1N4148

SMALL – SIGNAL SWITCHING DIODE

Reverse Voltage 100V

Forward Current 150mA

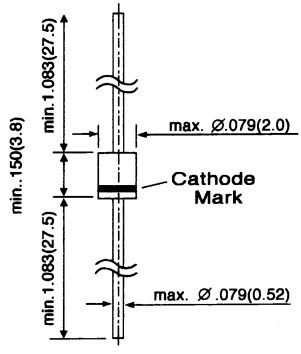
FEATURES

* Silicon Epitaxial Planar Diode
* Fast switching diode
* This diode is also available in other case styles including th SOD – 123 CASE WITH THE TYPE DESIGNATION 1N4148W, the MiniMELF case with the type designation LL4148, the SOT – 23 case with the type designation IMBD4148, and the DO – 34 cast with type designation 1N4148S.

MECHANICAL DATA

* Case: DO – 35 Glass Case
* Weight: approx. 0.13g

DO35



Dimensions in inches and(milimeters)

Maximum Ratings and Thermal Characteristics (TA = 25℃, UNLESS OTHERWIES NOTED)

Parameter	Symbol	Limit	Unit
Reverse Voltage	V_R	75	V
Peak Reverse Voltage	V_{RM}	100	V
Average Rectified Current Half Wave Rectification with Resistive Load at T_{amb} = 25℃	$I_{F(AV)}$	150(1)	mA
Surge Forward Current at t < 1s and Tj = 25℃	I_{FSM}	500	mA
Power Dissipation at T_{amb} = 25℃(1)	P_{tot}	500	mW
Thermal Resistance Junction to Ambient Air(1)	$R_{\theta JA}$	350	℃/W
Junction Temperature	T_J	175	℃
Storage Temperature	T_S	– 65 to + 175	℃

NOTE: (1) Valid provided that leads at a distance of 8mm from case are kept at ambient temperature

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RATINGS AND CHARACTERISTIC CURVES(1N4148)

SWITCHING DIODES

FIG.1 – ADMISSIBLE REPETITIVE PEAK FORWARD CURRENT VERSUS PLUSE DURATION

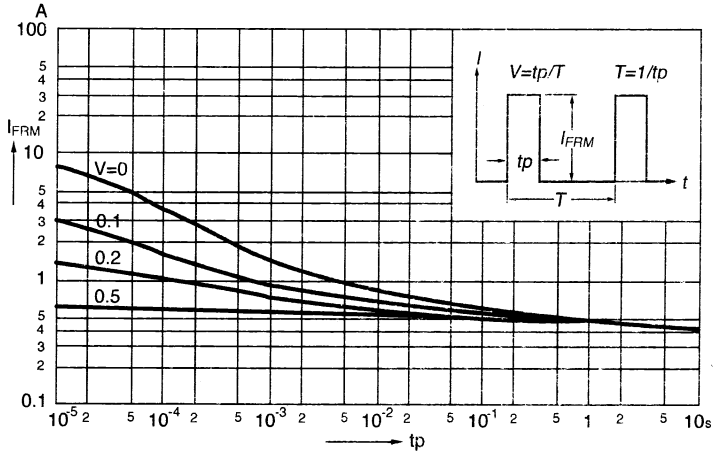


FIG.2 – FORWARD CHARACTERISTICS

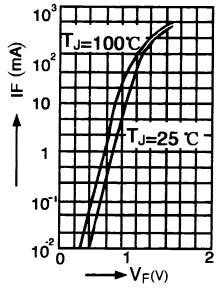


FIG.3 – DYNAMIC FORWARD RESISTANCE VERSUS FORWARD CURRENT

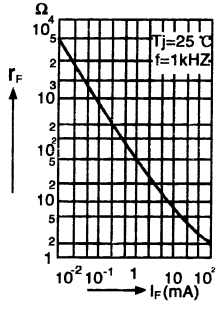
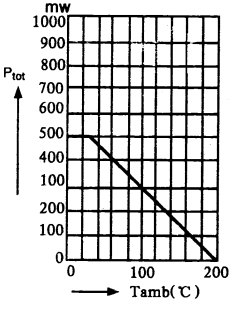
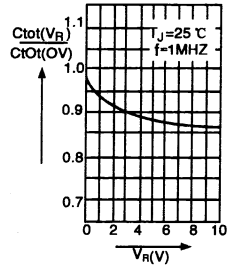


FIG.4 – ADMISSIBLE POWER DISSIPATION VERSUS AMBIENT TEMPERATURS



DFIG.5 – RELATIVE CAPACITANCE VERSUS REVERSE VOLTAGE



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Electrical Characteristics(TA = 25℃, UNLESS OTHERWIES NOTED)

Parameter	Symbol	Test condition	Min	Typ	Max	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R = 100\mu A$	100			V
Forward Voltage	V_F	$I_F = 10mA$	–	–	1.0	V
Leakage Current	I_R	$V_R = 20V$ $V_R = 75V$ $V_R = 20V, T_J = 150℃$	–	–	25 5 50	nA μA μA
Capacitance	C_{tot}	$V_F = V_R = 0V$	–	–	4	pF
Voltage Rise when Switching ON (tested with 50mA Pulses)	V_{FR}	$T_P = 0.1\mu s$, Rise time < 30ns $F_P = 5$ to 100 KHz	–	–	2.5	ns
Reverse Revovery Time	T_{RR}	$I_F = 100mA, I_R = 1mA$ $V_R = 6v, R_L = 100\Omega$	–	–	4	ns
Rectification Efficiency	ηv	$F = 100MHz, V_{RF} = 2V$	0.45	–	–	–

Rectificaation Efficiency Measurement Circuit