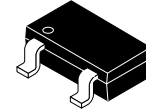


# N-Channel JFET

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

## CPH3910



CPH3  
CASE 318BA

### 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

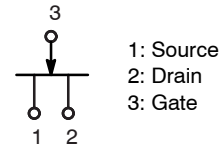
- For AM Tuner RF Amplification
- Low Noise Amplifier

### ABSOLUTE MAXIMUM RATINGS (at $T_A = 25^\circ\text{C}$ )

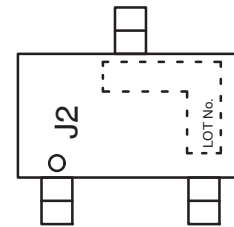
Symbol	Parameter	Ratings	Unit
$V_{DSX}$	Drain-to-Source Voltage	25	V
$V_{GDS}$	Gate-to-Drain Voltage	-25	V
$I_G$	Gate Current	10	mA
$I_D$	Drain Current	50	mA
$P_D$	Allowable Power Dissipation	400	mW
$T_j$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55 to +150	$^\circ\text{C}$

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.

### ELECTRICAL CONNECTION



### MARKING DIAGRAM



### 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 $T_A = 25^\circ\text{C}$ )

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

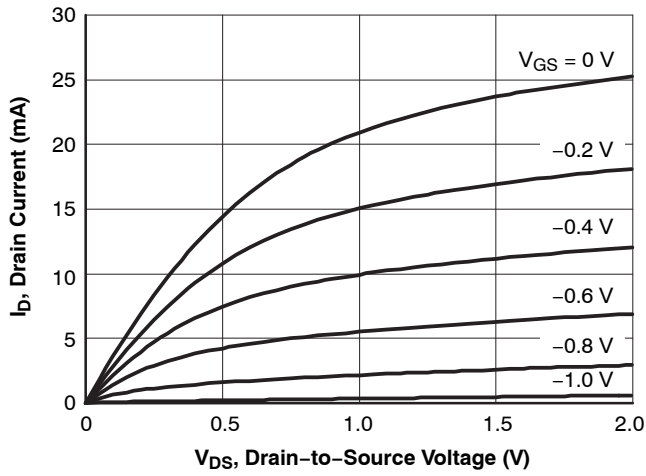


Figure 1.  $I_D - V_{DS}$

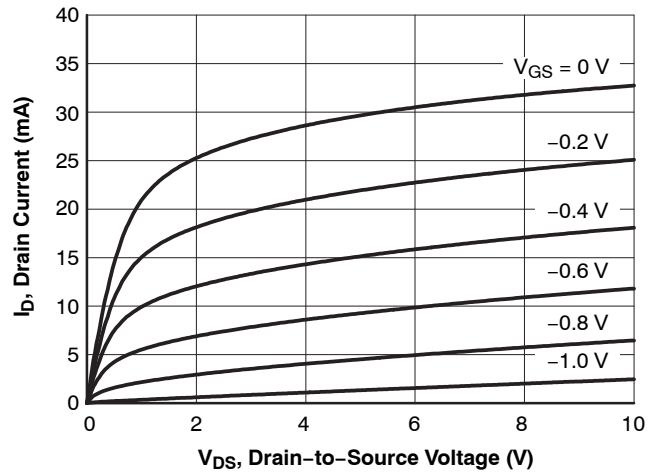


Figure 2.  $I_D - V_{DS}$

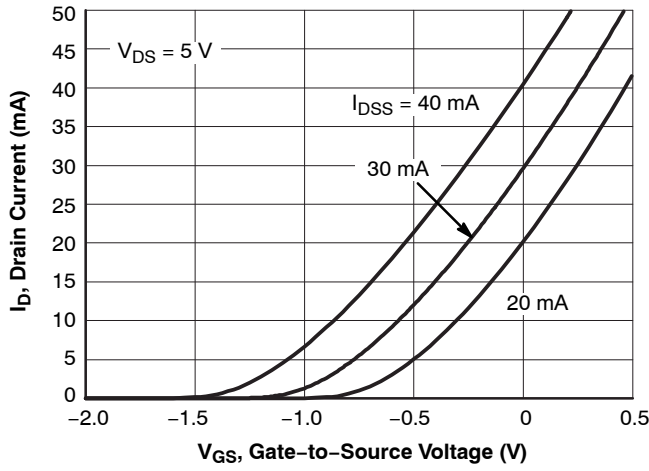


Figure 3.  $I_D - V_{GS}$

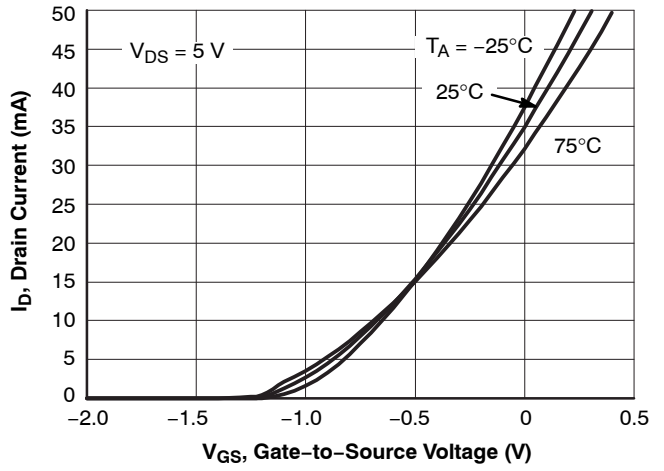


Figure 4.  $I_D - V_{GS}$

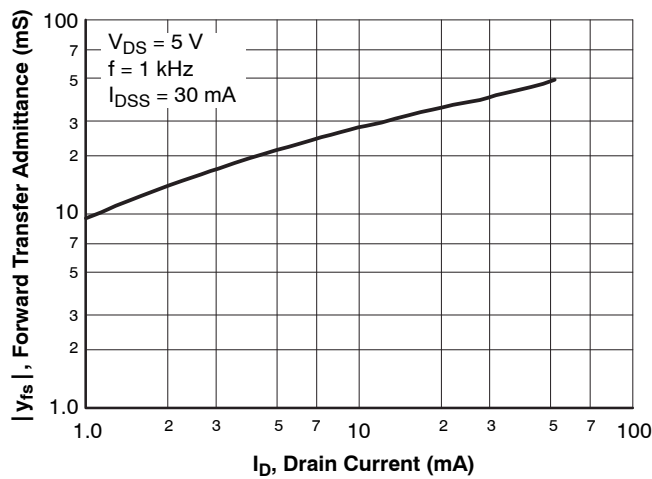


Figure 5.  $|Y_{fs}| - I_D$

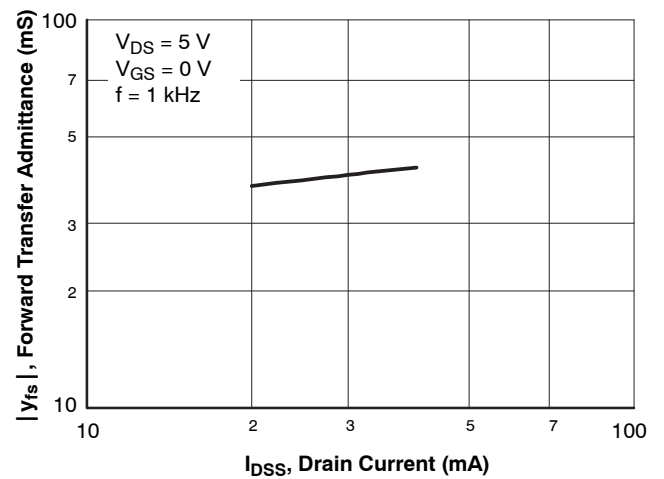


Figure 6.  $|Y_{fs}| - I_{DSS}$

TYPICAL PERFORMANCE CHARACTERISTICS (Continued)

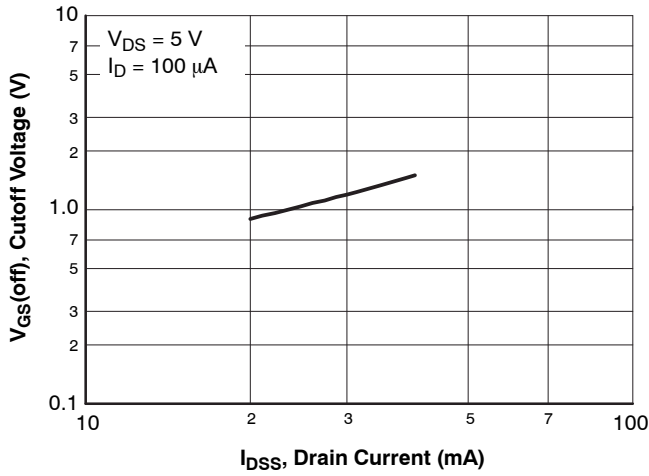


Figure 7.  $V_{GS(off)}$  –  $I_{DSS}$

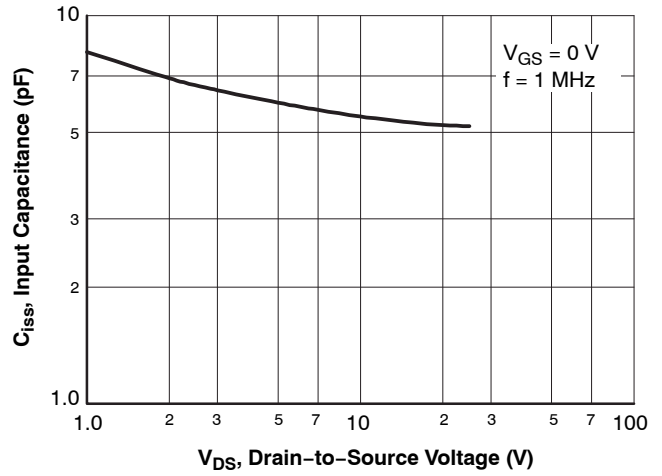


Figure 8.  $C_{iss}$  –  $V_{DS}$

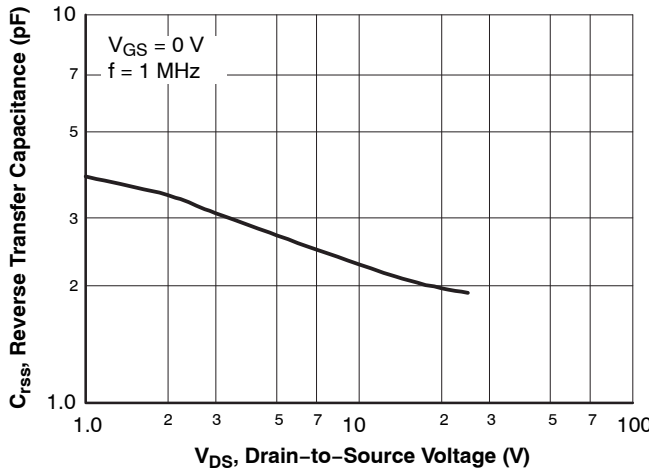


Figure 9.  $C_{rss}$  –  $V_{DS}$

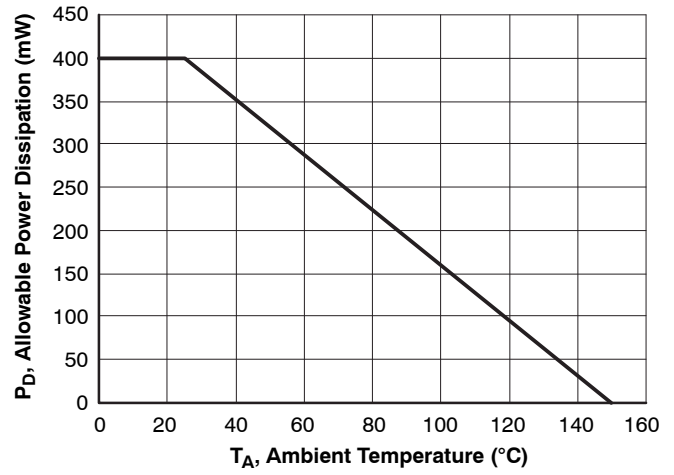
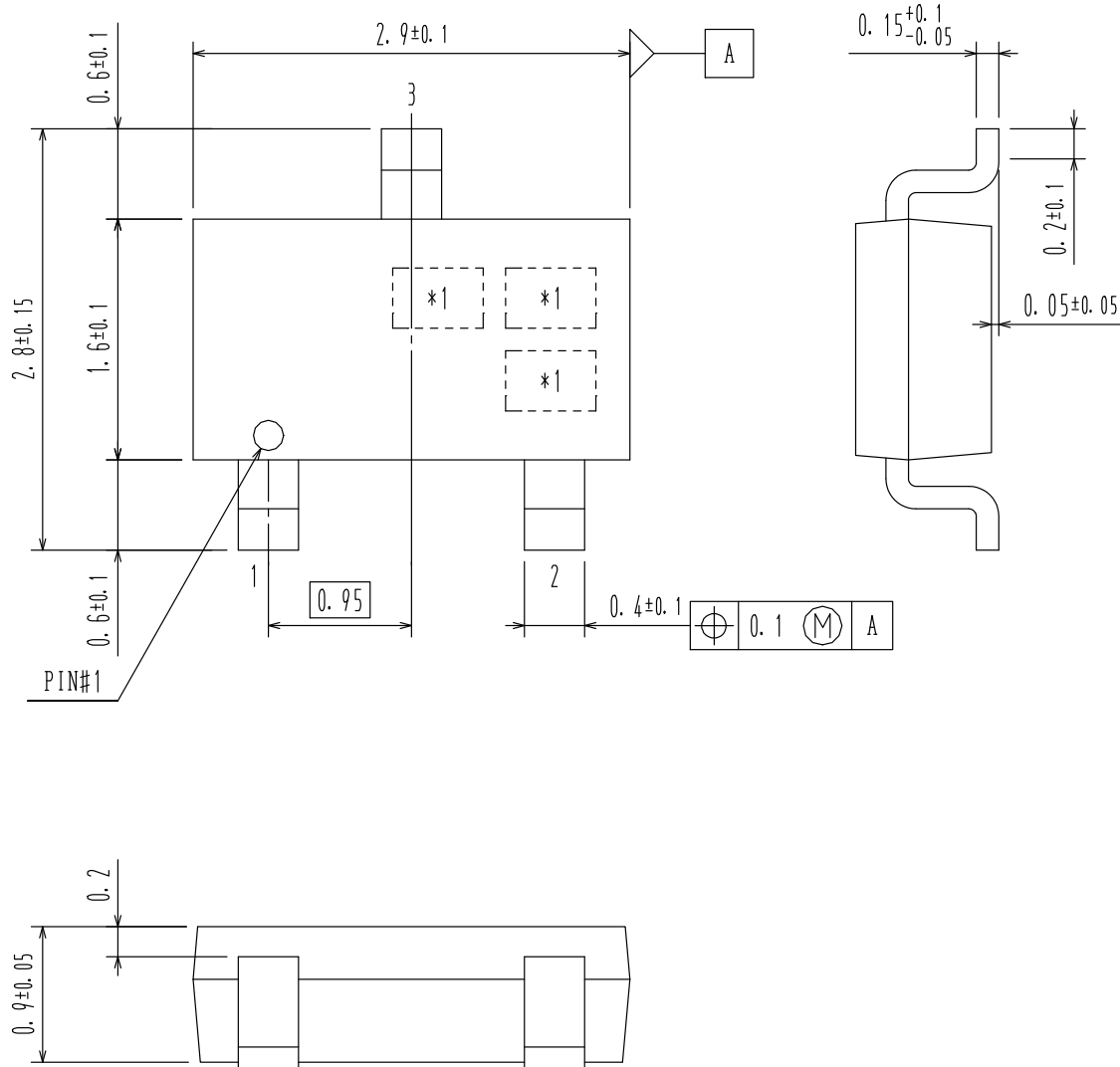


Figure 10.  $P_D$  –  $T_A$

**CPH3**  
**CASE 318BA**  
**ISSUE O**

DATE 30 NOV 2011



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