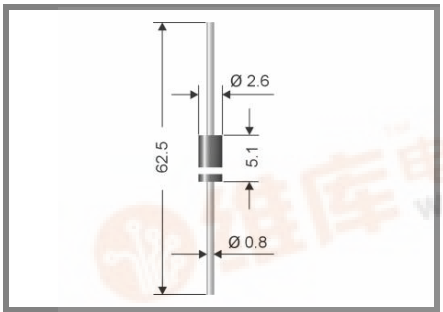
1N 4001...1N 4007, 1N 4007-1300



Axial lead diode

Standard silicon rectifier diodes

1N 4001...1N 4007, 1N 4007-1300

Forward Current: 1 A

Reverse Voltage: 50 to 1300 V

Features

- Max. solder temperature: 260°C
- Plastic material has UL classification 94V-0

Mechanical Data

- Plastic case DO-41 / DO-204AL
- Weight approx.: 0.4 g
- Terminals: plated terminals solderable per MIL-STD-750
- Mounting position: any
- Standard packaging: 5000 pieces per ammo

1) Valid, if leads are kept at ambient temperature at a distance of 10 mm from case
2) I_F=1A, T_j=25°C
3) T_A = 25 °C

Type	Repetitive peak reverse voltage V_{RRM} V	Surge peak reverse voltage V_{RSM} V	Max. reverse recovery time I_F = - A, I_R = - A, I_{RR} = - A, t_{rr} ns	Max. forward voltage V_F 2)
1N 4001	50	50	-	1,1
1N 4002	100	100	-	1,1
1N 4003	200	200	-	1,1
1N 4004	400	400	-	1,1
1N 4005	600	600	-	1,1
1N 4006	800	800	-	1,1
1N 4007	1000	1000	-	1,1
1N 4007-1300	1300	1300	-	1,1

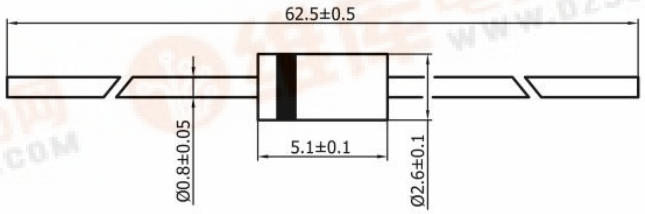
Absolute Maximum Ratings Tc = 25 °C unless otherwise specified

Symbol	Conditions	Values	Units
I_{FAV}	Max. averaged fwd. current, R-load, T_A = 75 °C 1)	1	A
I_{FRM}	Repetitive peak forward current f > 15 Hz 1)	10	A
I_{FSM}	Peak forward surge current 50 Hz half sinus-wave 3)	50	A
i²t	Rating for fusing, t < 10 ms 3)	12,5	A²s
R_{thA}	Max. thermal resistance junction to ambient 1)	45	K/W
R_{thT}	Max. thermal resistance junction to terminals 1)	-	K/W
T_j	Operating junction temperature	-50...+175	°C
T_s	Storage temperature	-50...+175	°C

Characteristics Tc = 25 °C, unless otherwise specified

Symbol	Conditions	Values	Units
I_R	Maximum leakage current, T_j = 25 °C; V_R = V_{RRM}	<5	µA
	T_j = 100 °C; V_R = V_{RRM}	<50	µA
C_J	Typical junction capacitance (at MHz and applied reverse voltage of V)	-	pF
Q_{rr}	Reverse recovery charge (U_R = V; I_F = A; dI_F/dt = A/ms)	-	µC
E_{RSM}	Non repetitive peak reverse avalanche energy (I_R = mA; T_j = °C; inductive load switched off)	-	mJ

Dimensions in mm



case: DO-41 / DO-204AL

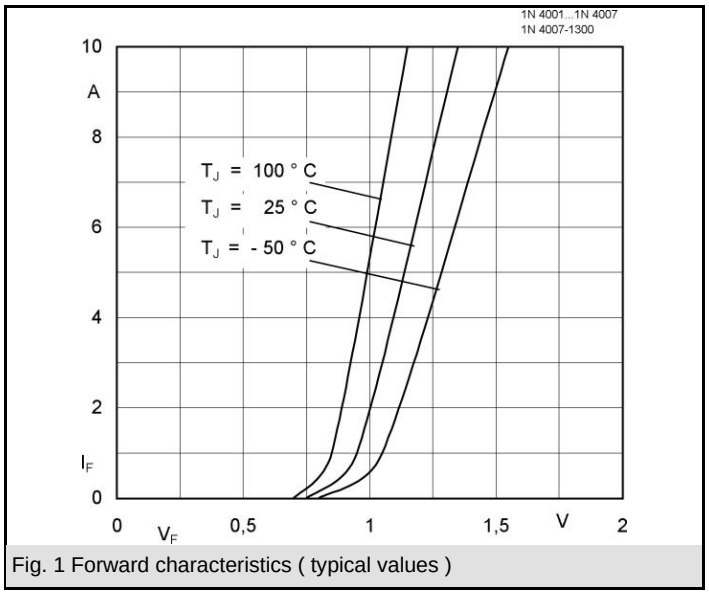


Fig. 1 Forward characteristics (typical values)

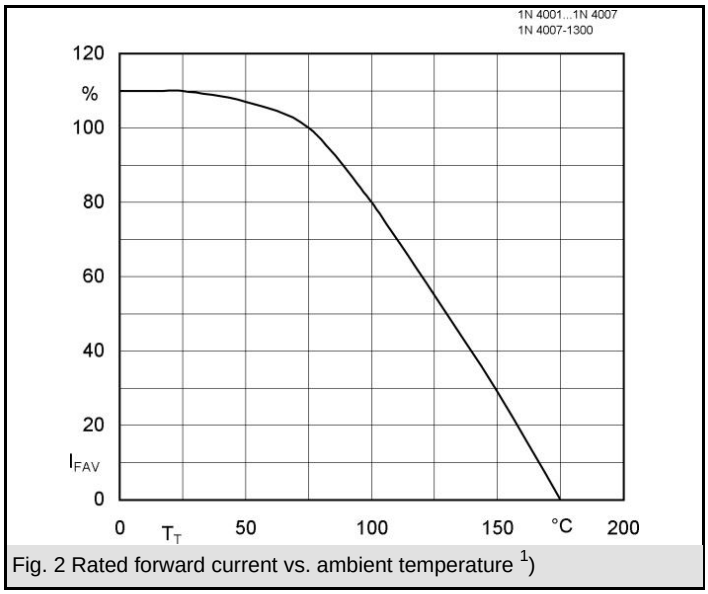


Fig. 2 Rated forward current vs. ambient temperature [1])

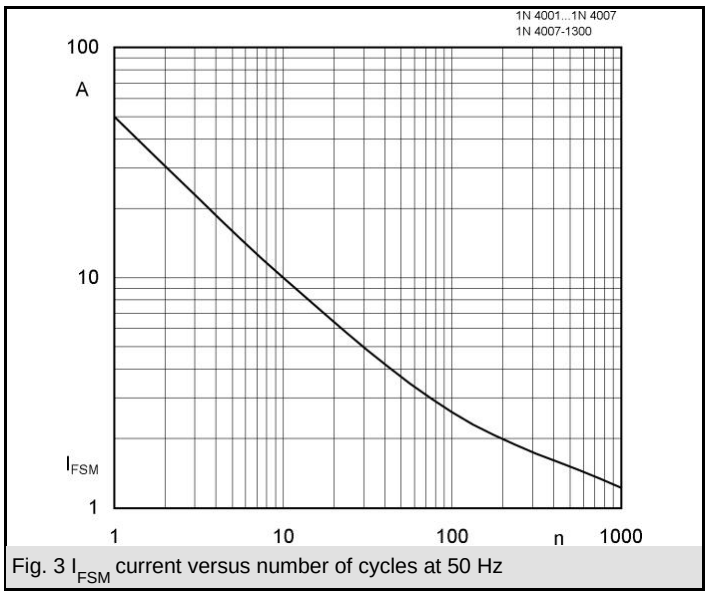


Fig. 3 I_{FSM} current versus number of cycles at 50 Hz