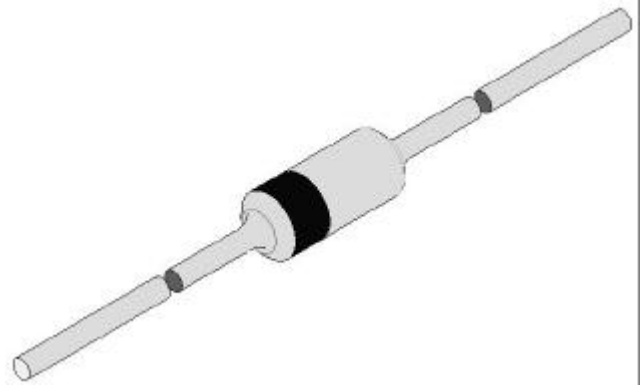# High-speed switching diode

Features

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

Applications

Extreme fast switches

Construction

Silicon epitaxial planar

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=1μ s		I_{FSM}	2	A
Repetitive peak forward voltage			I_{FRM}	500	mA
Forward current			I_F	300	mA
Average forward current	V_R=0		I_{FAV}	150	mA
Power dissipation	I=4mm T_L= 25?		P_V	500	mW
Junction temperature			T_j	175	?
Storage temperature range			T_{stg}	-65~+175	?

Maximum Thermal Resistance

T_j=25?

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	I=4mm T_L=constant	R_{thJA}	350	K/W

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	μ A
	V_R=75V		I_R			5	μ A
Breakdown current	I_R=100μ A,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		? $_R$	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=1000		t_{rr}			4	ns

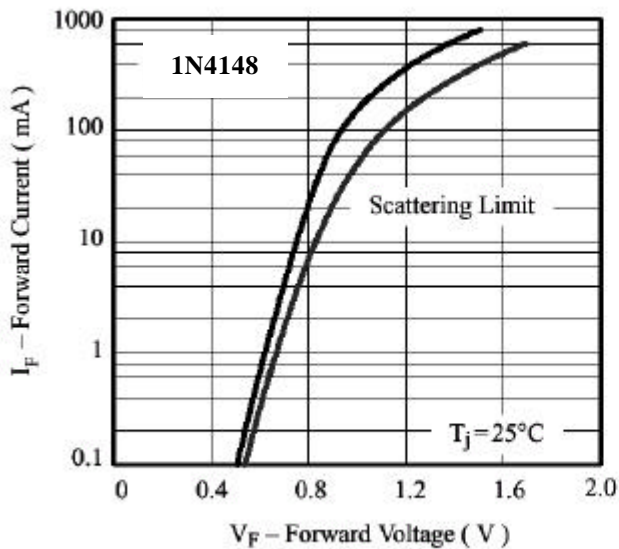## Characteristics (T_j=25? unless otherwise specified)

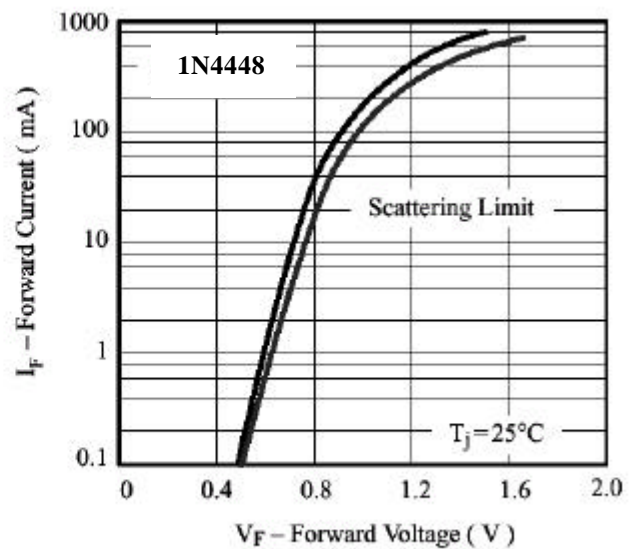Figure 1. Forward Current vs. Forward Voltage

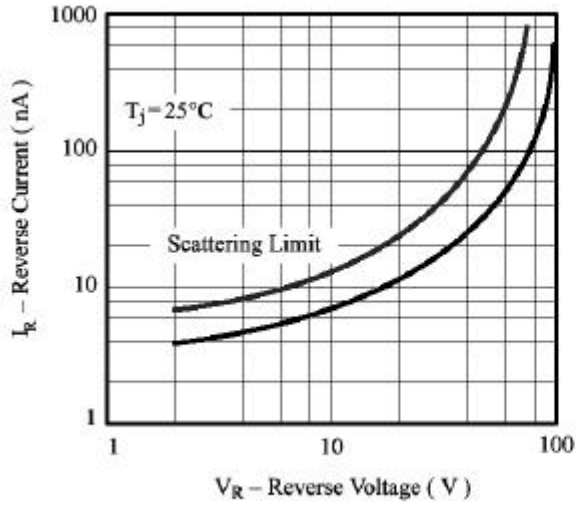Figure 2. Forward Current vs. Forward Voltage

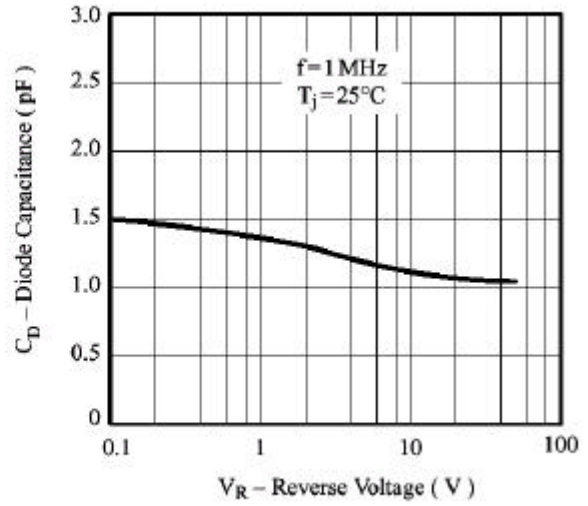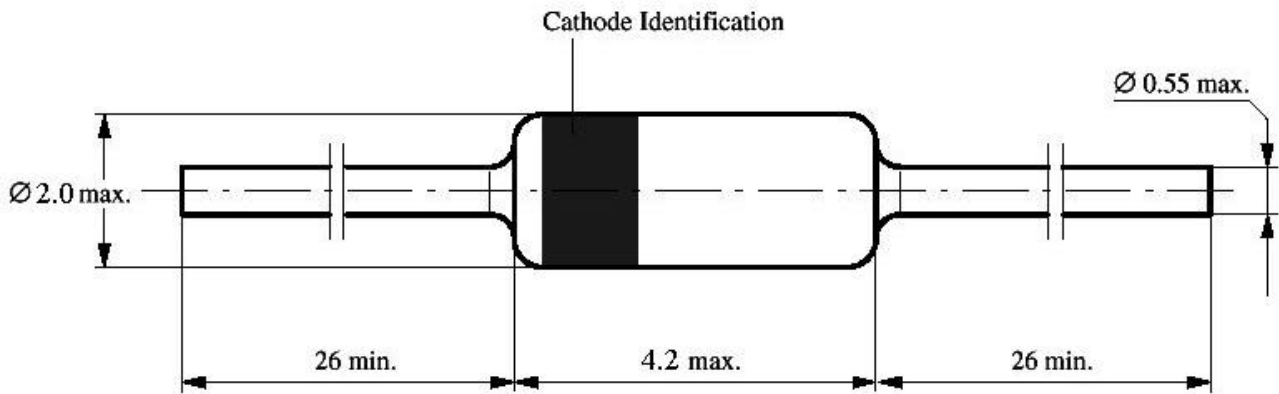Figure 3. Reverse Current vs. Reverse Voltage

Figure 4. Diode Capacitance vs. Reverse Voltage

Dimensions in mm

Standard Glass Case
JEDEC DO 35