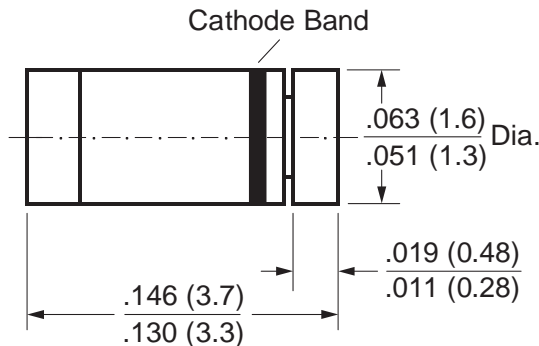


Small-Signal Diode

Reverse Voltage 100V
Forward Current 150mA

MiniMELF (SOD-80C)



Dimensions in inches and (millimeters)

Features

- Silicon Epitaxial Planar Diode
- Fast switching diode in MiniMELF case especially suited for automatic insertion.
- This diode is also available in other case styles including the DO-35 case with the type designation 1N4148, the SOD-123 case with the type designation 1N4148W, and the SOT-23 case with the type designation IMBD4148.

Mechanical Data

Case: MiniMELF Glass Case (SOD-80)

Weight: approx. 0.05g Cathode Band Color: Black

Packaging Codes/Options:

F4/10K per 13" reel (8mm 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
Forward DC Current at T _{amb} = 25°C ⁽¹⁾	I _F	200	mA
Average Rectified Current: Half Wave Rectification with Resistive Load at T _{amb} = 25°C f ≥ 50 Hz ⁽¹⁾	I _{F(AV)}	150	mA
Surge Forward Current at t < 1s and T _j = 25°C	I _{FSM}	500	mA
Power Dissipation at T _{amb} = 25°C ⁽¹⁾	P _{tot}	500	mW
Thermal Resistance Junction to Ambient Air ⁽²⁾	R _{θJA}	350	°C/W
Thermal Resistance Junction to tie-point	R _{θJtp}	300	°C/W
Junction Temperature	T _j	175	°C
Storage Temperature	T _s	-65 to +175	°C

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

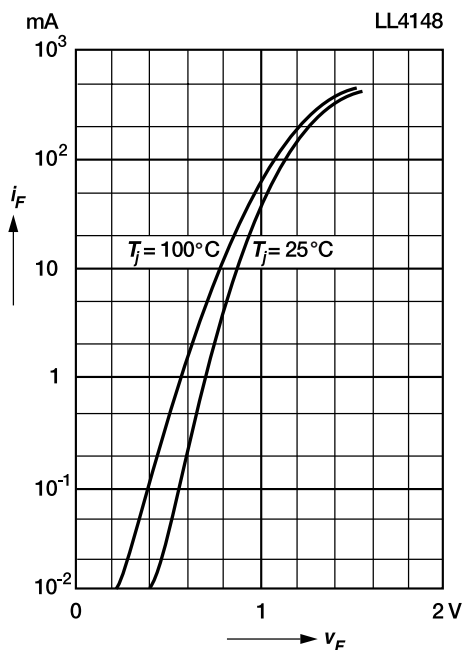
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Forward Voltage	V _F	I _F = 10mA	—	—	1	V
Leakage Current	I _R	V _R = 20V	—	—	25	nA
		V _R = 75V	—	—	5	μA
		V _R = 20V, T _J = 150°C	—	—	50	μA
Capacitance	C _{tot}	V _F = V _R = 0	—	—	4	pF
Voltage Rise when Switching ON (tested with 50 mA Forward Pulses)	V _{fr}	t _p = 0.1μs, Rise time < 30ns f _p = 5 to 100kHz	—	—	2.5	V
Reverse Recovery Time	t _{rr}	I _F = 10mA, I _R = 1mA, V _R = 6V, R _L = 100Ω	—	—	4	ns
Rectification Efficiency (See third page)	η _v	f = 100MHz, V _{RF} = 2V	0.45	—	—	—

Notes: (1) Valid provided that electrodes are kept at ambient temperature

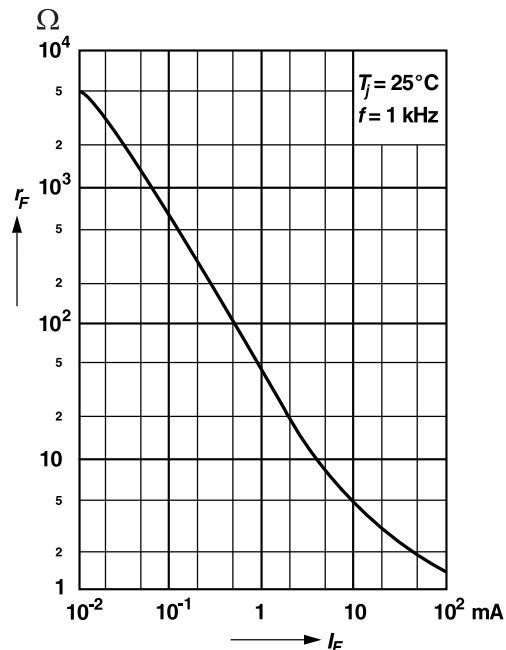
(2) Device mounted on FR4 printed-circuit board

Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Forward characteristics

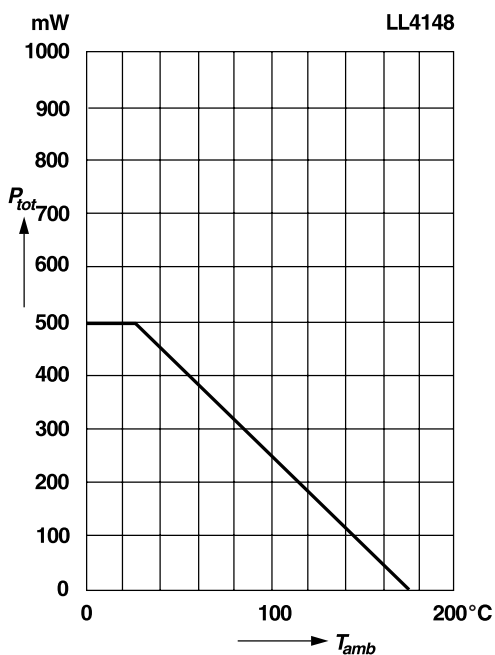


Dynamic forward resistance versus forward current

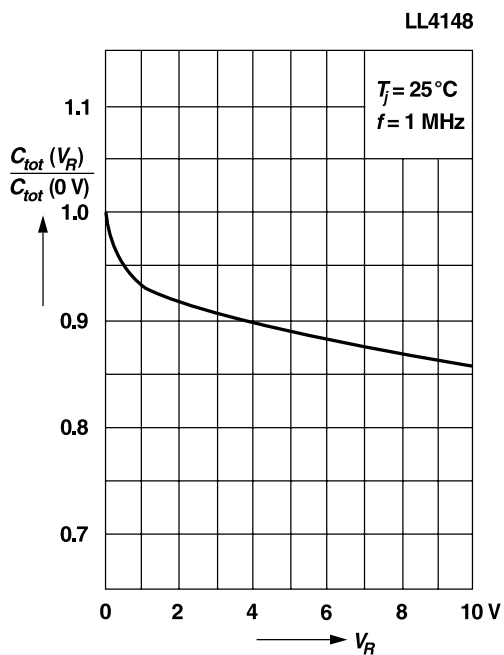


Admissible power dissipation versus ambient temperature

Valid provided that electrodes are kept at ambient temperature

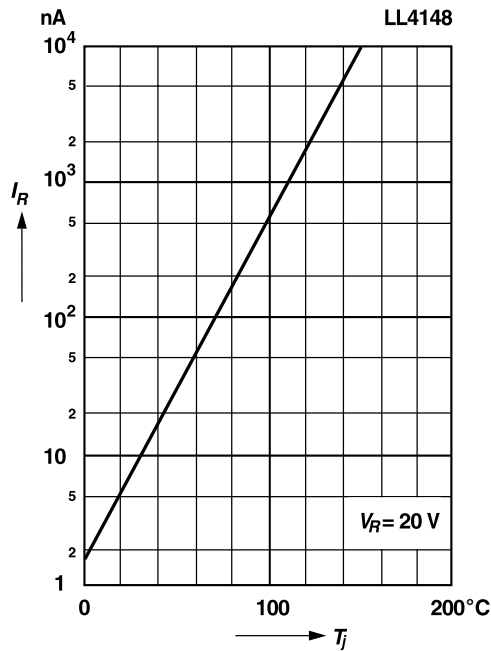


Relative capacitance versus reverse voltage

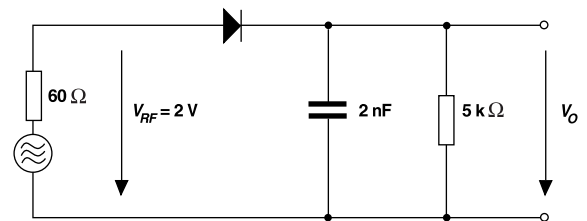


Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Leakage current
versus junction temperature



Rectification Efficiency Measurement Circuit



Admissible repetitive peak forward current versus pulse duration

Valid provided that electrodes are kept at ambient temperature

