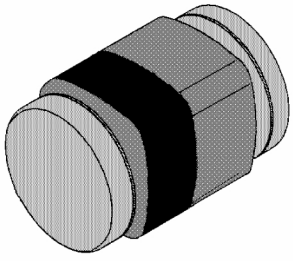
MCL4148

SILICON EPITAXIAL PLANAR DIODE

LS-31



Features

- Saving space
- Hermetic sealed parts
- Fits onto SOD 323 / SOT 23 footprints
- Electrical data identical with the device 1N4148
- Micro Melf package

Applications

Extreme fast switches

Absolute Maximum Ratings ($T_j = 25^{O}C$)

Parameter	Test	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	-	V_{RRM}	100	V
Reverse Voltage	-	V_R	75	V
Peak Forward Surge Current	$t_p = 1\ \mu S$	I_{FSM}	2	A
Repetitive Peak Forward Current	-	I_{FRM}	450	mA
Forward Current	-	I_F	200	mA
Average Forward Current	$V_R = 0$	I_{FAV}	150	mA
Power Dissipation	-	P_{tot}	500	mW
Junction Temperature	-	T_j	175	^{O}C
Storage Temperature Range	-	T_s	-65 … +175	^{O}C

Maximum Thermal Resistance ($T_j = 25\ ^{O}C$)

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	mounted on epoxy-glass hard tissue, 35 μm copper clad, 0.9 mm^2 copper area per electrode	R_{thJA}	500	K/W

Characteristics at $T_j = 25\,^{O}C$

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Forward Voltage	$I_F = 50mA$	V_F	-	0.86	1	V
Reverse Current	$V_R = 20V$	I_R	-	-	25	nA
	$V_R = 20V$, $T_j = 150\,^{O}C$	I_R	-	-	50	μA
	$V_R = 75V$	I_R	-	-	5	μA
Breakdown Voltage	$I_R = 100uA$, tp/T = 0.01, Tp = 0.3ms	$V_{(BR)}$	100	-	-	V
Diode Capacitance	$V_R = 0$, f = 1MHz, $V_{HF} = 50mV$	C_D	-	-	4	pF
Rectification Efficiency	$V_{HF} = 2V$, f = 100MHz	η_r	45	-	-	%
Reverse Recovery Time	$I_F = I_R = 10mA$, Ir A	t_{rr}	-	-	8	ns
	$I_F = 10mA$, $V_R = 6V$, $i_R = 0.1xI_R$, $R_L = 100\Omega$	t_{rr}	-	-	4	ns

Dimensions in mm