

Fast Switching Diode

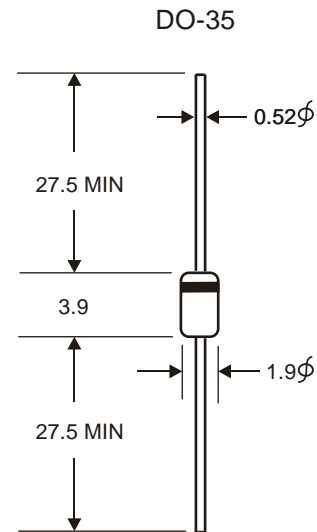


Features

- Silicon epitaxial planar diode
- High speed switching diode
- 500mW power dissipation

Mechanical Data

Case: Glass body
 Terminals: Solder plated solderable per MIL-STD-202, Method 208
 Polarity: Cathode indicated with color band
 Weight: 0.13 grams (approx)



All dimensions in millimeters

Maximum Ratings & Thermal Characteristics

Rating at 25°C ambient temperature unless otherwise specified, Resistive or Inductive load, 60 Hz.
 For Capacitive load derate current by 20%.

Parameter	Symbol	Value	Unit
Reverse voltage	V _R	75	V
Peak reverse voltage	V _{RM}	100	V
Rectified current (average) Half wave rectification with resist load at T _A = 25°C and f > 50H	I _o	150	mA
Forward surge current at T<1s and T _j =25°C	I _{FSM}	500	mA
Power dissipation at T _A =25°C	P _{TOT}	500	mW
Operating junction temperature	T _j	200	°C
Storage temperature range	T _s	-55 to 200	°C

Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified. Resistive or Inductive load, 60 Hz.
 For Capacitive load derate by 20 %.

Parameter	Symbol	Value	Unit
Maximum instantaneous forward voltage drop at 100mA	V _F	1.0	V
Maximum peak reverse current at rated V _R =20V V _R =75V V _R =20V, T _j =150°C	I _R	25 5 50	μA
Minimum reverse breakdown voltage tested with 100μA pulses	V _R	100	V
Capacitance at V _F =V _R =0	C _{TOT}	4	pf
Voltage rise when switching on tested with 50mA forward pulses T _p =0.1μs, Rise time <30ns, F _p =5 to 100 KHz	V _{FR}	2.5	V
Reverse recovery time from I _F =10mA to I _R =1MA V _R =6V R _L =100 Ω	T _{rr}	4	ns
Thermal resistance junction to ambient air	R _{THA}	0.35	K/mW
Minimum rectification efficiency at f=100MHZ, V _{RF} =2V	N _v	0.45	—

Rating and Characteristic Curves (TA=25°C Unless otherwise noted) 1N4148

Fig. 1 Typical Instantaneous Forward Voltage

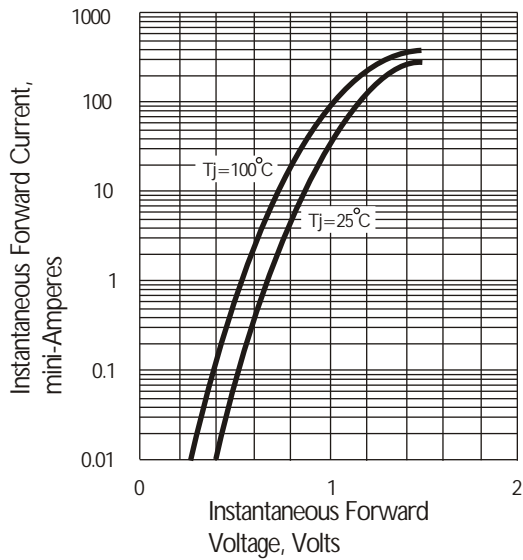


Fig. 2 Dynamic Forward Resistance

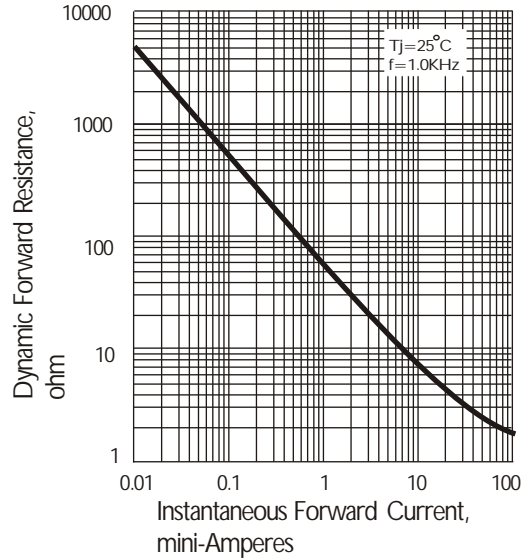


Fig. 3 Admissible Power Dissipation

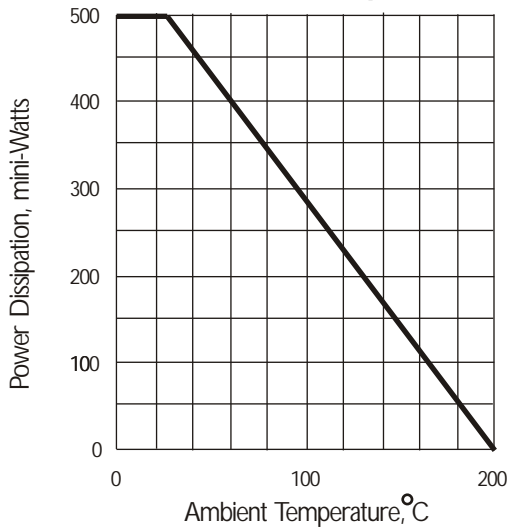


Fig. 4 Relative Capacitance

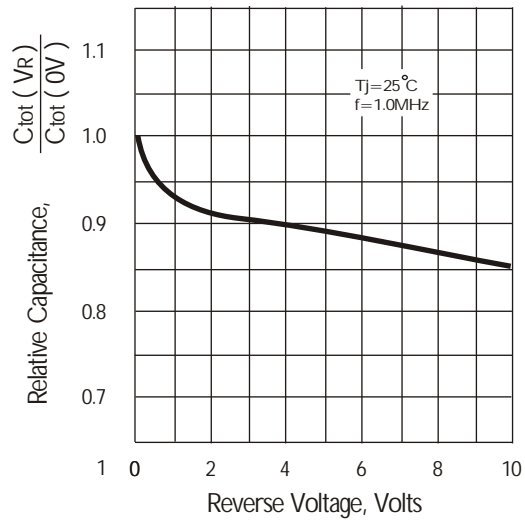


Fig. 5 Admissible Repetitive peak Forward Current

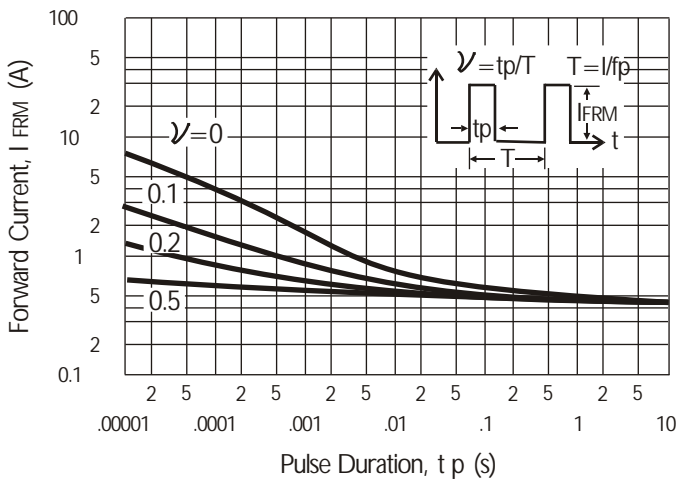


Fig. 6 Leakage Current

