

N-Channel JFET

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

CPH3910

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

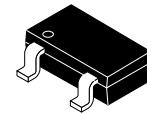
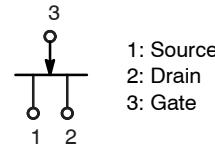
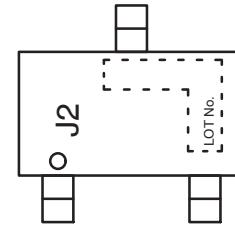
Symbol	Parameter	Ratings	Unit
V_{DSX}	Drain-to-Source Voltage	25	V
V_{GDS}	Gate-to-Drain Voltage	-25	V
I_G	Gate Current	10	mA
I_D	Drain Current	50	mA
P_D	Allowable Power Dissipation	400	mW
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55 to +150	$^\circ\text{C}$

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 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
$V_{GS(\text{off})}$	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

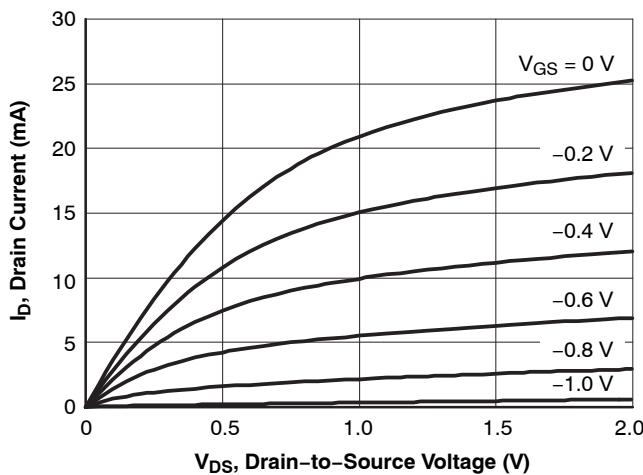
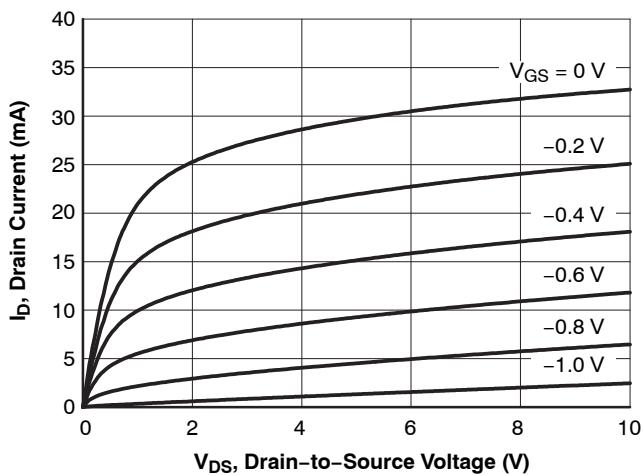
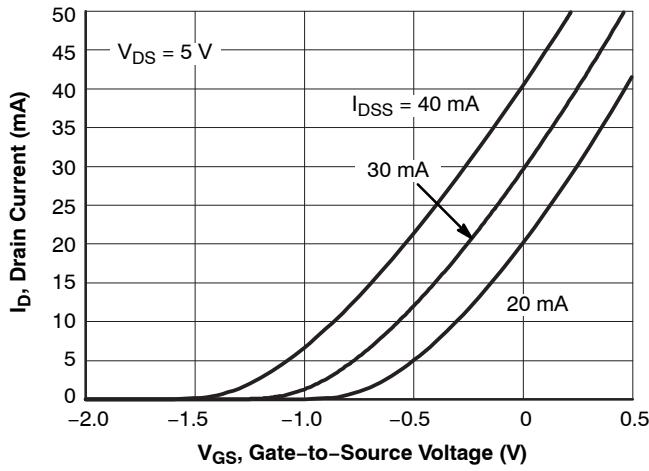
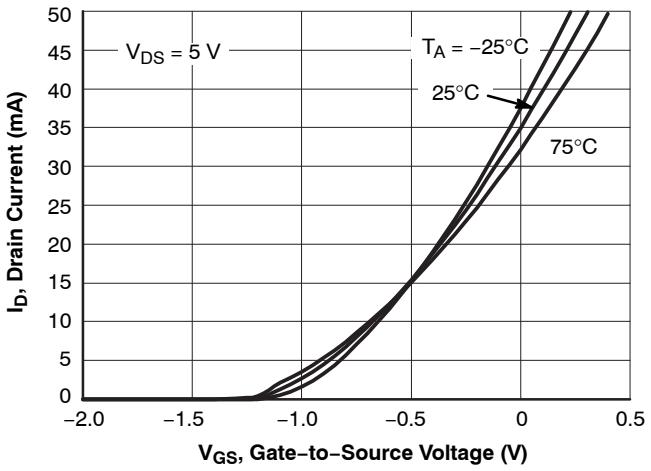
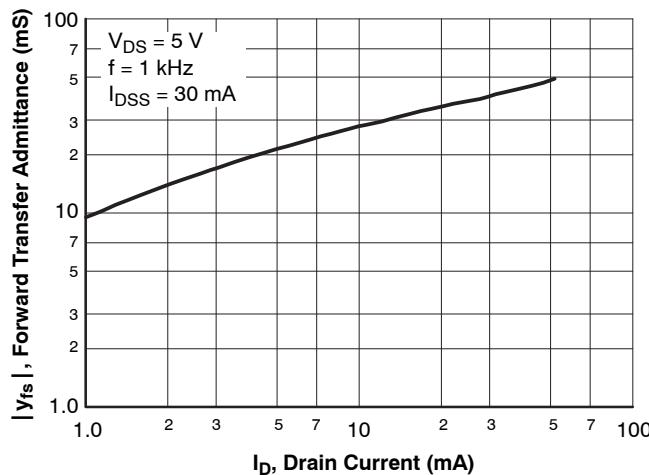
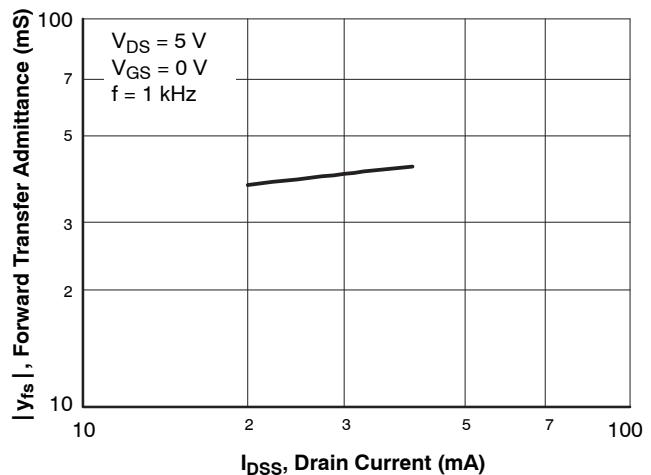
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

CPH3
CASE 318BA**ELECTRICAL CONNECTION****MARKING DIAGRAM****ORDERING INFORMATION**

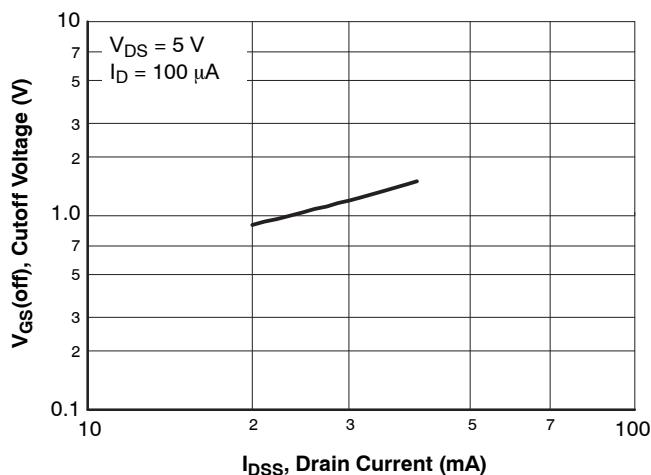
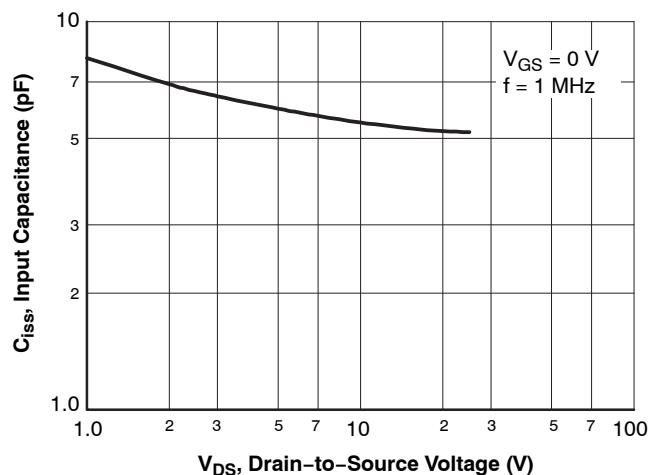
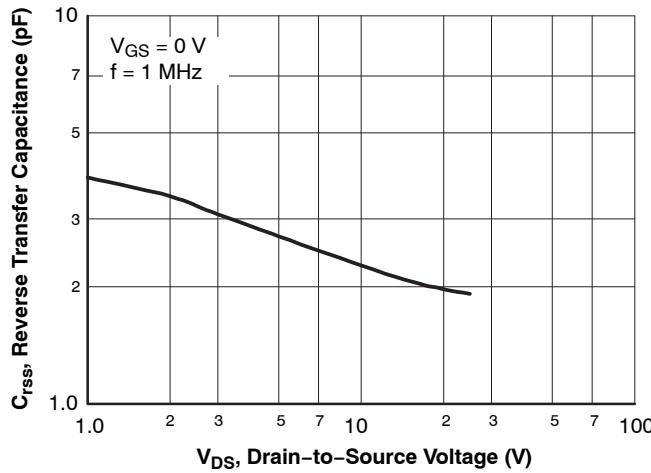
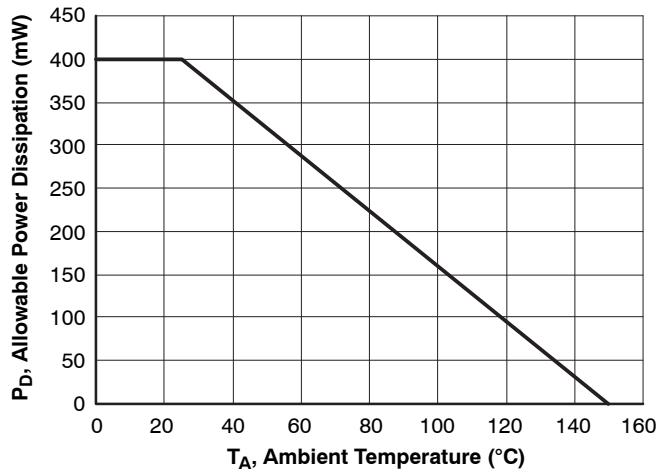
Device	Package	Shipping [†]
CPH3910-TL-E	CPH3 (Pb-Free)	3 000 / Tape & Reel

[†]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](#).

TYPICAL PERFORMANCE CHARACTERISTICS

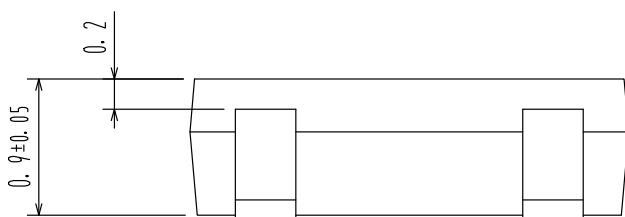
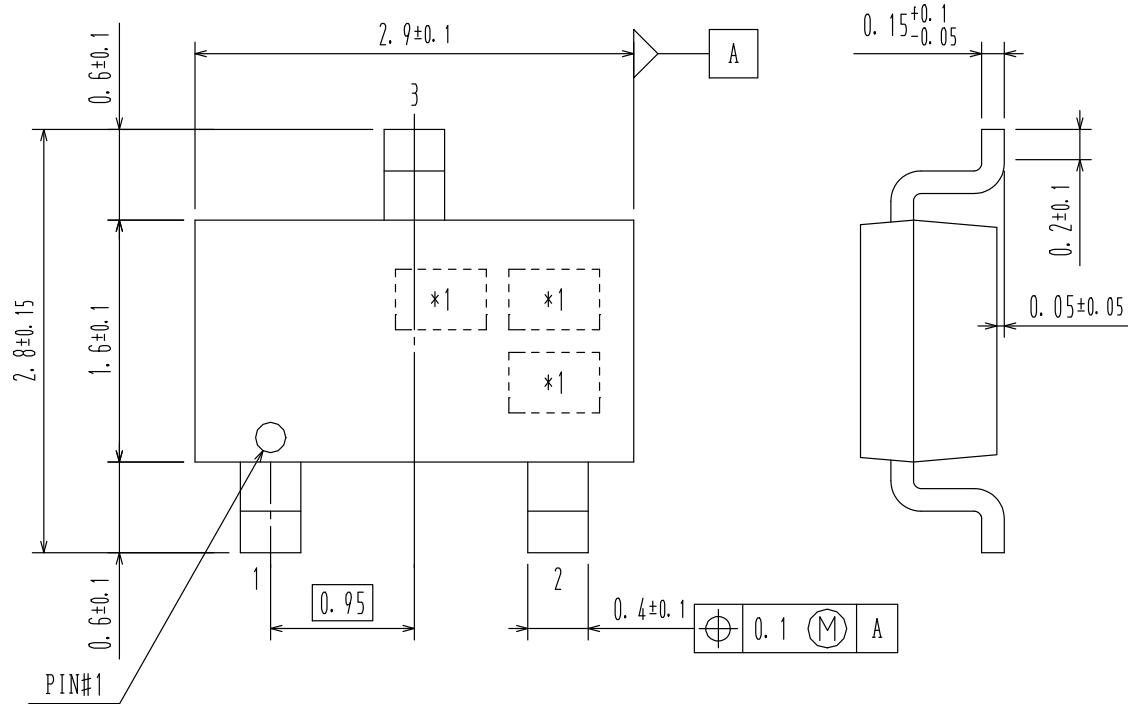
Figure 1. I_D – V_{DS} Figure 2. I_D – V_{DS} Figure 3. I_D – V_{GS} Figure 4. I_D – V_{GS} Figure 5. $|y_{fs}|$ – I_D Figure 6. $|y_{fs}|$ – I_{DSS}

TYPICAL PERFORMANCE CHARACTERISTICS (Continued)

Figure 7. $V_{GS(\text{off})}$ – I_{DSS} Figure 8. C_{iss} – V_{DS} Figure 9. C_{rss} – V_{DS} Figure 10. P_D – T_A

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