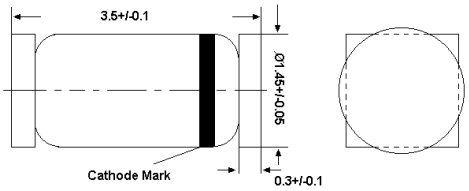
LS4148

Silicon Epitaxial Planar Switching Diode

Fast switching diode in QuadroMELF case especially suited for automatic surface mounting. Identical electrically to standard JEDEC 1N4148

LS-34



QuadroMELF
Dimensions in mm

Absolute Maximum Ratings (T_a = 25 °C)

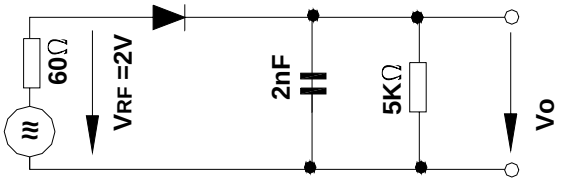
Parameter		Symbol	Value	Unit
Peak Reverse Voltage		V_{RM}	100	V
Reverse Voltage		V_R	75	V
Average Rectified Forward Current		$I_{F(AV)}$	200	mA
Forward Current		I_F	300	mA
Repetitive Peak Forward Current		I_{FRM}	500	mA
Non-repetitive Peak Forward Surge Current	at t = 1 s at t = 1 ms at t = 1 µs	I_{FSM}	0.5 1 4	A
Power Dissipation		P_{tot}	500 [1)]	mW
Junction Temperature		T_j	175	°C
Storage Temperature Range		T_{stg}	- 65 to + 175	°C

[1)] Valid provided that electrodes are kept at ambient temperature.

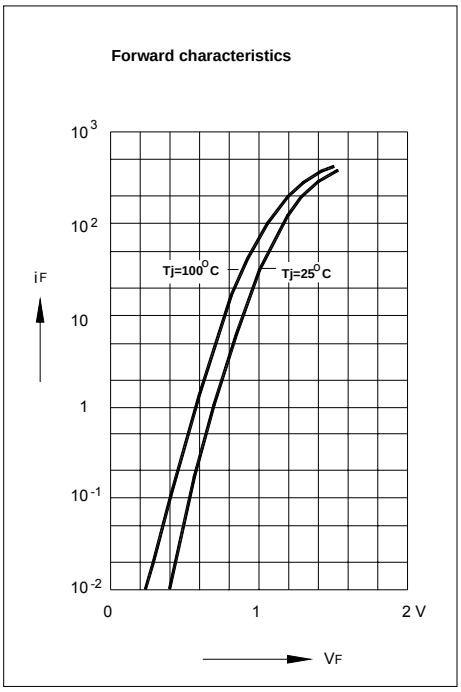
Characteristics at T_a = 25 °C

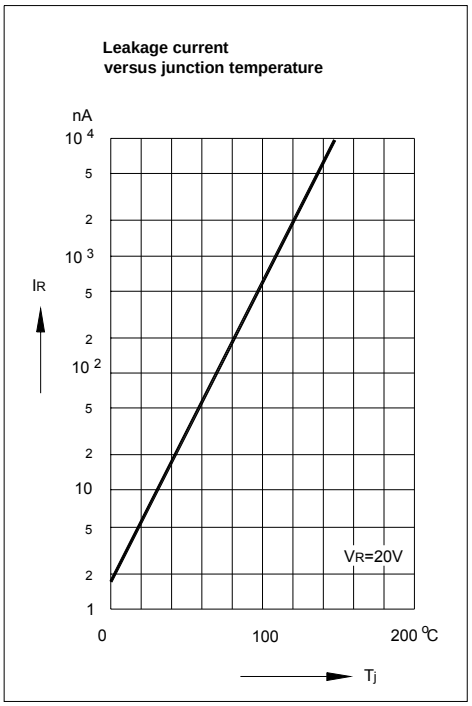
Parameter	Symbol	Min.	Max.	Unit
Forward Voltage at I_F = 10 mA	V_F	-	1	V
Reverse Leakage Current at V_R = 20 V at V_R = 75 V at V_R = 20 V, T_j = 150 °C	 I_R I_R I_R	 - - -	 25 5 50	 nA µA µA
Reverse Breakdown Voltage tested with 100 µA Pulses	$V_{(BR)R}$	100	-	V
Capacitance at V_R = 0, f = 1 MHz	C_{tot}	-	4	pF
Voltage Rise when Switching ON tested with 50mA Forward Pulses tp = 0.1 s, Rise Time < 30 ns, fp = 5 to 100 KHz	V_{fr}	-	2.5	V
Reverse Recovery Time at I_F = 10 mA to I_R = 1 mA, V_R = 6 V, R_L = 100 Ω	t_{rr}	-	4	ns
Thermal Resistance Junction to Ambient Air	R_{thA}	-	0.35 [1)]	K/mW
Rectification Efficiency at f = 100 MHz, V_{RF} = 2 V	η_v	0.45	-	-

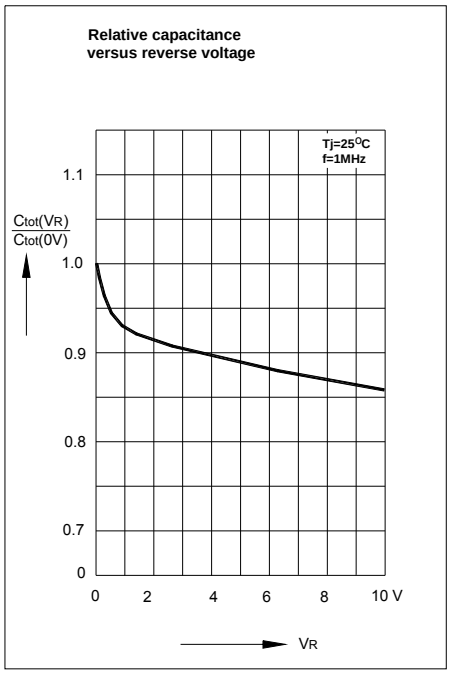
[1)] Valid provided that electrodes are kept at ambient temperature.



Rectification Efficiency Measurement Circuit


Forward characteristics
10^3
10^2
10
1
10^{-1}
10^{-2}
iF
Tj=100°C
Tj=25°C
0
1
2 V
VF


Leakage current
versus junction temperature
nA
10^4
5
2
10^3
5
2
10^2
5
2
10
5
2
1
IR
VR=20V
0
100
200 °C
Tj


Relative capacitance
versus reverse voltage
Tj=25°C
f=1MHz
1.1
1.0
0.9
0.8
0.7
0
Ctot(VR)
Ctot(0V)
0
2
4
6
8
10 V
VR