

Small Signal Switching Diode



Features:

- Silicon Epitaxial Diode
- High Speed Switching Diode
- 500mW Power Dissipation

Mechanical Data:

- Case: MINI-MELF glass case
- Polarity: Colour band denotes cathode
- Weight: Approx. 0.031g

Maximum Ratings and Electrical Characteristics:

Ratings at 25°C ambient temperature unless otherwise specified

Characteristics	Symbol	LL4148-13	Units
Reverse voltage	V_R	75	V
Peak reverse voltage	V_{RM}	100	V
Average forward rectified current Half wave rectification with resistive load at $t_a=25^\circ\text{C}$ and $f \geq 50\text{Hz}$	I_o	150	mA
Forward surge current at $t < 1\text{S}$ and $T_J=25^\circ\text{C}$ (Note 1)	I_{FSM}	500	mA
Power dissipation at $T_A=25^\circ\text{C}$	P_{tot}	500	mW
Junction temperature	T_J	175	$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 to +175	$^\circ\text{C}$

Note:

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

Small Signal Switching Diode

Electrical Characteristics:

Characteristics		Min.	Typ.	Max.	Units
Forward voltage at $I_F=10\text{mA}$	V_F	-	-	1	V
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 μA μA
Capacitance at $V_F=V_R=0\text{V}$	C_{tot}	-	-	4	pF
Voltage rise when switching on tested with 50mA pulses $t_p=0.1\mu\text{s}$, rise time $<30\text{ns}$, $f_p=5$ to 100kHz	V_{fr}	-	-	2.5	V
Reverse recovery time from $I_F=10\text{mA}$ $V_R=6\text{V}$, $R_L=100\Omega$, at $I_R=1\text{mA}$	t_{rr}	-	-	4	ns
Thermal resistance junction to ambient (Note1)	$R_{\theta\text{JA}}$			350	K/W
Rectification efficiency at 100MHz , $V_{\text{RF}}=2\text{V}$	η_V	0.45	-	-	-

Note

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

Fig. 1- Admissible Power Dissipation Versus Ambient Temperature

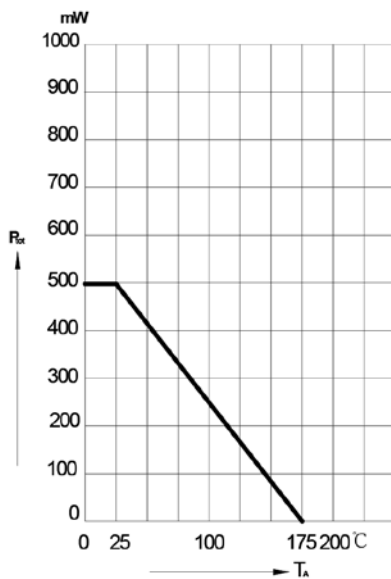
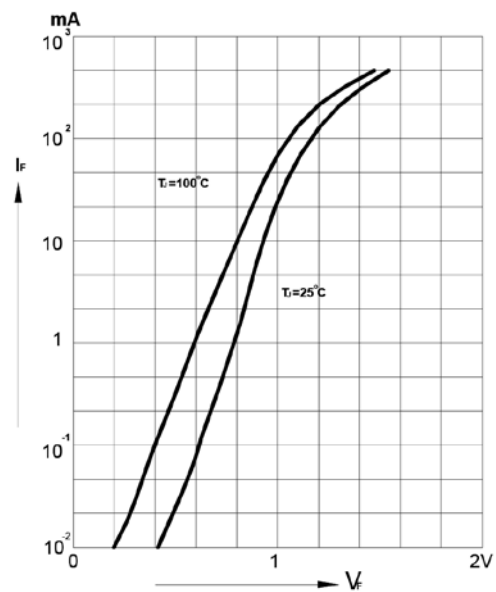
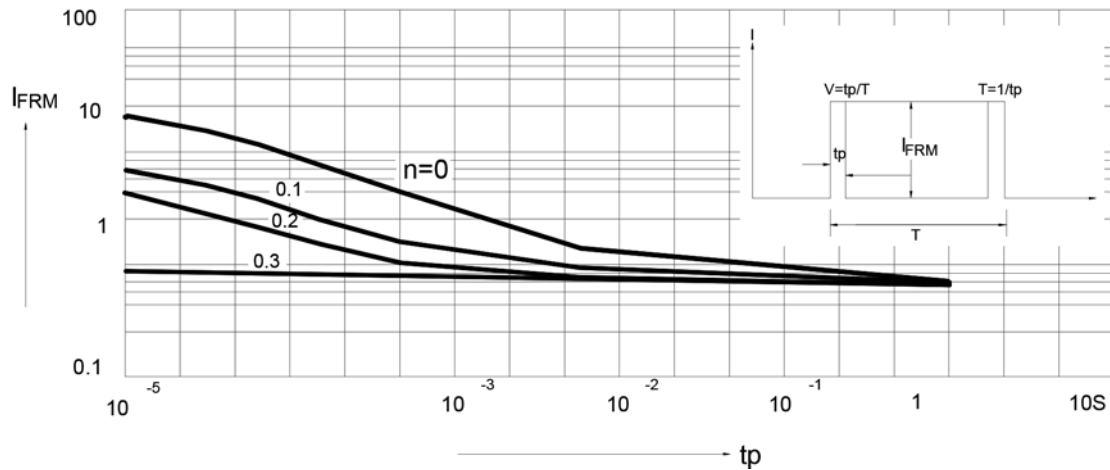


Fig. 2- Forward Characteristics

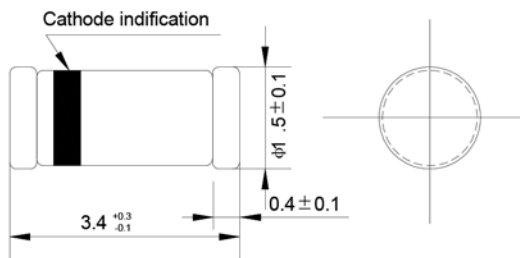


Small Signal Switching Diode

Fig. 3 -Admissible Repetitive Peak Forward Current Versus Pulse Duration



Dimensions:



Dimensions : Millimetres

Part Number Table

Description	Part Number
Small Signal Switching Diode	LL4148-13

Important Notice : This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2012.