

# Switching diode

## 1N4531 / 1N4148 / 1N4150 / 1N4448

\* This product is available only outside of Japan.

● **Application**

High-speed switching

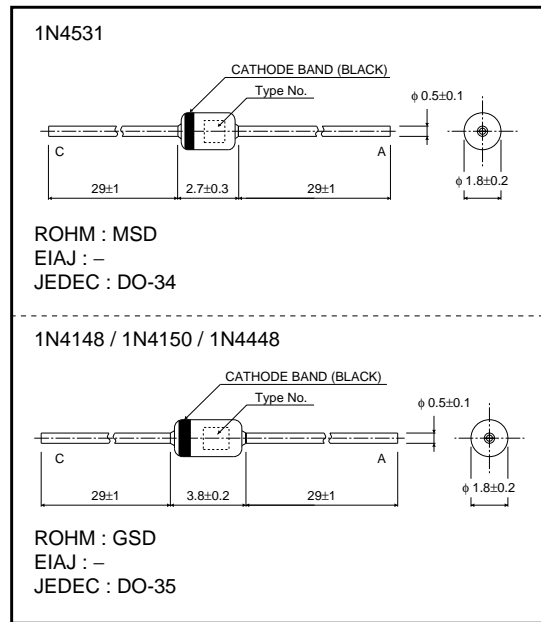
● **Features**

- 1) Glass sealed envelope. (MSD, GSD)
- 2) High speed.
- 3) High reliability.

● **Construction**

Silicon epitaxial planar

● **External dimensions (Units : mm)**



● **Absolute maximum ratings (Ta = 25°C)**

Type	V <sub>RM</sub> (V)	V <sub>R</sub> (V)	I <sub>FM</sub> (mA)	I <sub>O</sub> (mA)	I <sub>F</sub> (mA)	I <sub>FSM</sub> 1μs (A)	P (mW)	T <sub>j</sub> (°C)	T <sub>opr</sub> (°C)	T <sub>stg</sub> (°C)
1N4531	100	75	450	150	200	2	500	200	-65~+200	-65~+200
1N4148	100	75	450	150	200	2	500	200	-65~+200	-65~+200
1N4150	50	50	600	200	250	4	500	200	-65~+200	-65~+200
1N4448	100	75	450	150	200	2	500	200	-65~+200	-65~+200

● **Electrical characteristics (Ta = 25°C)**

Type	V <sub>F</sub> (V)											BV (V) Min.		I <sub>R</sub> (μA) Max.		C <sub>r</sub> (pF) V <sub>R</sub> =0 f=1MHz	t <sub>r</sub> (ns) V <sub>R</sub> =6V I <sub>F</sub> =10mA R <sub>L</sub> =100Ω			
	@ 0.1mA	@ 0.25mA	@ 1mA	@ 2mA	@ 5mA	@ 10mA	@ 20mA	@ 30mA	@ 50mA	@ 100mA	@ 200mA	@ 250mA	@ 5μA	@ 100μA	@ 25°C			@ 150°C		
	V <sub>R</sub> (V)		V <sub>R</sub> (V)		V <sub>R</sub> (V)		V <sub>R</sub> (V)		V <sub>R</sub> (V)		V <sub>R</sub> (V)		V <sub>R</sub> (V)		V <sub>R</sub> (V)					
1N4531	/	/	/	/	/	1.0	/	/	/	/	/	/	75	100	0.025 5.0	20 75	50.0	20	4	4
1N4148	/	/	/	/	/	1.0	/	/	/	/	/	/	75	100	0.025 5.0	20 75	50.0	20	4	4
1N4150	/	/	0.54	/	/	0.66	/	/	0.76	0.82	0.87	/	-	50	0.1	50	100.0	50	2.5	4
1N4448	/	/	0.62	/	0.62	0.74	/	/	0.86	0.92	1.0	/	-	100	0.025 5.0	20 75	50.0	20	4	4

The upper figure is the minimum V<sub>F</sub> and the lower figure is the maximum V<sub>F</sub> value.

Diodes

●Electrical characteristic curves (Ta = 25°C)

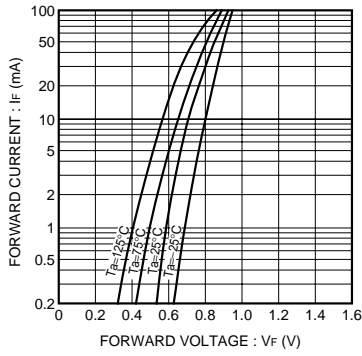


Fig. 1 Forward characteristics

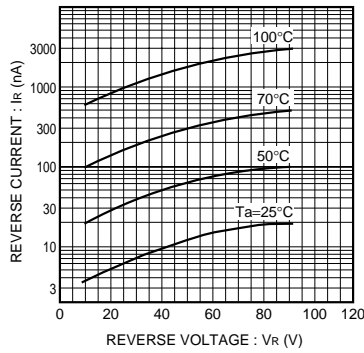


Fig. 2 Reverse characteristics

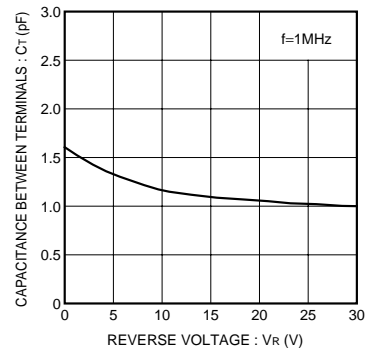


Fig. 3 Capacitance between terminals characteristics

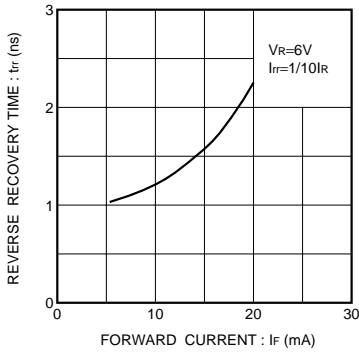


Fig. 4 Reverse recovery time characteristics

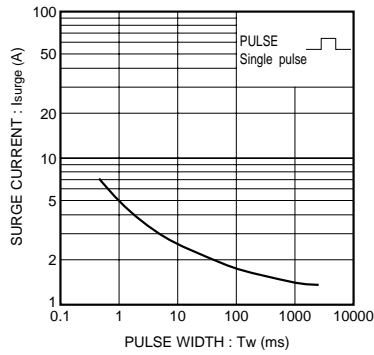


Fig. 5 Surge current characteristics

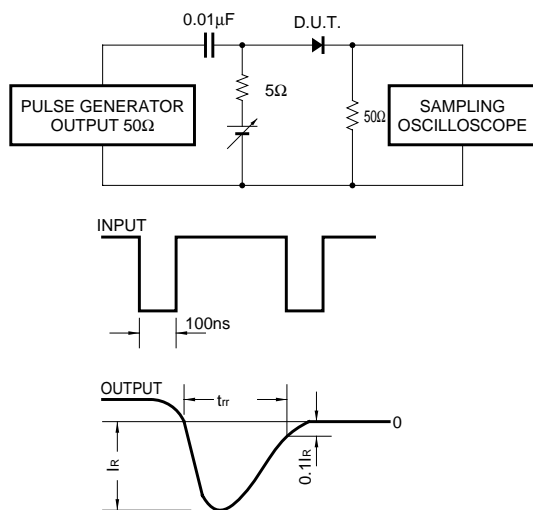


Fig. 6 Reverse recovery time ( $t_{rr}$ ) measurement circuit

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