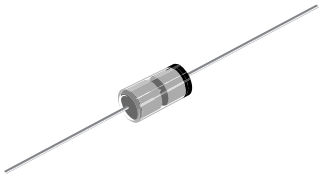
GENERAL SEMICONDUCTOR®

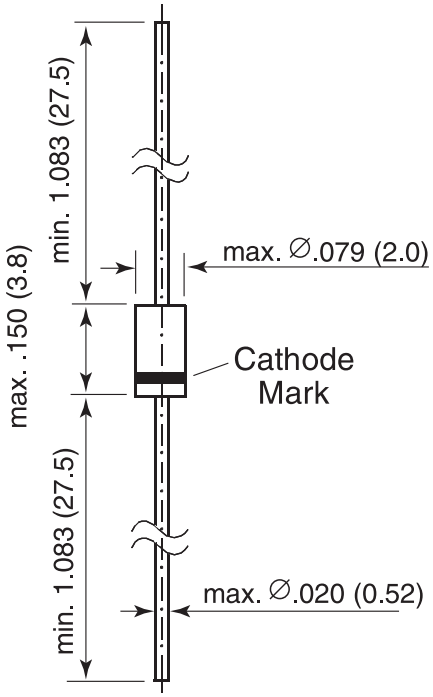
1N4148

Small-Signal Diode

Reverse Voltage 100V
Forward Current 150mA



DO-204AH (DO-35 Glass)



Dimensions in inches and (millimeters)

Features

- Silicon Epitaxial Planar Diode
- Fast switching diode.
- This diode is also available in other case styles including the SOD-123 case with the type designation 1N4148W, the MiniMELF case with the type designation LL4148, the SOT-23 case with the type designation IMBD4148, and the DO-34 case with type designation 1N4148S.

Mechanical Data

Case: DO-35 Glass Case

Weight: approx. 0.13g

Packaging Codes/Options:

F2/10K per Ammo tape (52mm tape), 50K/box
F3/10K per 13” reel (52mm tape), 50K/box

Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

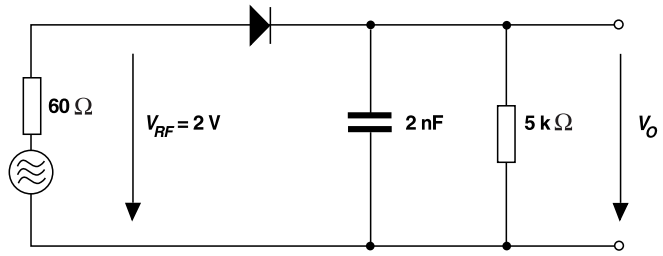
Parameter	Symbol	Limit	Unit
Reverse Voltage	V_R	75	V
Peak Reverse Voltage	V_{RM}	100	V
Average Rectified Current Half Wave Rectification with Resistive Load at T_{amb} = 25°C	$I_{F(AV)}$	150[1)]	mA
Surge Forward Current at t < 1s and Tj = 25°C	I_{FSM}	500	mA
Power Dissipation at T_{amb} = 25°C[(1)]	P_{tot}	500	mW
Thermal Resistance Junction to Ambient Air[(1)]	$R_{\theta JA}$	350	°C/W
Junction Temperature	T_j	175	°C
Storage Temperature	T_S	–65 to +175	°C

Note:
(1) Valid provided that leads at a distance of 8mm from case are kept at ambient temperature

Electrical Characteristics (T_J = 25°C unless otherwise noted)

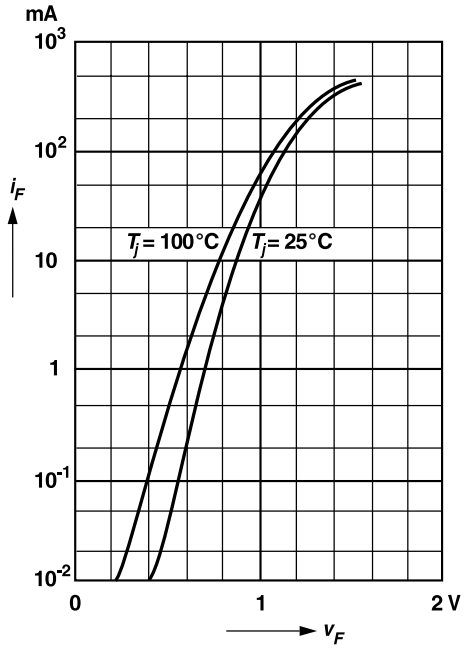
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	I_R = 100μA	100			V
Forward Voltage	V_F	I_F = 10mA	—	—	1.0	V
Leakage Current	I_R	V_R = 20V V_R = 75V V_R = 20V, T_J = 150°C	— — —	— — —	25 5 50	nA μA μA
Capacitance	C_{tot}	V_F = V_R = 0V	—	—	4	pF
Voltage Rise when Switching ON (tested with 50mA Pulses)	V_{fr}	t_p = 0.1μs, Rise time < 30ns f_p = 5 to 100kHz	—	—	2.5	ns
Reverse Recovery Time	t_{rr}	I_F = 10mA, I_R = 1mA, V_R = 6V , R_L = 100Ω	—	—	4	ns
Rectification Efficiency	η_v	f = 100MHz, V_{RF} = 2V	0.45	—	—	—

Rectification Efficiency Measurement Circuit

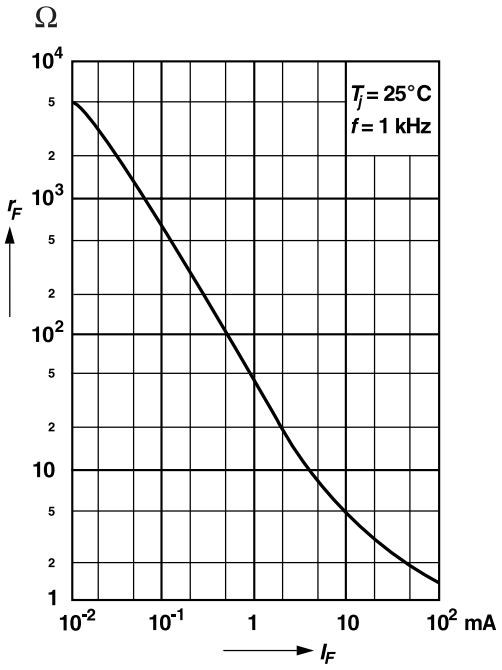


Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Forward characteristics

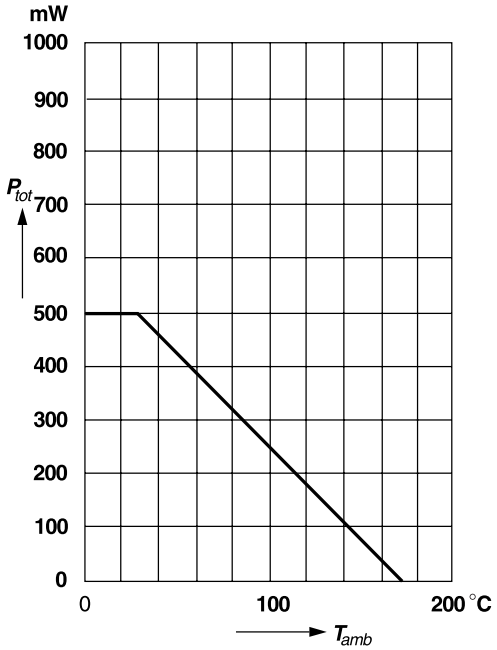


Dynamic forward resistance versus forward current

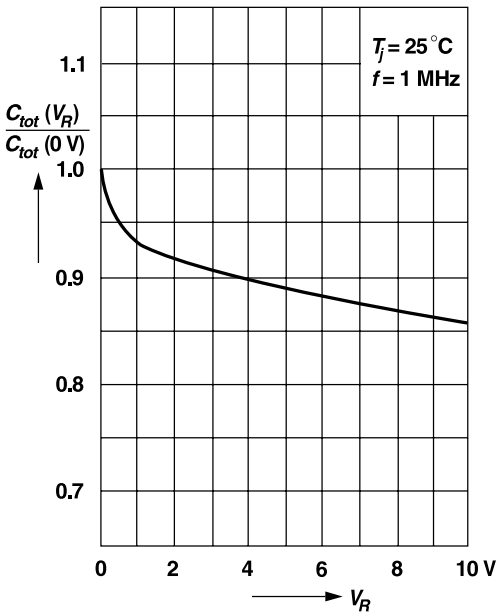


Admissible power dissipation versus ambient temperature

For conditions, see footnote in table "Absolute Maximum Ratings"

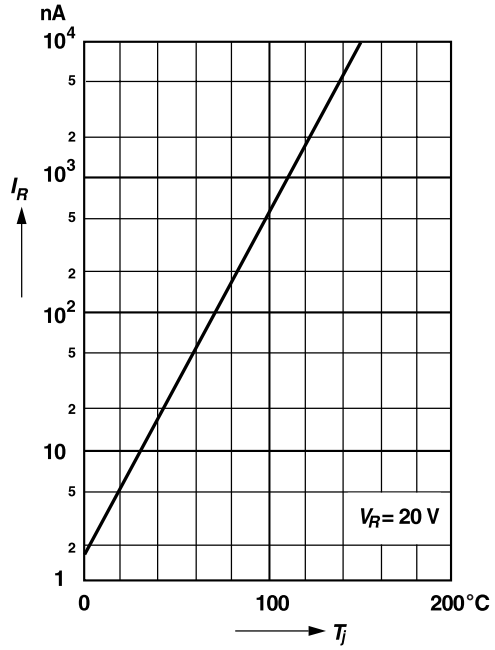


Relative capacitance versus reverse voltage



Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Leakage current versus junction temperature



Admissible repetitive peak forward current versus pulse duration

For conditions, see footnote in table "Absolute Maximum Ratings"