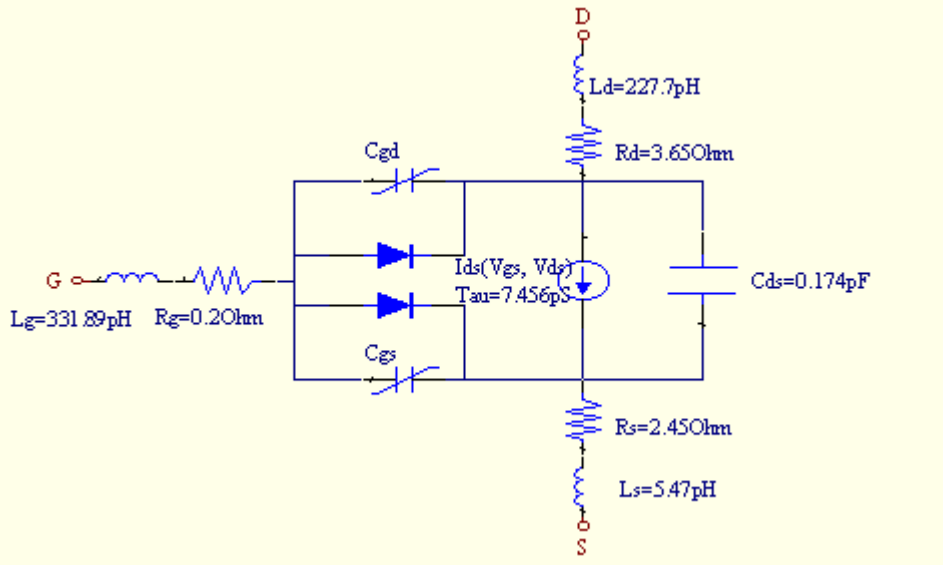
MicroWave Technology

MwT-7 Nonlinear Model

MwT- 7

26 GHz Medium Power GaAs FET



Note:

1. MwT-7 is a MESFET with 0.3uM refractory metal/gold gate length and 250uM gate width. It is a high gain and medium power device with operating range from 0.5 to 18 GHz.

2. The models are based on one die in a typical wafer. It is periodically updated to reflect a more current wafer. Your results might be slightly different if you use a wafer that is not from the sample used.

DC PARAMETERS

SYMBOL	UNITS	VALUE	DESCRIPTION
VBI	V	0.8	BUILD-IN GATE POTENTIAL
VBR	V	-12	GATE-DRAIN BREAKDOWN
N		1.22	GATE JUNCTION IDEALITY FACTOR
IS	pA	8.0	GATE JUNCTION REVERSE SATURATION CURRENT

CURTICE-ETTENBERG MODEL

SYMBOL	UNITS	VALUE	DESCRIPTION
A0	A	0.0690	CUBIC FIT IDS EQUATION COEFFICIENT
A1	A/V	0.0999	CUBIC FIT IDS EQUATION COEFFICIENT

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A2	A/(V*V)	0.0359	CUBIC FIT IDS EQUATION COEFFICIENT
A3	A/(V*V*V)	0.0000	CUBIC FIT IDS EQUATION COEFFICIENT
BETA	1/V	0.0667	COEFFICIENT FOR PINCH-OFF CHANGE WITH RESPECT TO VDS
GAMMA	1/V	1.6895	HYPERBOLIC TANGENT FUNCTION PARAMETER
VDSO	V	2.0716	VDS AT WHICH A0, A1, A2 AND A3 WERE EVALUATED
CGSO	PF	0.5204	ZERO BIAS GATE-SOURCE CAPACITANCE
CGDO	PF	0.0239	ZERO BIAS GATE DRAIN CAPACITANCE
VTO	V	-1.3209	PINCH-OFF VOLTAGE

TRIQUINT MODEL

SYMBOL	UNITS	VALUE	DESCRIPTION
ALPHA	1/V	2.1307	SLOPE OF DRAIN CHARACTERISTIC IN THE LINEAR REGION
BETA	A/(V*V)	0.0367	TRANSCONDUCTANCE COEFFICIENT
GAMMA		0.1052	SLOPE PARAMETER OF PINCH-OFF VOLTAGE
DELTA	1/(A*V)	1.0202	SLOPE OF DRAIN CHARACTERISTIC IN THE SATURATED REGION
Q		2.1058	POWER LAW PARAMETER
VTO	V	-1.1778	PINCH-OFF VOLTAGE
CGSO	PF	0.5411	ZERO BIAS GATE-SOURCE CAPACITANCE
CDSO	PF	0.02555	ZERO BIAS GATE-DRAIN CAPACITANCE

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