

Features

Silicon Epitaxial Planar Diode

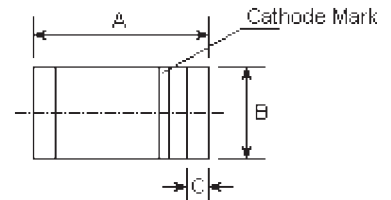
fast switching diode in MiniMELF case especially suited for automatic insertion.

Identical electrically to standard 1N4148

These diode are delivered taped.
Details see "Taping".

Weight approx. : 0.05g

MiniMELF



DIMENSIONS					
DIM	inches		mm		Note
	Min.	Max.	Min.	Max.	
A	0.134	0.142	3.4	3.6	
B	0.055	0.059	1.40	1.50	φ
C	0.008	0.016	0.2	0.4	

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

	Symbols	Values	Units
Reverse Voltage	V_R	75	Volts
Peak reverse voltage	V_{RM}	100	Volts
Rectified current (Average) Half wave rectification with Resist. Load at $T_{amb}=25^\circ\text{C}$ and $f \geq 50\text{Hz}$	I_O	150 ⁽¹⁾	A
Surge forward current at $t < 1\text{s}$ and $T_j=25^\circ\text{C}$ at $t < 1\mu\text{s}$ and $T_j=25^\circ\text{C}$	I_{FSM} I_{FSM}	1 4	A A
Power dissipation at $T_{amb}=25^\circ\text{C}$	P_{tot}	500	mW
Junction Temperature	T_j	175	$^\circ\text{C}$
Storage temperature range	T_s	-65 to +175	$^\circ\text{C}$

Note:

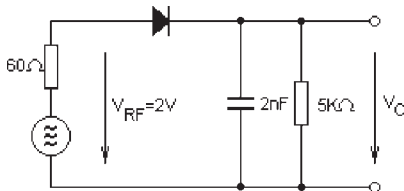
(1) Valid provided that electrodes are kept at ambient temperature

Characteristics at $T_j=25^\circ\text{C}$

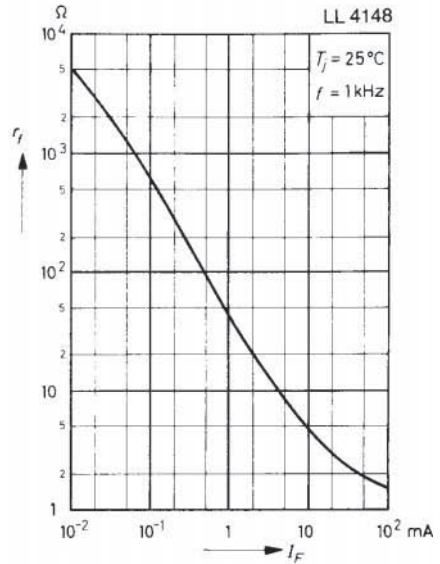
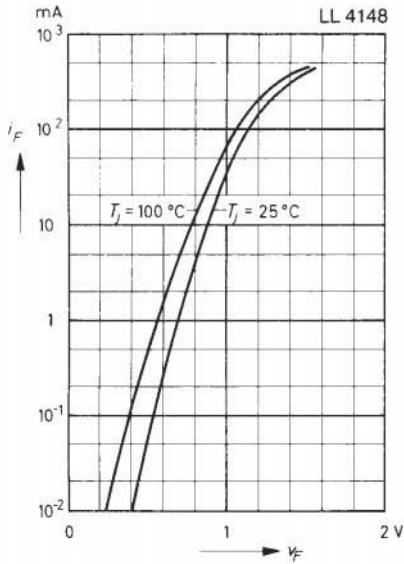
	Symbols	Min.	Typ.	Max.	Units
Forward voltage at $I_f=10\text{mA}$	V_F	-	-	1	Volt
Leakage current at $V_R=20\text{V}$ at $V_R=75\text{V}$ at $V_R=20\text{V}, T_j=150^\circ\text{C}$	I_R	-	-	25 5 50	nA uA uA
Reverse breakdown voltage tested with 100uA pulses	$V_{(BR)R}$	100	-	-	Volts
Capacitance at $V_F=V_R=0$	C_{tot}	-	-	4	pF
Voltage rise when switching ON tested with 50mA forward pulses $t_i=0.1\mu\text{S}$, rise time $<30\text{nS}$, $f_r=5$ to 100KHz	V_{fr}	-	-	2.5	Volts
Reverse recovery time from $I_F=10\text{mA}$ to $I_R=1\text{mA}$, $V_R=6\text{V}$, $R_L=100\Omega$	t_{rr}	-	-	4	nS
Thermal resistance junction to ambient Air	R_{thA}	-	-	0.35 ⁽¹⁾	K/mW
Rectification efficiency at $f=100\text{MHz}$, $V_{RF}=2\text{V}$	η_V	0.45	-	-	-

Note:

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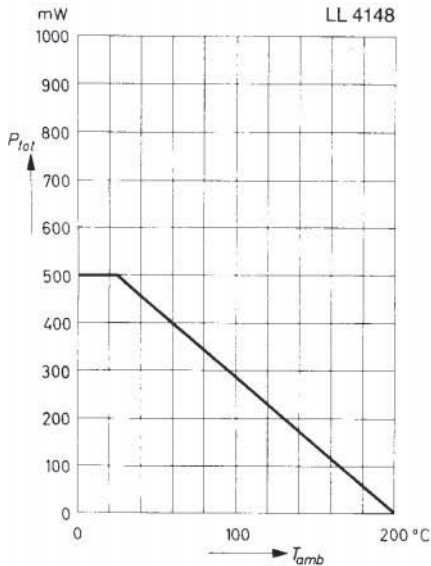


Rectification efficiency measurement circuit

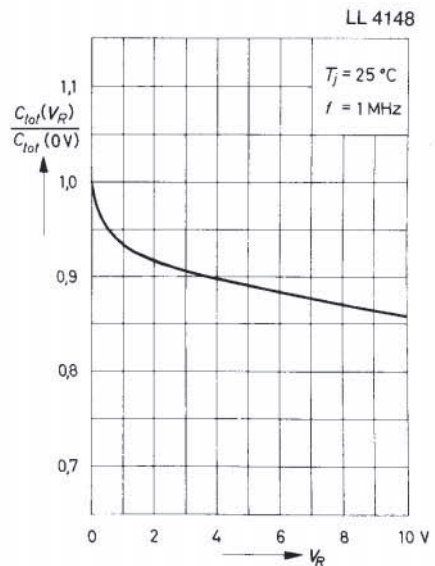


Admissible power dissipation versus ambient temperature

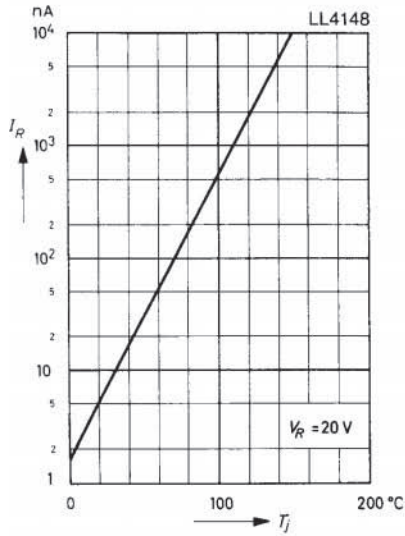
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Relative capacitance versus reverse voltage



Leakage current versus junction temperature



Admissible repetitive peak forward current versus pulse duration

Valid provided that electrodes are kept at ambient temperature

