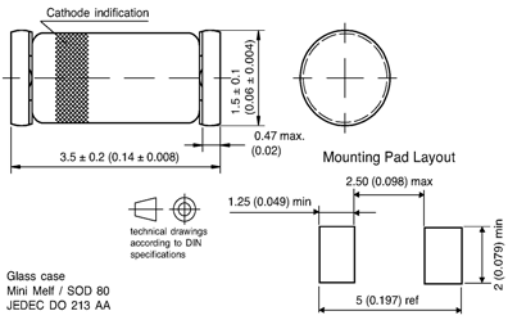
LL4151

Small-Signal Diode
Fast Switching Diode

Features

- Silicon Epitaxial Planar Diode
- Fast switching diode in MiniMELF case especially suited for automatic insertion.
- This diode is also available in other case styles including the DO-35 case with the type designation 1N4151.



Mechanical Data

- Case: MiniMELF Glass Case (SOD-80C)
- Weight: approx. 0.05g
- Cathode Band Color: Black

Maximum Ratings and Thermal Characteristics

(T_A=25°C unless otherwise noted.)

Parameter	Symbol	Limit	Unit
Reverse voltage	V_R	50	Volts
Peak reverse voltage	V_{RM}	75	Volts
Forward DC current at T_{amb}=25°C (1)	I_F	200	mA
Average rectified current (half wave rectification with resist. load at T_{amb}=25°C f≧50Hz) (1)	$I_{F(AV)}$	150	mA
Surge forward current at t<1s and T_j=25°C	I_{FSM}	500	mA
Power dissipation at T_{amb}=25°C (1)	P_{tot}	500	mW
Thermal resistance junction to ambient air (1)	$R_{\theta JA}$	350	°C/W
Junction temperature	T_j	175	°C
Storage temperature range	T_S	-65 to +175	°C

Electrical Characteristics

(T_j=25°C unless otherwise noted.)

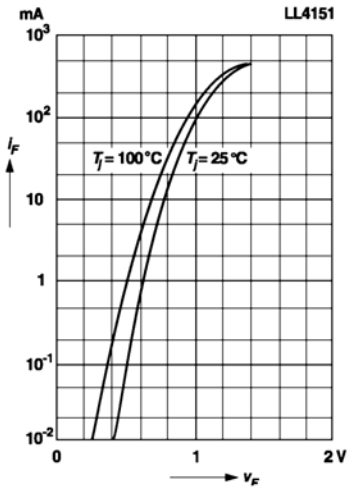
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Forward voltage	V_F	I_F=50mA	-	-	1.0	Volt
Leakage current	I_R	V_R=50V V_R=50V, T_j=150°C	-	-	50 50	nA uA
Capacitance	C_{tot}	V_F=V_R=0V	-	-	2.0	pF
Reverse recovery time	t_{rr}	I_F=10mA, I_R=10mA I_r=1mA, R_L=100Ω I_F=10mA, I_R=1mA V_R=6V, R_L=100Ω	- -	- -	4.0 2.0	nS
Rectification efficiency (see third Page)	ηv	f=100MHz, V_{RF}=2V	0.45	-	-	-

Notes: 1. Valid provided that electrodes are kept at ambient temperature

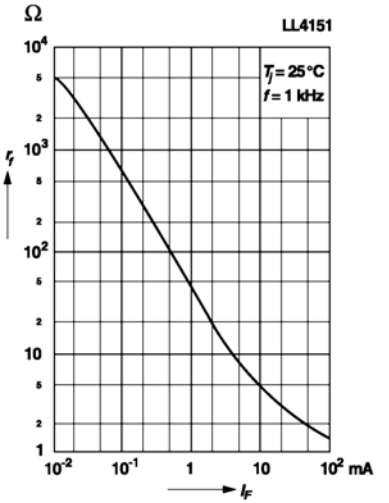
RATINGS AND CHARACTERISTIC CURVES

(T_A = 25°C unless otherwise noted.)

Forward characteristics

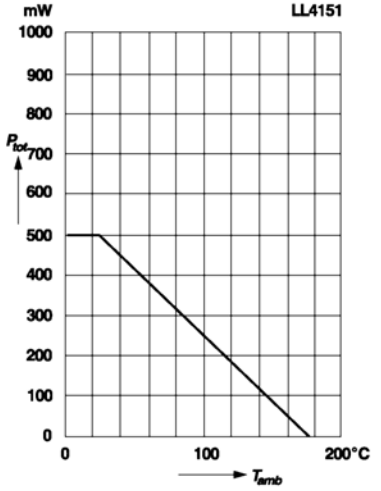


Dynamic forward resistance versus forward current

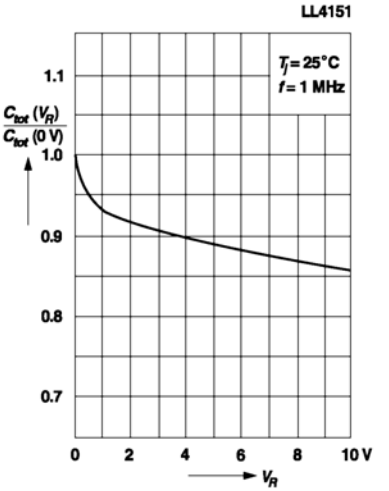


Admissible power dissipation versus ambient temperature

Valid provided that electrodes are kept at ambient temperature



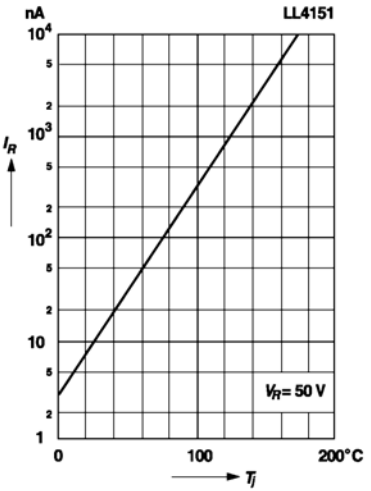
Relative capacitance versus reverse voltage



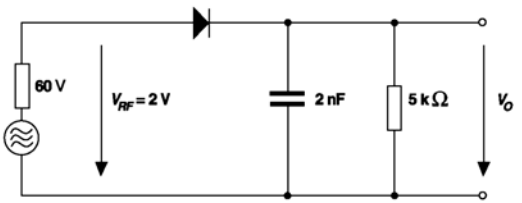
RATINGS AND CHARACTERISTIC CURVES

(T_A = 25°C unless otherwise noted.)

Leakage current versus junction temperature



Rectification Efficiency Measurement Circuit



Admissible repetitive peak forward current versus pulse duration

Valid provided that electrodes are kept at ambient temperature