High-speed switching diode

Features

1. High reliability
2. High speed (t_{rr}≤4 ns)

Applications

Extreme fast switches

Absolute Maximum Ratings

T_j=25℃

Parameter	Test Conditions	Type	Symbol	Value	Unit
Repetitive peak reverse voltage			V_{RRM}	100	V
Reverse voltage			V_R	75	V
Peak forward surge current	t_p=1μs		I_{FSM}	2	A
Repetitive peak forward current			I_{FRM}	500	mA
Forward current			I_F	300	mA
Average forward current	V_R=0		I_{FAV}	150	mA
Power dissipation	l=4mm T_L≤25℃		P_V	500	mW
Junction temperature			T_j	175	℃
Storage temperature range			T_{stg}	-65~+175	℃

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_j=25℃

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F=5mA	1N4448	V_F	0.62		0.72	V
	I_F=10mA	1N4148	V_F		0.86	1	V
	I_F=100mA	1N4448	V_F		0.93	1	V
Reverse current	V_R=20V		I_R			25	nA
	V_R=20V, T_j=150℃		I_R			50	μA
	V_R=75V		I_R			5	μA
Breakdown voltage	I_R=100μA,t_p/T=0.01,t_p=0.3ms		$V_{(BR)}$	100			V
Diode capacitance	V_R=0, f=1MHz, V_{HF}=50mV		C_D			4	pF
Rectification efficiency	V_{HF}=2V, f=100MHz		η_R	45			%
Reverse recovery time	I_F= I_R=10mA, i_R=1mA		t_{rr}			8	ns
	I_F=10mA, V_R=6V, i_R=0.1×I_R, R_L=100Ω		t_{rr}			4	ns

Characteristics (T_j=25℃ unless otherwise specified)

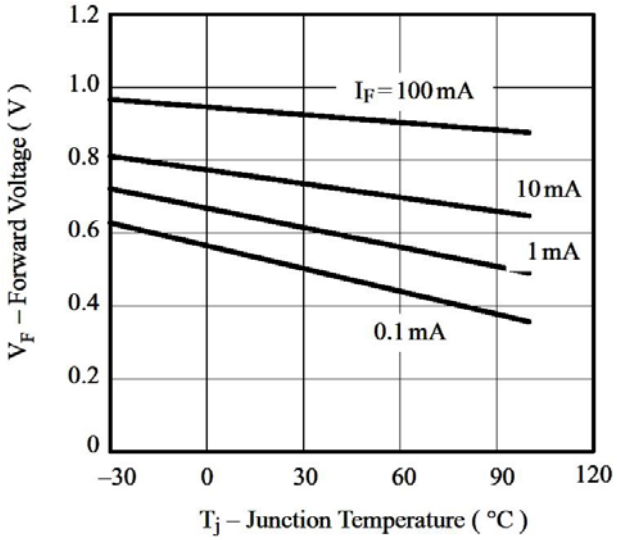


Figure 1. Forward voltage vs. junction temperature

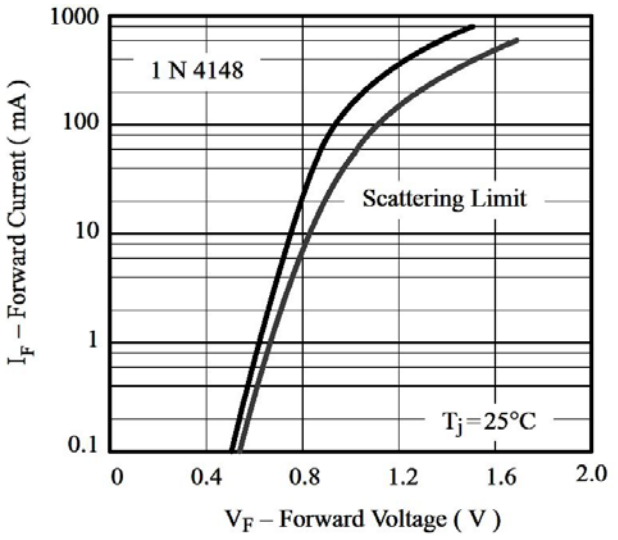


Figure 2. Forward current vs. forward voltage

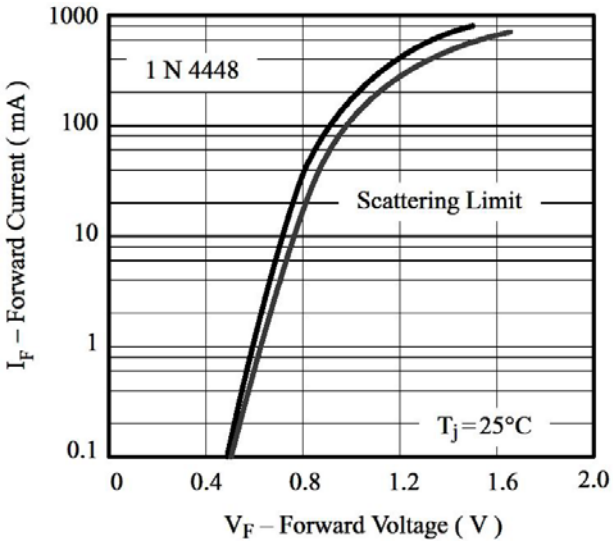


Figure 3. Forward current vs. forward voltage

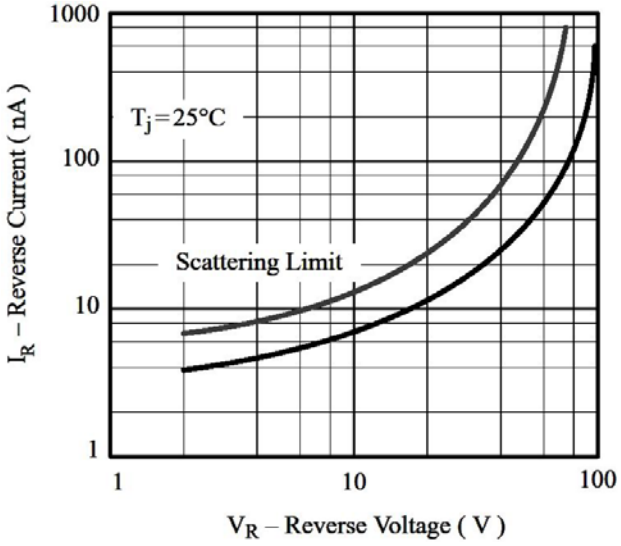
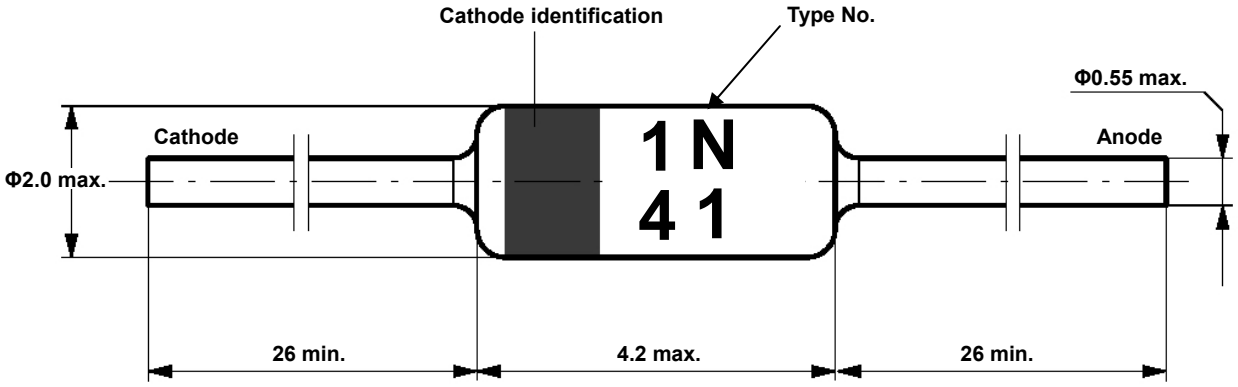


Figure 4. Reverse current vs. reverse voltage

Dimensions in mm



Standard Glass Case
JEDEC DO-35

Marking