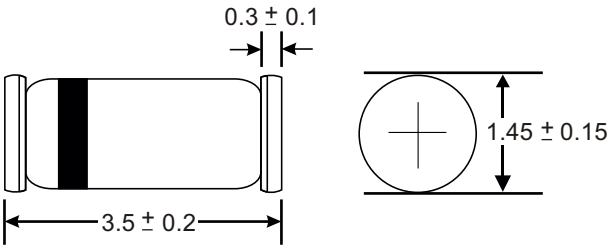
SEP ELECTRONIC CORP.

LL4148

Fast Switching Diode

Mini Melf / SOD-80 / DO-213AA



All dimensions in millimeters

Features

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

Mechanical Data

Case: MiniMELF Glass Case (SOD-80)
Terminals: Solder plated solderable per MIL-STD-202, Method 208
Polarity: Cathode indicated with color band
Weight: 0.05 grams (approx)

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 TA = 25°C and f > 50H	I_O	150	mA
Forward surge current at T<1s and Tj=25°C	I_{FSM}	500	mA
Power dissipation at TA=25°C	P_{TOT}	500	mW
Operating junction temperature	Tj	200	°C
Storage temperature range	Ts	-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 instentaneous 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,Tj=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 Tp=0.1μs, Rise time <30ns, Fp=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	Trr	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	—

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Rating and Characteristic Curves (T_A=25°C Unless otherwise noted)

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Fig. 1 Typical Instantaneous Forward Voltage

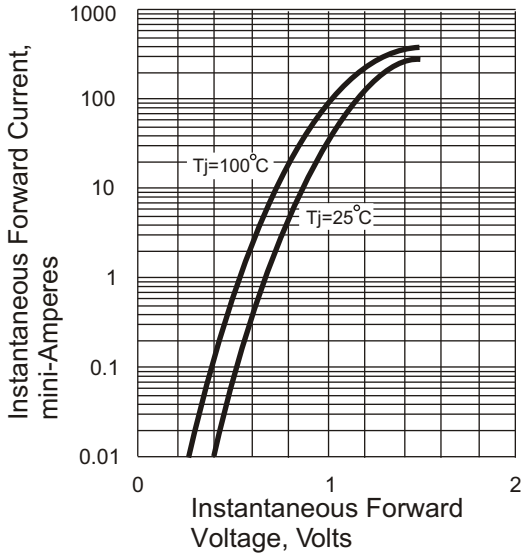


Fig. 2 Dynamic Forward Resistance

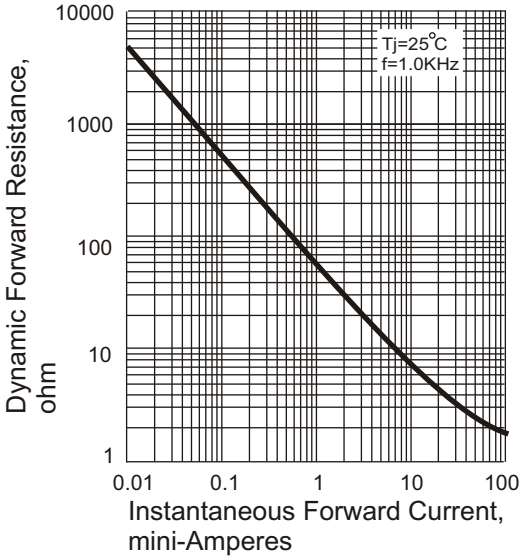


Fig. 3 Admissible Power Dissipation

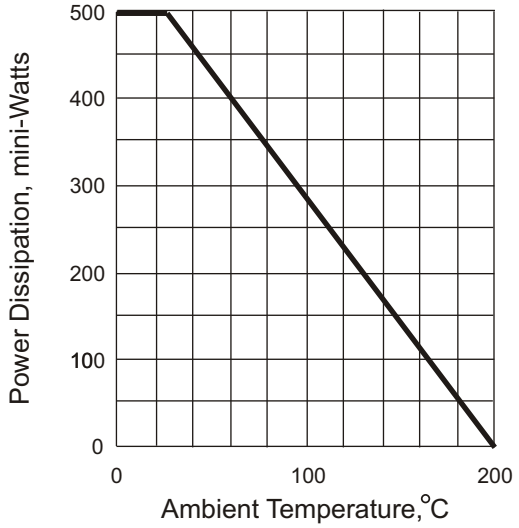


Fig. 4 Relative Capacitance

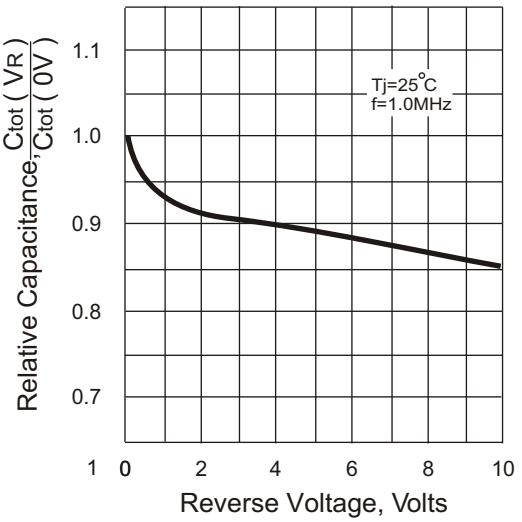


Fig. 5 Admissible Repetitive peak Forward Current

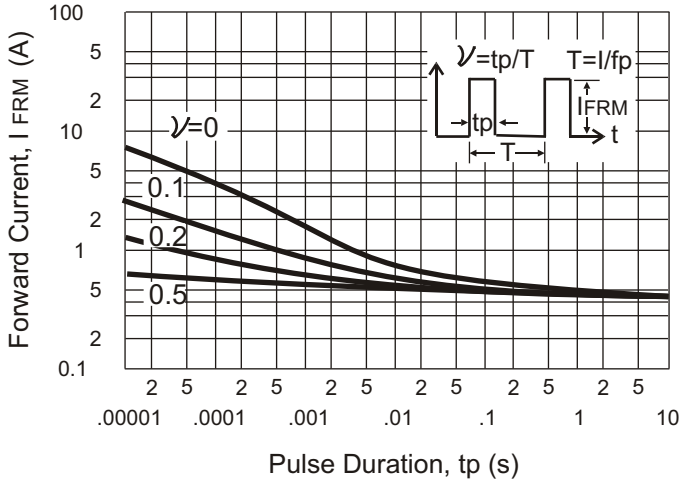
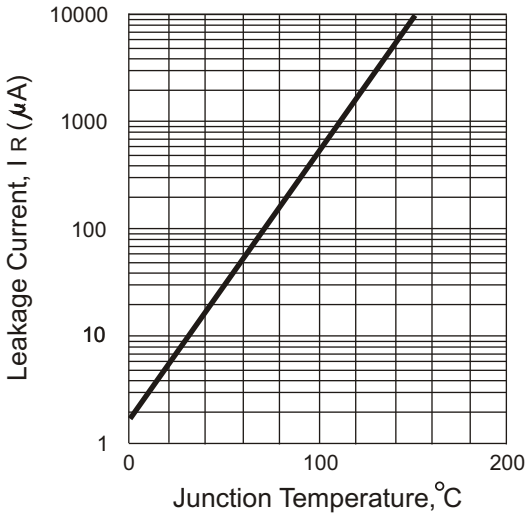


Fig. 6 Leakage Current



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