

# 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

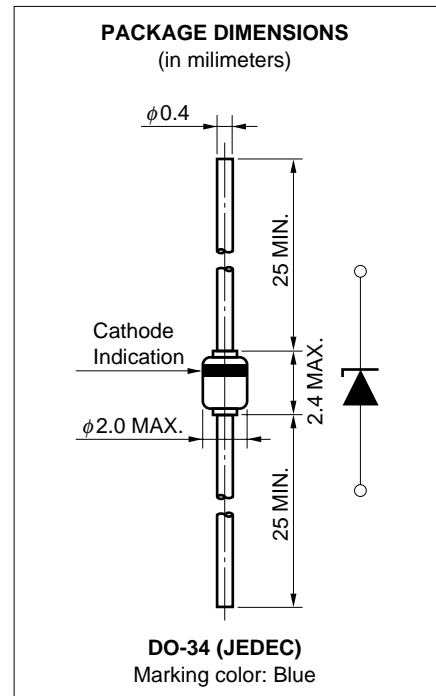
RD4.7JS to RD39JS with suffix "AB1", "AB2", or "AB3" should be applied for orders for suffix "AB".

### APPLICATIONS

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

### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25\text{ }^\circ\text{C}$ )

Forward Current	$I_F$	150 mA	
Power Dissipation	P	400 mW	to see Fig. 5.
Surge Reverse Power	$P_{RSM}$	2.4 W ( $t = 10\text{ }\mu\text{s}$ )	to see Fig. 9.
Junction Temperature	$T_j$	175 $^\circ\text{C}$	
Storage Temperature	$T_{stg}$	-65 to +175 $^\circ\text{C}$	



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Not all devices/types available in every country. Please check with local NEC representative for availability and additional information.

**ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25 °C)**

Type Number	Suffix	Zener Voltage V <sub>z</sub> (V) <sup>Note 1</sup>			Dynamic Impedance Z <sub>z</sub> (Ω) <sup>Note 2</sup>		Knee Dynamic Impedance Z <sub>zk</sub> (Ω) <sup>Note 2</sup>		Reverse Current 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)
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) <sup>Note 1</sup>			Dynamic Impedance $Z_z$ ( $\Omega$ ) <sup>Note 2</sup>		Knee Dynamic Impedance $Z_{zk}$ ( $\Omega$ ) <sup>Note 2</sup>		Reverse Current $I_R$ ( $\mu A$ )	
		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 ( $T_A = 25\text{ }^\circ\text{C}$ )

Fig. 1  $I_z$ - $V_z$  CHARACTERISTICS

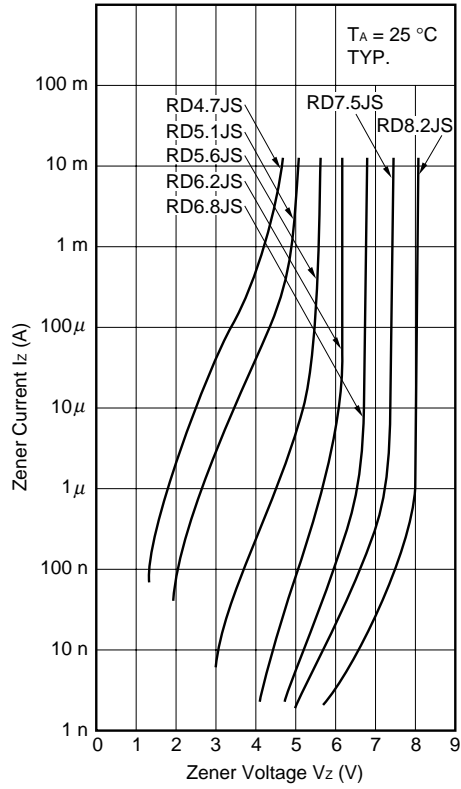


Fig. 2  $I_z$ - $V_z$  CHARACTERISTICS

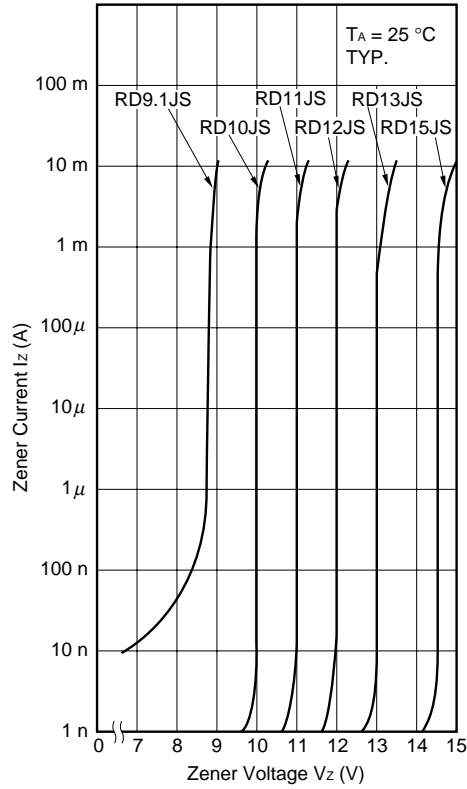


Fig. 3  $I_z$ - $V_z$  CHARACTERISTICS

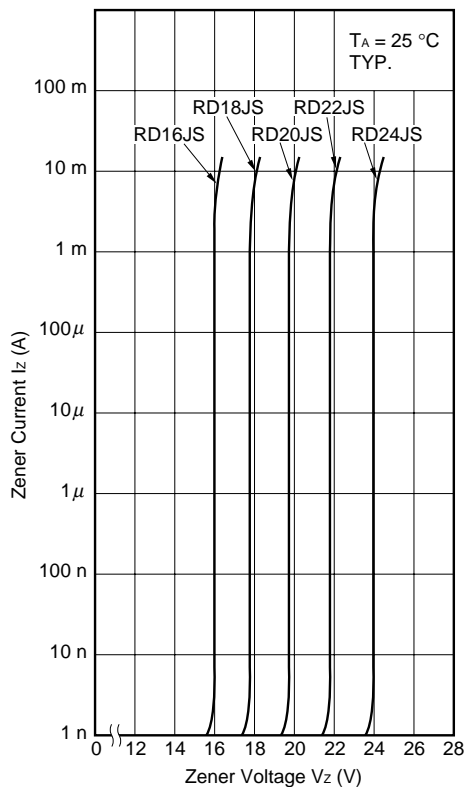


Fig. 4  $I_z$ - $V_z$  CHARACTERISTICS

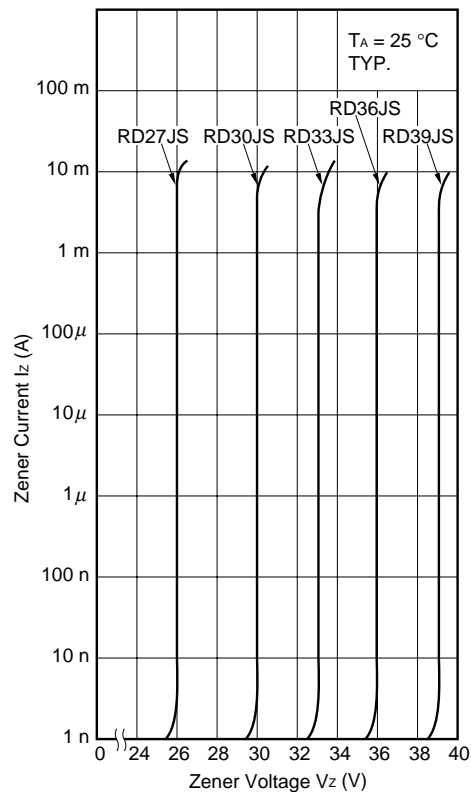


Fig. 5 P-T<sub>A</sub> Rating

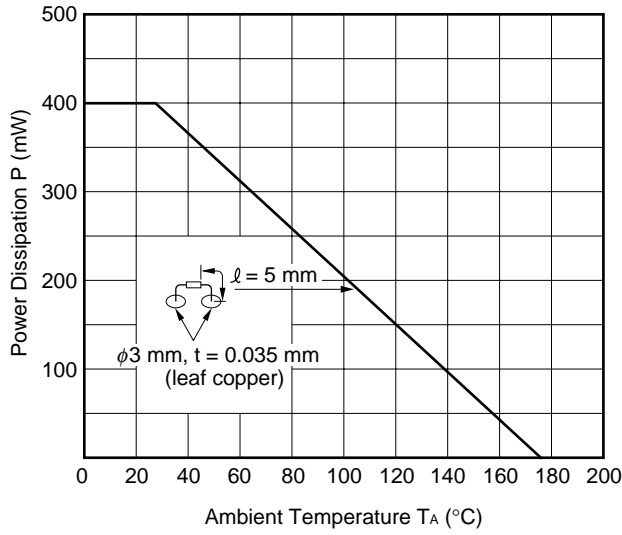


Fig. 6  $\gamma_z$ -V<sub>z</sub> CHARACTERISTICS

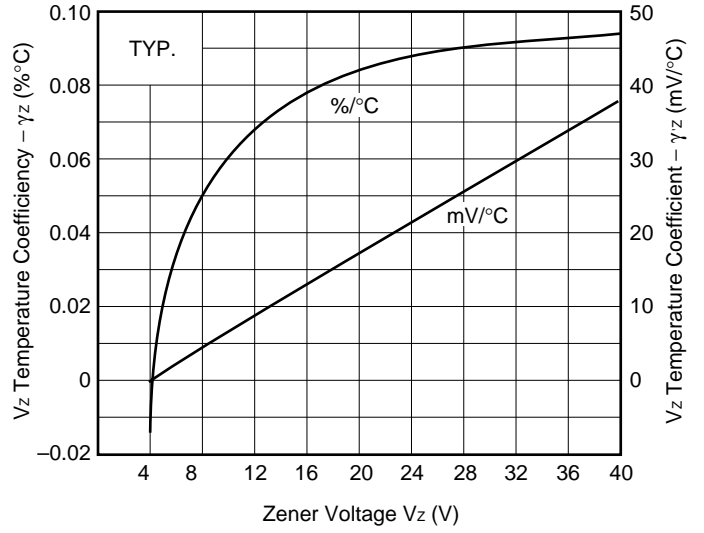


Fig. 7 R<sub>th</sub>-S CHARACTERISTICS

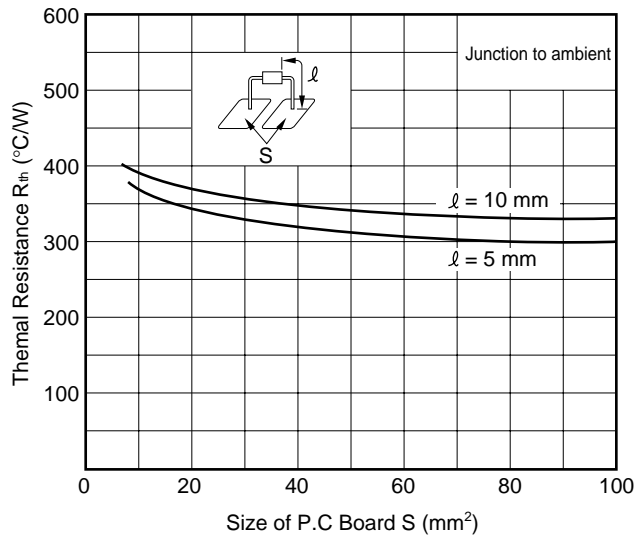


Fig. 8 e<sub>n</sub>-V<sub>z</sub> CHARACTERISTICS

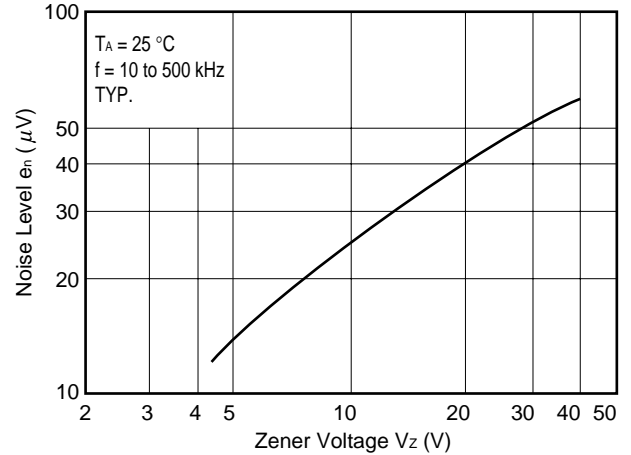


Fig. 9 SURGE REVERSE POWER RATINGS

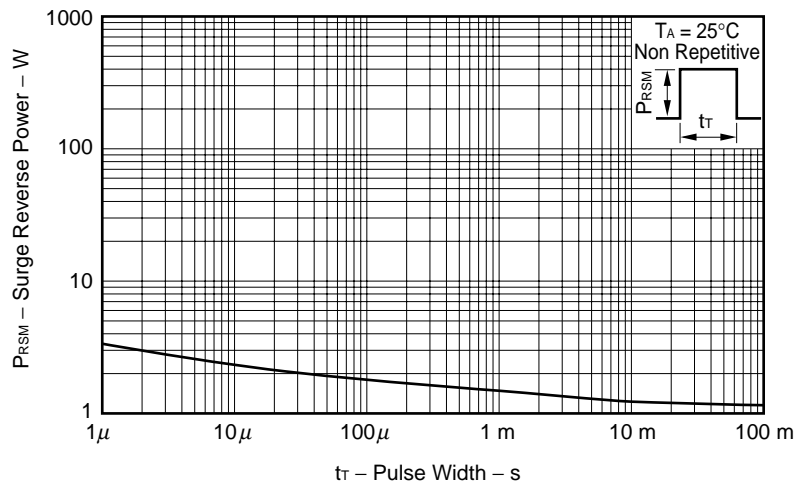
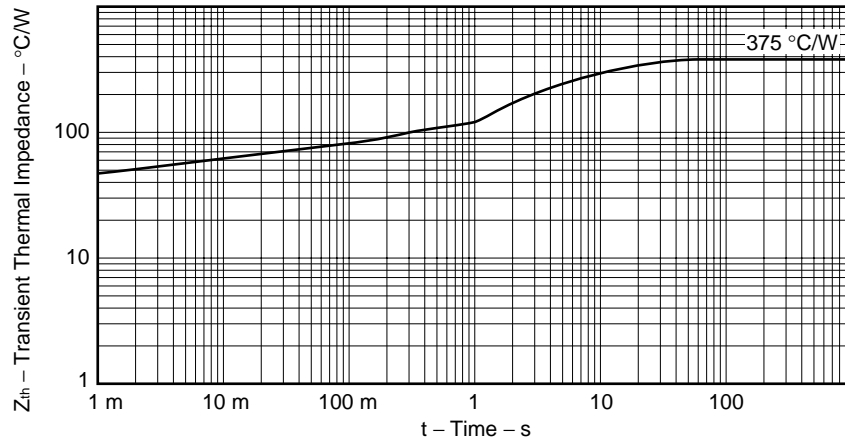


Fig. 10 TRANSIENT THERMAL IMPEDANCE CHARACTERISTIC



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