

Usage and Parameters of JFET_INF06_1200V_V1a.lib

Contents:

The library file contains 3 models:

JFET_INF06_1200V_L1
 JFET_INF06_1200V_L3
 JFET_INF06_1200V_L3b

L1 models:

No internal power dissipation; junction temperature is the global temperature

Example:

XJFET Drain Gate Source JFET_INF06_1200V_L1

L3 models:

Internal power dissipation if parameter LossSwitch \neq 0

Dissipated power = Current_JFET x Voltage_JFET

Examples:

JFET_INF06_1200V_L3:

XJFET Drain Gate Source Tj TCase JFET_INF06_1200V_L3 LossSwitch=1

Tj: potential (in V) = temperature (in °C) at junction (monitor node, typically not connected)

Tcase: node where the boundary condition - external heat sinks etc - have to be connected

(ideal heat sink can be modeled by using a voltage source stating the ambient temperature in °C between Tcase and ground.

JFET_INF06_1200V_L3b:

XJFET Drain Gate Source Tj TAmb TCase JFET_INF06_1200V_L3b LossSwitch=1

Equivalent to L3, usage of thermal nodes TCase and TAmb as in the previous internet model

JFET_Mod_D41_V1.1C

External Parameters and Defaults

Name	Description	Default	Units
Ls	Internal source inductance	1n	H
Ld	Internal drain inductance	1n	H
Lg	Internal gate inductance	5n	H
Rg	Internal gate resistance	6	Ohm
Vpi	Pinch Off Voltage (absolute value)	17	V
dVpp	Punch Trough Voltage (=Breakdown voltage of Gate-Source diode) minus Vpi (absolute value)	8	V
SCIS	Scaling factor for saturation current	1	--
Ron	On-Resistance	110	mOhm
LossSwitch	\neq 0 Power dissipation on (only L3-models)	0	--

Following parameters are limited in range:

$10V \leq V_{pi} \leq 25V$, $7V \leq dV_{pp} \leq 9V$, $0.5 \leq SCIS \leq 1.5$, $80mOhm \leq R_{on} \leq 160mOhm$

No external Parameter:

Breakdown Voltage: 1300V