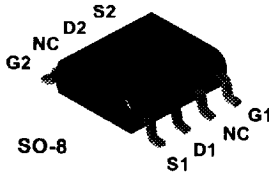


**NPDS55565**  
**NPDS55566**



**N-Channel General Purpose Dual Amplifier**

Sourced from Process 96.

**Absolute Maximum Ratings\***

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>OG</sub>	Drain-Gate Voltage	40	V
V <sub>GS</sub>	Gate-Source Voltage	40	V
I <sub>GF</sub>	Gate Current	10	mA
T <sub>J</sub> , T <sub>stg</sub>	Operating and Storage Junction Temperature Range	-55 to +150	°C

\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

**NOTES:**

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

## General Purpose Dual Amplifier

(continued)

### Electrical Characteristics

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
<b>OFF CHARACTERISTICS</b>					
$V_{BR(GSS)}$	Gate-Source Breakdown Voltage	$I_G = 1.0 \mu A, V_{DS} = 0$	- 40		V
$I_{GSS}$	Gate Reverse Current	$V_{GS} = 20 V, V_{DS} = 0$ $V_{GS} = 20 V, V_{DS} = 0, T_A = 150^\circ C$		100 200	$\mu A$ $\mu A$
$V_{GS(off)}$	Gate-Source Cutoff Voltage	$V_{DS} = 15 V, I_D = 1.0 nA$	- 0.5	- 3.0	V
$V_{GS(f)}$	Forward Gate-Source Voltage	$V_{DS} = 0, I_D = 2.0 mA$		1.0	V
$V_{G1 - G2}$	Voltage Gate 1 - Gate 2	$V_{DS} = 0, I_G = + / - 1.0 \mu A$	+ / - 40		V

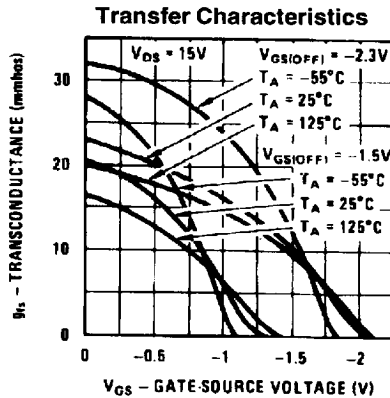
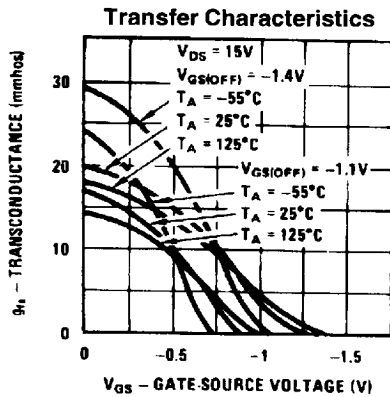
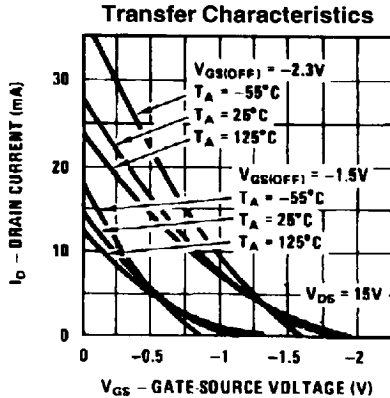
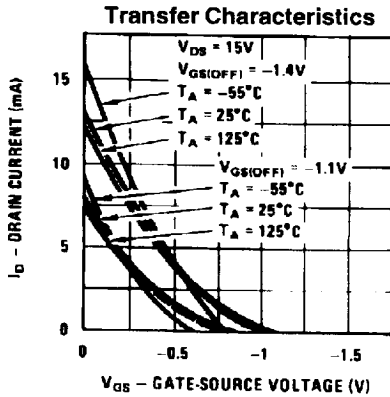
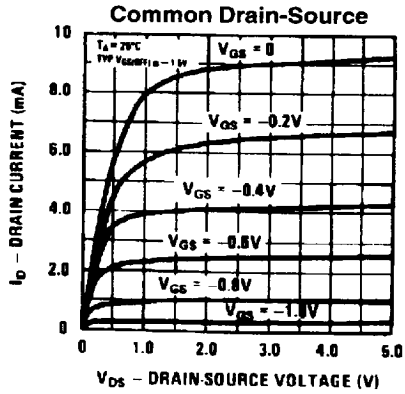
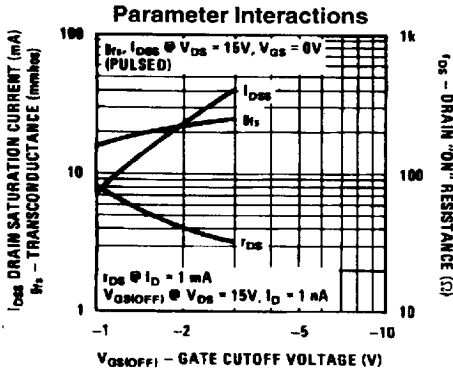
### ON CHARACTERISTICS

$I_{DSS}$	Zero-Gate Voltage Drain Current*	$V_{DS} = 15 V, V_{GS} = 0$	5.0	30	mA
$r_{DS(on)}$	Drain-Source On Resistance	$I_D = 1.0 mA, V_{GS} = 0$		100	$\Omega$

### SMALL SIGNAL CHARACTERISTICS

$g_{fs}$	Common Source Forward Transconductance	$V_{DS} = 15 V, I_D = 2.0 mA, f = 1.0 kHz$ $V_{DS} = 15 V, I_D = 2.0 mA,$ $f = 100 MHz$	7500 7000	12,500	$\mu mhos$ $\mu mhos$
$g_{oss}$	Common Source Output Conductance	$V_{DS} = 15 V, I_D = 2.0 mA, f = 1.0 kHz$		45	$\mu mhos$
$C_{iss}$	Input Capacitance	$V_{DG} = 15 V, I_D = 2.0 mA, f = 1.0 MHz$		12	pF
$C_{rss}$	Reverse Transfer Capacitance	$V_{DS} = 15 V, I_D = 2.0 mA, f = 1.0 kHz$		3.0	pF
$e_n$	Equivalent Short-Circuit Input Noise Voltage	$V_{DG} = 15 V, I_D = 2.0 mA, f = 10 Hz$		50	$nV/\sqrt{Hz}$
NF	Noise Figure	$V_{DG} = 15 V, I_D = 2.0 mA, f = 10 Hz$ $R_G = 1.0 m\Omega$		1.0	dB
$I_{DSS1} - I_{DSS2}$	$I_{DSS}$ Match	$V_{DS} = 15 V, V_{GS} = 0$		5.0	%
$g_{fs1} - g_{fs2}$	$g_{fs}$ Match	$V_{DS} = 15 V, I_D = 2.0 mA, f = 1.0 kHz$		10	%
$V_{GS1} - V_{GS2}$	Differential Match	$V_{DG} = 15 V, I_D = 2.0 mA,$ <b>NPDS5565</b> <b>NPDS5566</b>		10 20	mV mV
$\Delta V_{GS1} - V_{GS2}$	Differential Drift	$V_{DS} = 10 V, V_{GS} = 0, f = 1.0 kHz$ $T_A = 25 \text{ to } 125^\circ C$ <b>NPDS5565</b> <b>NPDS5566</b> $V_{DG} = 15 V, I_D = 2.0 mA,$ $T_A = -55 \text{ to } 25^\circ C$ <b>NPDS5565</b> <b>NPDS5566</b>		25 50 25 50	$\mu V/^\circ C$ $\mu V/^\circ C$ $\mu V/^\circ C$ $\mu V/^\circ C$

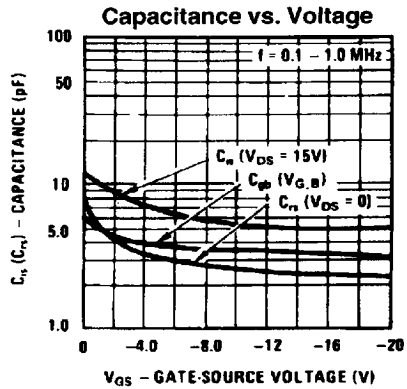
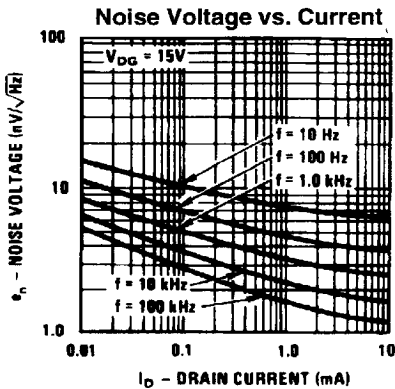
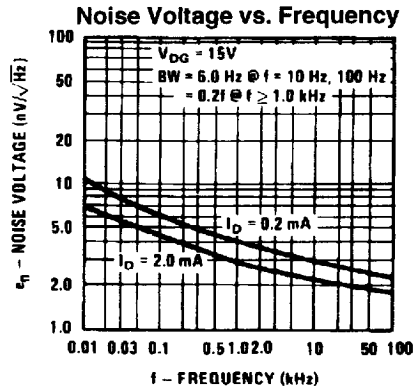
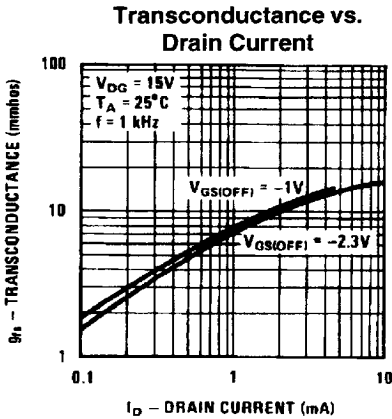
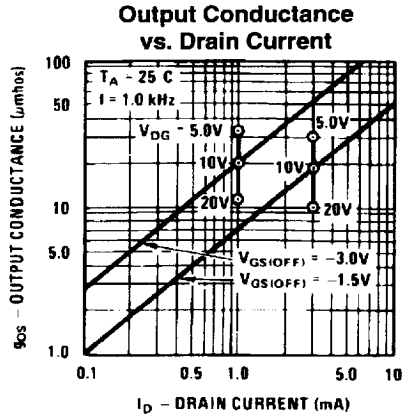
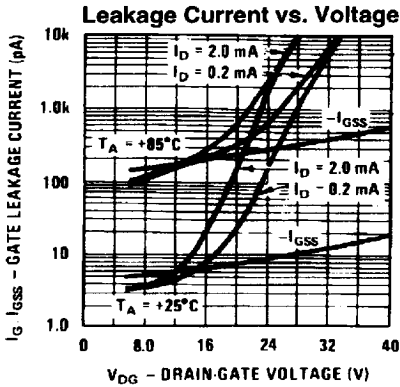
Typical Characteristics (continued)



# General Purpose Dual Amplifier

(continued)

## Typical Characteristics (continued)



Typical Characteristics (continued)

