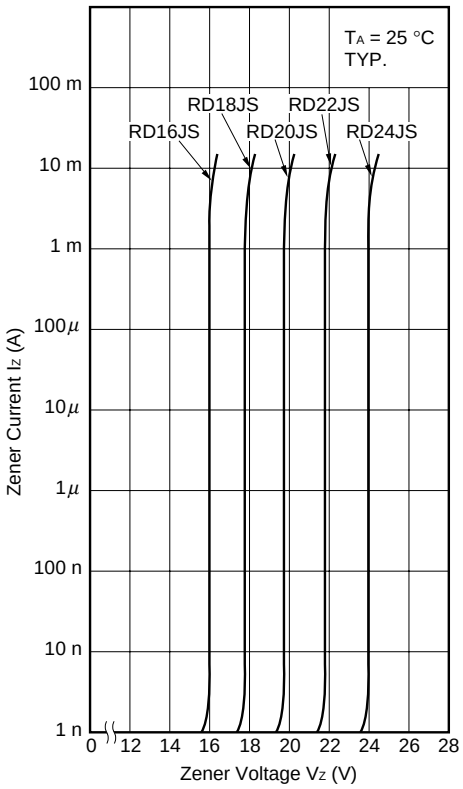


Fig. 4 I_Z-V_Z CHARACTERISTICS

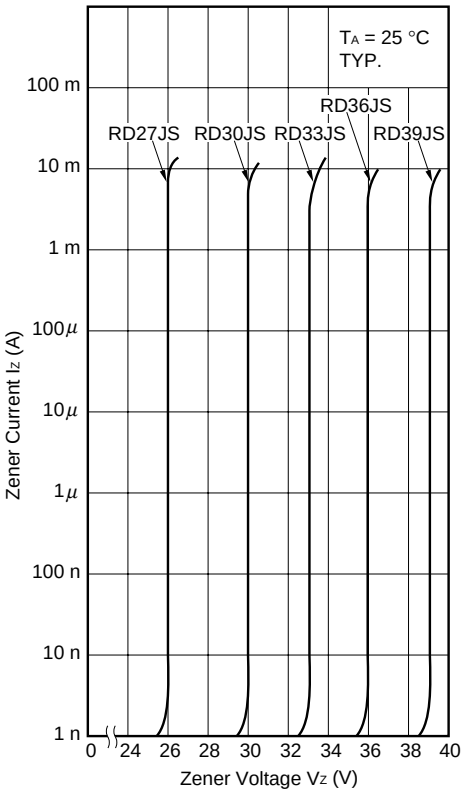


Fig. 5 P-T_A Rating

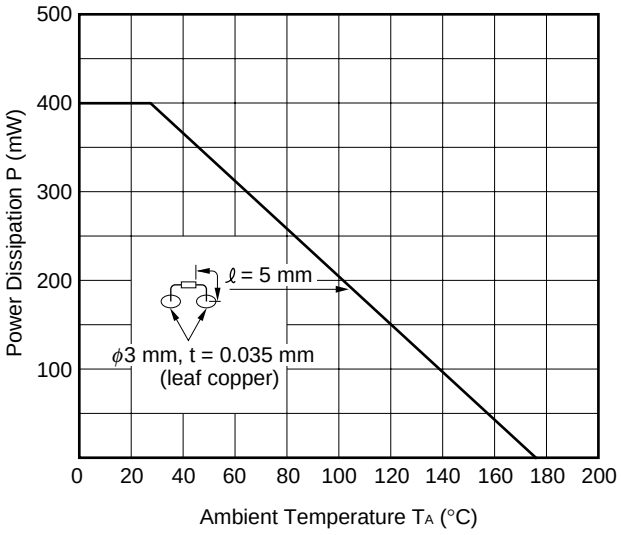


Fig. 6 γ_Z-V_Z CHARACTERISTICS

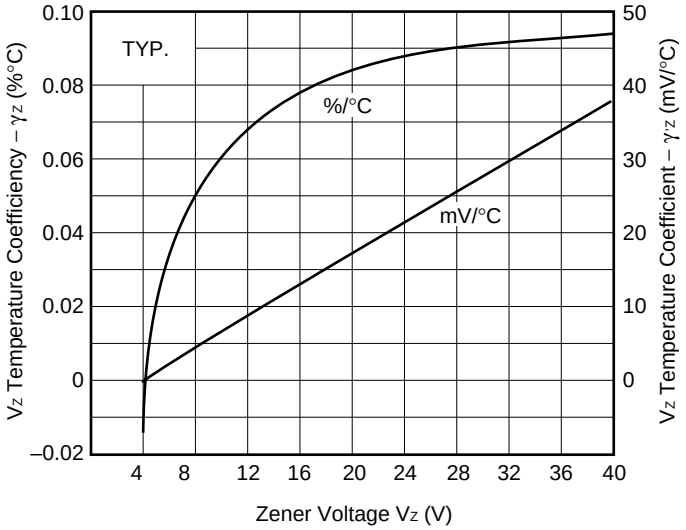


Fig. 7 R_{th}-S CHARACTERISTICS

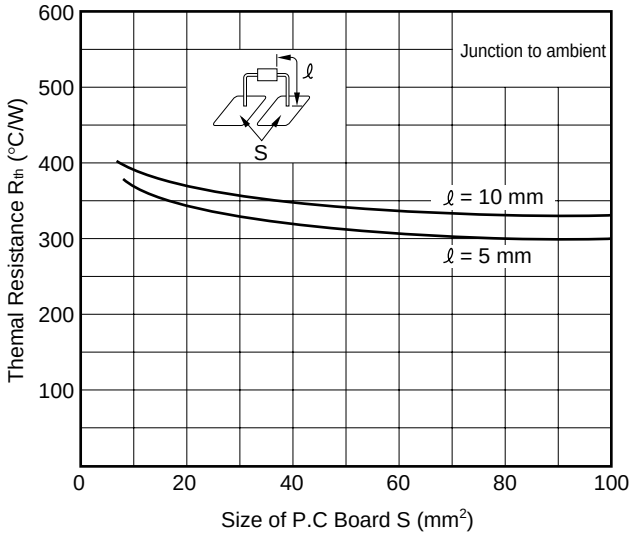


Fig. 8 e_n-V_Z CHARACTERISTICS

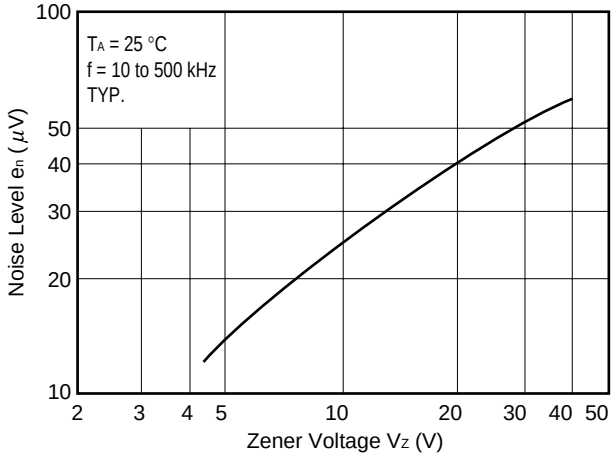


Fig. 9 SURGE REVERSE POWER RATINGS

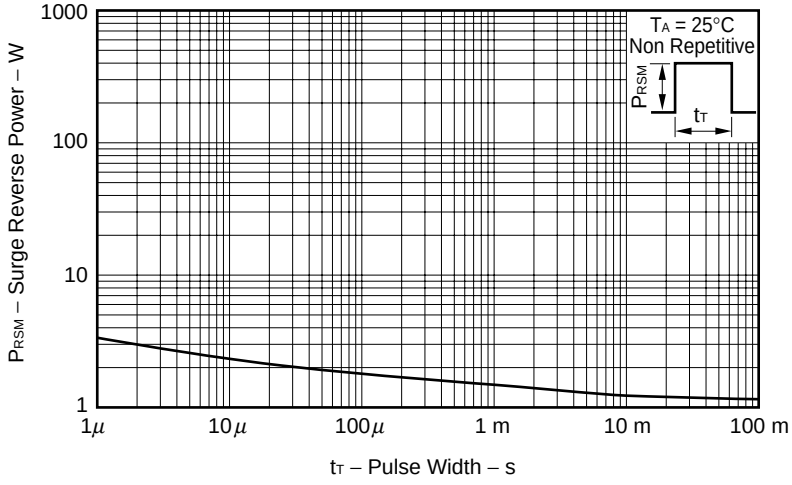
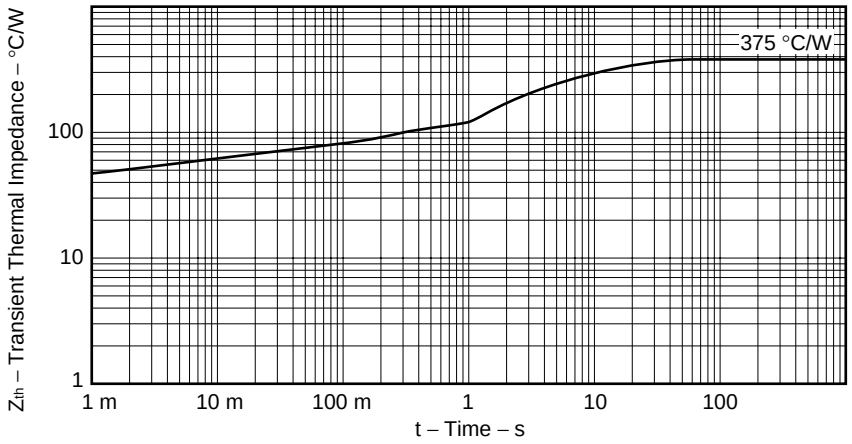


Fig. 10 TRANSIENT THERMAL IMPEDANCE CHARACTERISTIC



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