1N4148 DO-35

SILICON EPITAXIAL PLANAR DIODE

产　品　规　格　书　　承　认　书

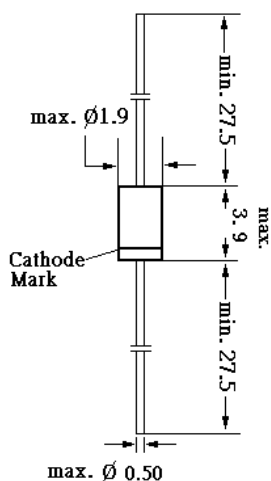| 客户确认：			公司签章：
部门	工程部	品保部	采购部
签名			
日期			

1N4148
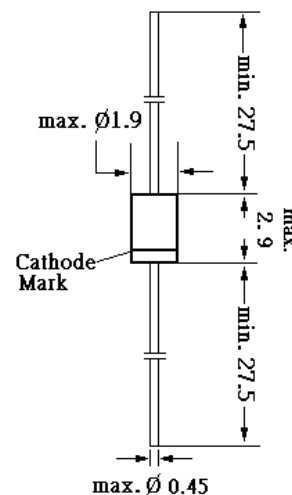
SILICON EPITAXIAL PLANAR DIODE

Fast switching diode

This diode is also available in MiniMELF case with the type designation LL4148.

max. Ø1.9 min. 27.5 max. 3.9 Cathode Mark min. 27.5 max. Ø 0.50

Glass case JEDEC DO-35
Dimensions in mm

max. Ø1.9 min. 27.5 max. 2.9 Cathode Mark min. 27.5 max. Ø 0.45

Glass case JEDEC DO-34
Dimensions in mm

Absolute Maximum Ratings (T_a = 25°C)

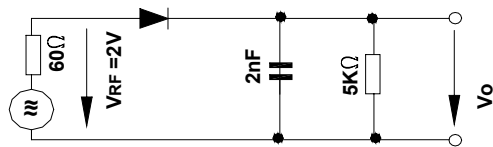|	Symbol	Value	Unit
Reverse Voltage	V_R	75	V
Peak Reverse Voltage	V_{RM}	100	V
Rectified Current (Average) Half Wave Rectification with Resist. Load at T_{amb} = 25°C and f $\geqslant$ 50 H_Z	I_O	150[1]	mA
Surge Forward Current at t<1s and T_j = 25°C	I_{FSM}	500	mA
Power Dissipation	P_{tot}	500[1]	mW
Junction Temperature	T_j	200	^{o}C
Storage Temperature Range	T_S	-65 to +200	^{o}C
[1] Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.			

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Characteristics at T$_j$ = 25°C

	Symbol	Min.	Typ.	Max.	Unit
Forward Voltage at I$_F$ = 10mA	V$_F$	-	-	1	V
Leakage Current at V$_R$ = 20V at V$_R$ = 75V at V$_R$ = 20V, T$_j$ = 150°C	I$_R$ I$_R$ I$_R$	- - -	- - -	25 5 50	nA μA μA
Reverse Breakdown Voltage at I$_R$ = 100 μA at I$_R$ = 5.0 μA	V$_{(BR)R}$ V$_{(BR)R}$	100 75	- -	- -	V V
Capacitance at V$_F$ = V$_R$ = 0	C$_{tot}$	-	-	4	pF
Voltage Rise when Switching ON tested with 50 mA Forward Pulses tp = 0.1 s, 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$_L$ = 100Ω	t$_{rr}$	-	-	4	ns
Thermal Resistance Junction to Ambient Air	R$_{thA}$	-	-	0.35[1]	K/mW
Rectification Efficiency at f = 100MHz, V$_{RF}$ = 2V	η$_v$	0.45	-	-	-

[1] Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature.

Rectification Efficiency Measurement Circuit

1N4148

Forward characteristics

1N 4148

mA
10^3
10^2

i_F

10

1

10^{-1}

10^{-2}

Tj=100°C   Tj=25°C

0   1   2 V

V_F

Dynamic forward resistance versus forward current

1N 4148

Ω
10^4

Tj=25°C
f=1KHz

5

2

10^3

r_f

5

2

10^2

5

2

10

5

2

1

10^{-2} 10^{-1} 1   10 10^2 mA

I_F

Admissible power dissipation versus ambient temperature
Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature

mW   1N 4148
1000
900
800
700

P_{tot}

600
500
400
300
200
100
0

0   100   200 °C

T_{amb}

Relative capacitance versus reverse voltage

1N 4148

Tj=25°C
f=1MHz

1.1

$\dfrac{C_{tot}(V_R)}{C_{tot}(0V)}$

1.0

0.9

0.8

0.7

0

0   2   4   6   8   10 V

V_R

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