

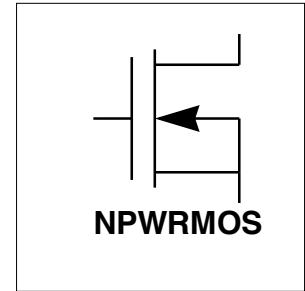


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tsm2n7002

Revision Date: October 19, 2022



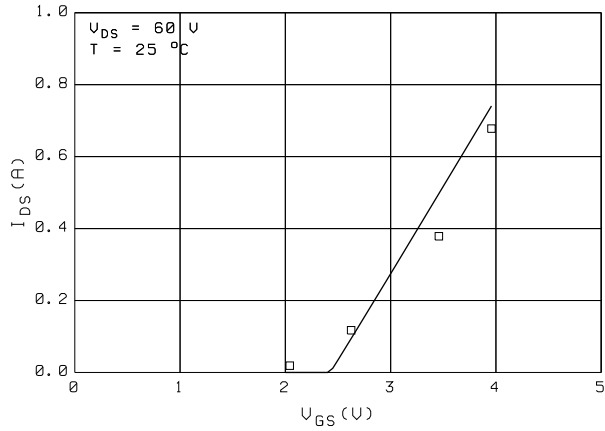
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Electrical Characteristics (Ta = 25°C unless otherwise noted)

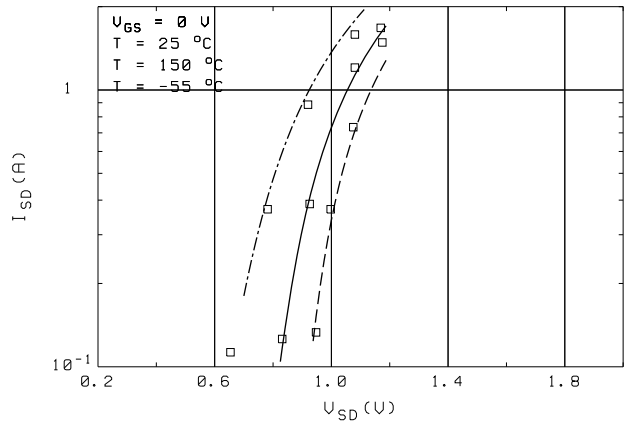
Testing Simulator: *MODPEX*

Spec.	Test Conditions	Min	Typ	Max	Model	Unit
IDS	VDS = 60V, VGS = 1V			1	1	μA
RON	IDS = 240mA, VGS = 10V		1.9	2.5	2.41	Ω
RON	IDS = 220mA, VGS = 4.5V		2	3	2.411	Ω
CISS	VDS = 30V, VGS = 0V			30	21.27	pF
COSS	VDS = 30V, VGS = 0V			15	9.077	pF
CRSS	VDS = 30V, VGS = 0V			6	0.8206	pF
TD(ON)	IDS = 240mA, VGS = 10V, RL = 125Ω, RIN = 6Ω			2.72	0.7821	nsec
TR	IDS = 240mA, VGS = 10V, RL = 125Ω, RIN = 6Ω			2	0.5011	nsec
TD(OFF)	IDS = 240mA, VGS = 10V, RL = 125Ω, RIN = 6Ω			7.98	9.222	nsec
TF	IDS = 240mA, VGS = 10V, RL = 125Ω, RIN = 6Ω			9.5	7.091	nsec

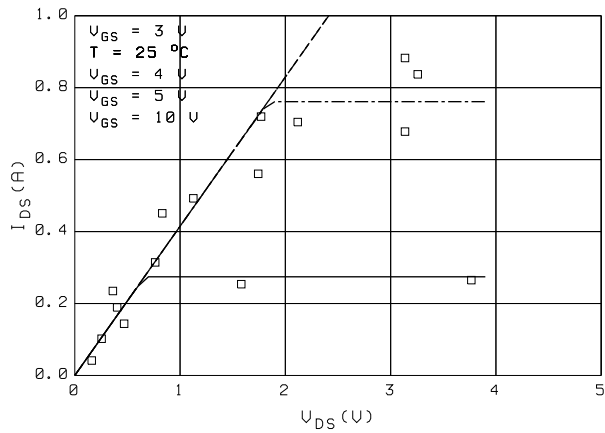
tsm2n7002: DC Extraction



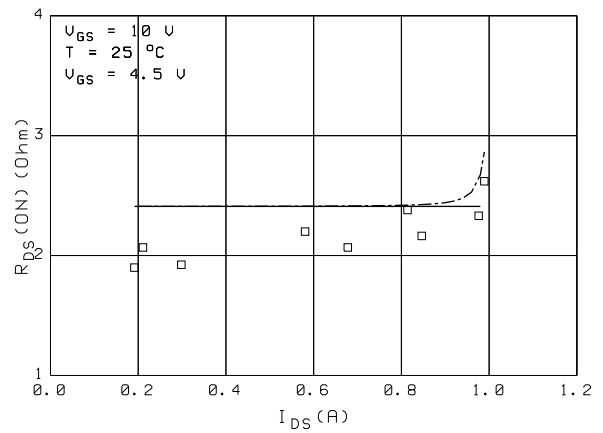
IDS-VGS (VBS)



ISD-VSD (VGS)

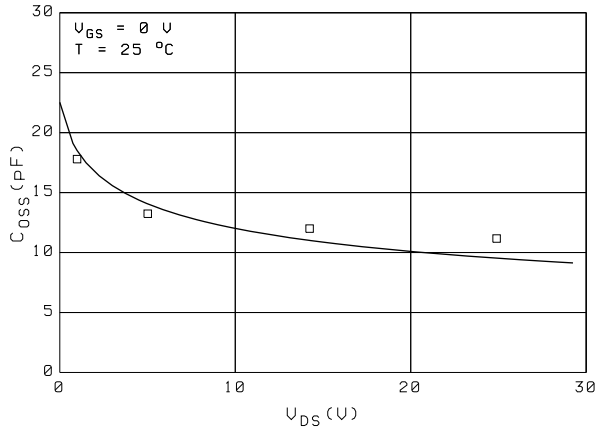


IDS-VDS (VGS)

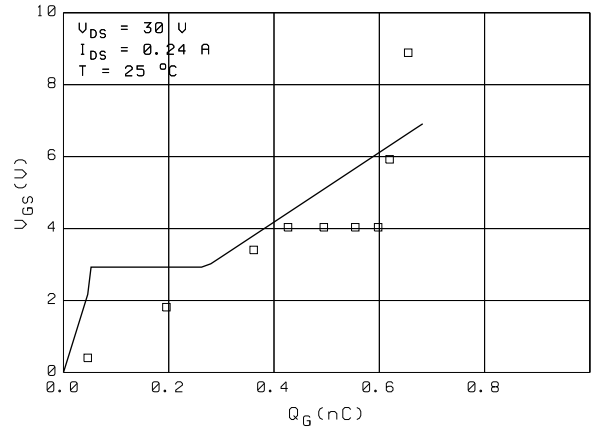


RDS(ON) - IDS (VGS)

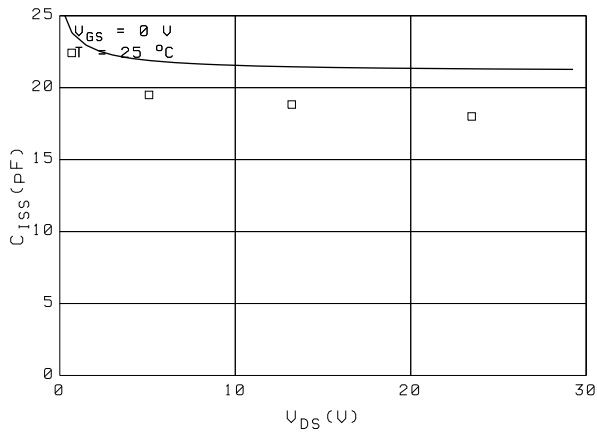
tsm2n7002: AC Extraction



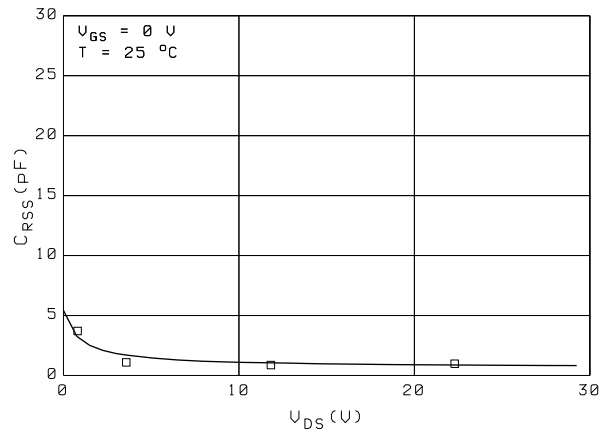
COSS-UDS (VGS)



VGS-QG (VDS, IDS)



CISS-UDS (VGS)



CRSS-UDS (VGS)

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.SUBCKT tsm2n7002 1 2 3
*****
* Model Generated by MODPEX *
*Copyright(c) Symmetry Design Systems*
* All Rights Reserved *
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* Contains Proprietary Information *
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*****
* Model generated on Oct 19, 2022
* MODEL FORMAT: SPICE3
* Symmetry POWER MOS Model (Version 1.0)
* External Node Designations
* Node 1 -> Drain
* Node 2 -> Gate
* Node 3 -> Source
M1 9 7 8 8 MM L=100u W=100u
* Default values used in MM:
* The voltage-dependent capacitances are
* not included. Other default values are:
* RS=0 RD=0 LD=0 CBD=0 CBS=0 CGBO=0
.MODEL MM NMOS LEVEL=1 IS=1e-32
+VTO=2.41968 LAMBDA=2.67309e-08 KP=1000
+CGSO=2.04478e-07 CGDO=6.38373e-09
RS 8 3 2.02257
D1 3 1 MD
.MODEL MD D IS=9.97771e-11 RS=0.159211 N=1.5 BV=60
+IBV=0.00025 EG=1.17628 XTI=1 TT=0.000100001
+CJO=1.68804e-11 VJ=3.0479 M=0.3 FC=0.5
RDS 3 1 6e+07
RD 9 1 0.387362
RG 2 7 50.5104
D2 4 5 MD1
* Default values used in MD1:
* RS=0 EG=1.11 XTI=3.0 TT=0
* BV=infinite IBV=1mA
.MODEL MD1 D IS=1e-32 N=50
+CJO=4.80521e-12 VJ=0.812927 M=0.9 FC=1e-08
D3 0 5 MD2
* Default values used in MD2:
* EG=1.11 XTI=3.0 TT=0 CJO=0
* BV=infinite IBV=1mA
.MODEL MD2 D IS=1e-10 N=0.4 RS=3e-06
RL 5 10 1
FI2 7 9 VFI2 -1
VFI2 4 0 0
EV16 10 0 9 7 1
CAP 11 10 8.25041e-11
FI1 7 9 VFI1 -1
VFI1 11 6 0
RCAP 6 10 1
D4 0 6 MD3
* Default values used in MD3:
* EG=1.11 XTI=3.0 TT=0 CJO=0
* RS=0 BV=infinite IBV=1mA
.MODEL MD3 D IS=1e-10 N=0.4
.ENDS tsm2n7002
```