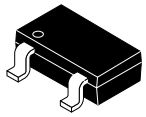
N-Channel JFET

25 V, 20 to 40 mA, 40 mS, CPH3

CPH3910



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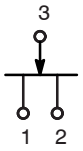
Features

- V_{GDS}: −25 V max.
- $|y_{fs}|$: 40 mS typ.
- C_{iss}: 6.0 pF typ.
- N_F: 2.1 dB typ.
- This is a Pb−Free Device

Applications

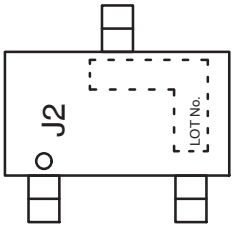
- For AM Tuner RF Amplification
- Low Noise Amplifier

ELECTRICAL CONNECTION



1: Source
2: Drain
3: Gate

MARKING DIAGRAM



ABSOLUTE MAXIMUM RATINGS (at T_A = 25°C)

Symbol	Parameter	Ratings	Unit
V_{DSX}	Drain−to−Source Voltage	25	V
V_{GDS}	Gate−to−Drain Voltage	−25	V
I_G	Gate Current	10	mA
I_D	Drain Current	50	mA
P_D	Allowable Power Dissipation	400	mW
T_j	Junction Temperature	150	°C
T_{stg}	Storage Temperature	−55 to +150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

ORDERING INFORMATION

Device	Package	Shipping†
CPH3910−TL−E	CPH3 (Pb−Free)	3 000 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

ELECTRICAL CHARACTERISTICS (at T_A = 25°C)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
$V_{(BR)GDS}$	Gate−to−Drain Breakdown Voltage	I_G = −10 μA, V_{DS} = 0 V	−25			V
I_{GSS}	Gate Cutoff Current	V_{GS} = −10 V, V_{DS} = 0 V			−1.0	nA
$V_{GS}(off)$	Cutoff Voltage	V_{DS} = 5 V, I_D = 100 μA	−0.6	−1.2	−1.8	V
I_{DSS}	Drain Current	V_{DS} = 5 V, V_{GS} = 0 V	20		40	mA
$\|y_{fs}\|$	Forward Transfer Admittance	V_{DS} = 5 V, V_{GS} = 0 V, f = 1 kHz	30	40		mS
C_{iss}	Input Capacitance	V_{DS} = 5 V, V_{GS} = 0 V, f = 1 MHz		6.0		pF
C_{rss}	Reverse Transfer Capacitance	V_{DS} = 5 V, V_{GS} = 0 V, f = 1 MHz		2.3		pF
N_F	Noise Figure	V_{DS} = 5 V, V_{GS} = 0 V, f = 100 MHz		2.1	2.8	dB

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

TYPICAL PERFORMANCE CHARACTERISTICS

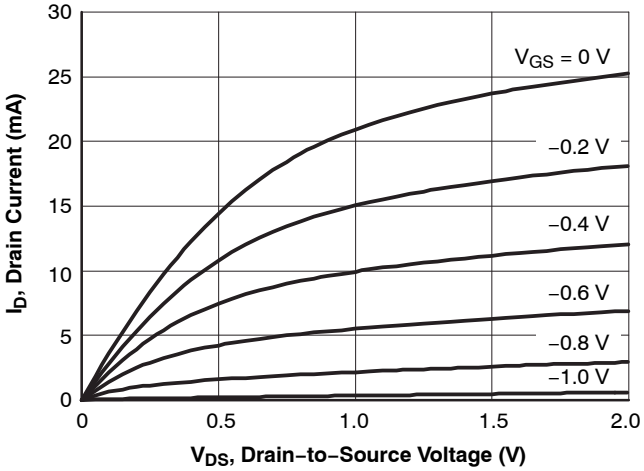


Figure 1. I_D – V_{DS}

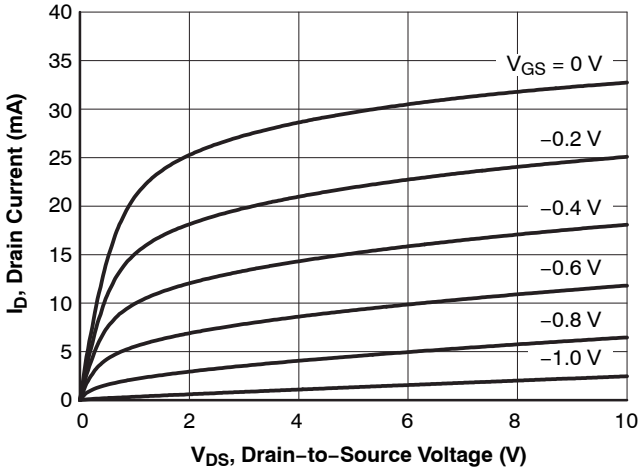


Figure 2. I_D – V_{DS}

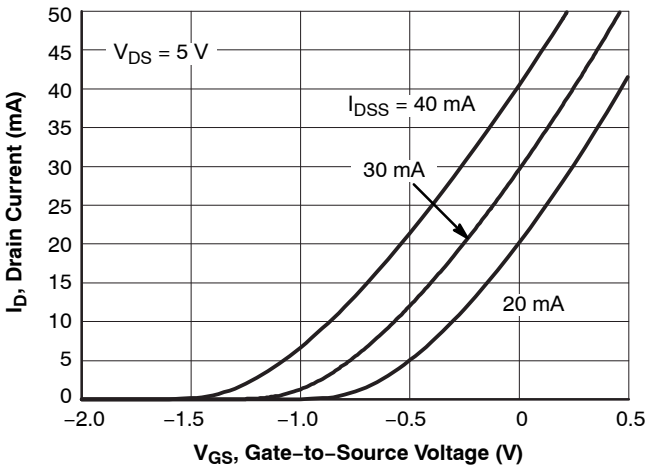


Figure 3. I_D – V_{GS}

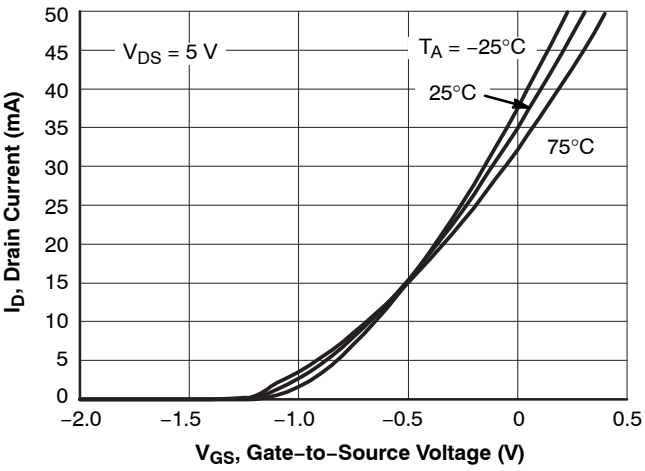


Figure 4. I_D – V_{GS}

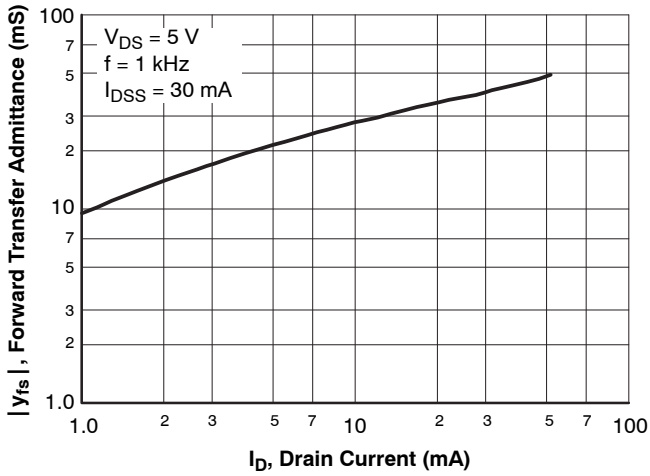


Figure 5. $|y_{fs}|$ – I_D

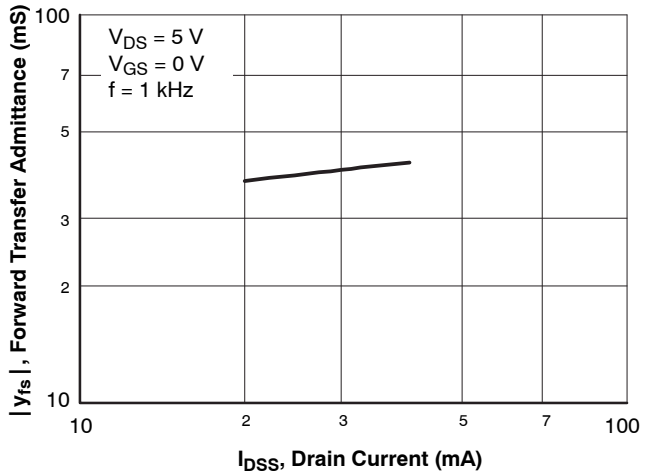


Figure 6. $|y_{fs}|$ – I_{DSS}

TYPICAL PERFORMANCE CHARACTERISTICS (Continued)

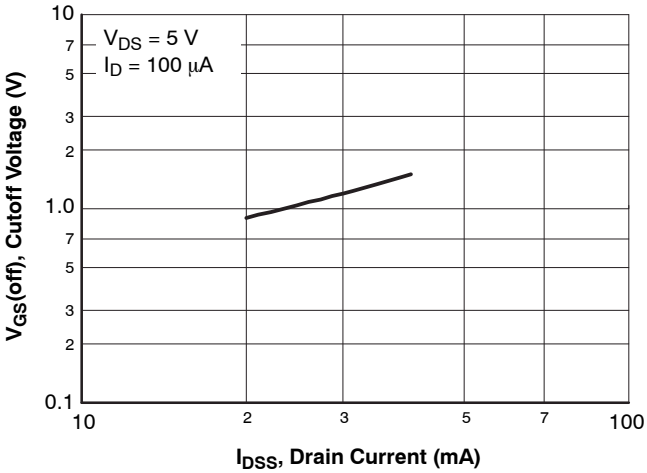


Figure 7. V_{GS}(off) – I_{DSS}

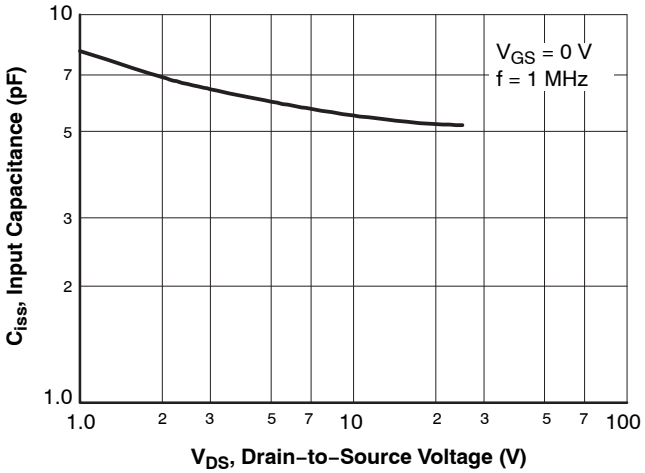


Figure 8. C_{iss} – V_{DS}

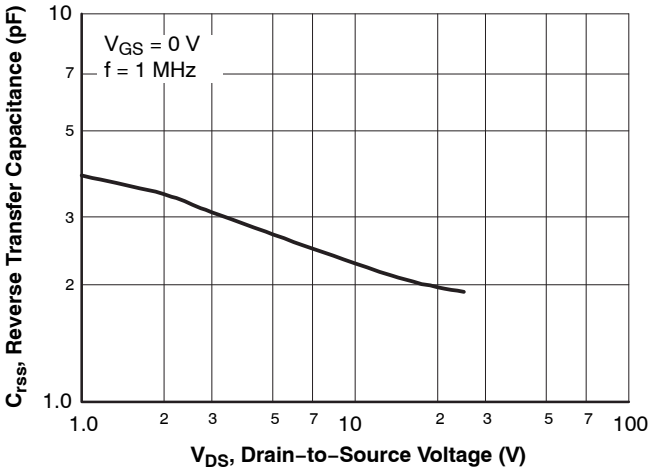


Figure 9. C_{rss} – V_{DS}

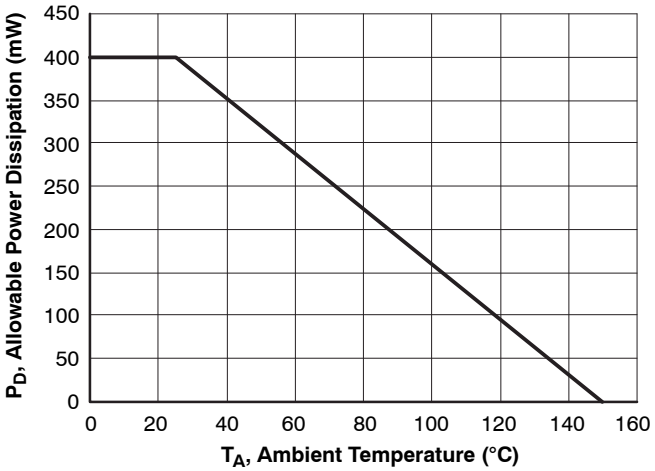


Figure 10. P_D – T_A

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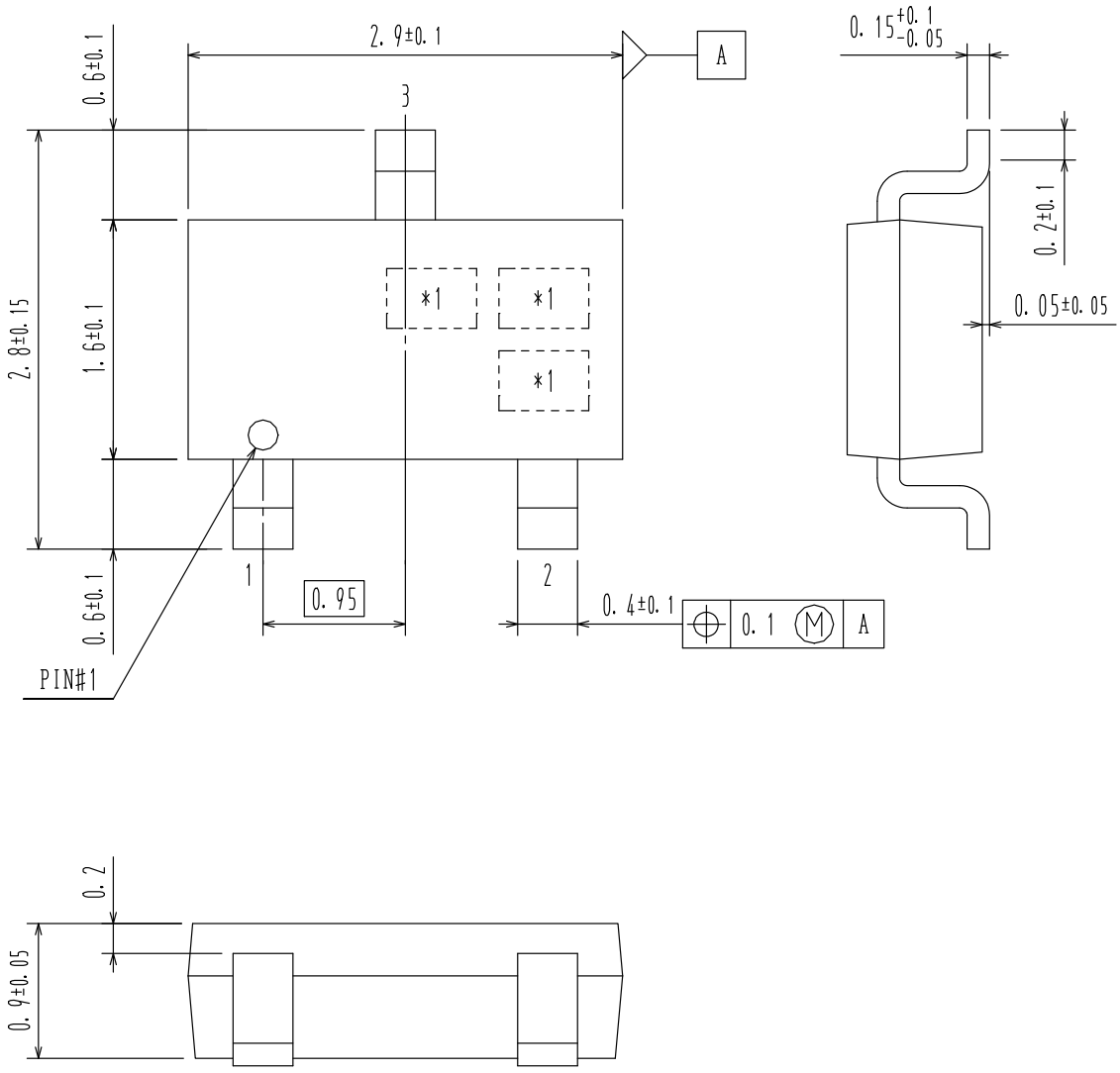

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