

## 2N5460, 2N5461, 2N5462

## P-Channel Silicon Junction Field-Effect Transistor

- Audio Amplifiers
- General Purpose Amplifiers

## Absolute maximum ratings at 25 °C

Reverse Gate Source & Reverse Gate Drain Voltage  
 Continuous Forward Gate Current  
 Continuous Device Power Dissipation  
 Power Derating

40 V  
 – 10 mA  
 310 mW  
 2.8 mW/°C

At 25°C free air temperature:  
 Static Electrical Characteristics

|                                   |               | 2N5460 |     | 2N5461 |     | 2N5462 |      | Process PJ32 |                                                  |
|-----------------------------------|---------------|--------|-----|--------|-----|--------|------|--------------|--------------------------------------------------|
|                                   |               | Min    | Max | Min    | Max | Min    | Max  | Unit         | Test Conditions                                  |
| Gate Source Breakdown Voltage     | $V_{(BR)GSS}$ | 40     |     | 40     |     | 40     |      | V            | $I_G = 10 \mu A, V_{DS} = 0 V$                   |
| Gate Reverse Current              | $I_{GSS}$     |        | 5   |        | 5   |        | 5    | nA           | $V_{GS} = 20 V, V_{DS} = 0 V$                    |
|                                   |               |        | 1   |        | 1   |        | 1    | $\mu A$      | $V_{GS} = 20 V, V_{DS} = 0 V, T_A = 100^\circ C$ |
| Gate Source Cutoff Voltage        | $V_{GS(OFF)}$ | 0.75   | 6   | 1      | 7.5 | 1.8    | 9    | V            | $V_{DS} = -15 V, I_D = -1 \mu A$                 |
| Gate Source Voltage               | $V_{GS}$      | 0.8    | 4.5 |        |     |        |      | V            | $V_{DS} = -15 V, I_D = -100 \mu A$               |
|                                   |               |        |     | 0.8    | 4.5 |        |      | V            | $V_{DS} = -15 V, I_D = -200 \mu A$               |
|                                   |               |        |     |        |     | 1.5    | 6    | V            | $V_{DS} = -15 V, I_D = -400 \mu A$               |
| Drain Saturation Current (Pulsed) | $I_{DSS}$     | – 1    | – 5 | – 2    | – 9 | – 4    | – 16 | mA           | $V_{DS} = -15 V, V_{GS} = 0 V$                   |

## Dynamic Electrical Characteristics

|                                              |              |   |     |     |     |   |     |            |                                                 |                       |
|----------------------------------------------|--------------|---|-----|-----|-----|---|-----|------------|-------------------------------------------------|-----------------------|
| Drain Source ON Resistance                   | $r_{ds(on)}$ |   | 2   |     | 0.8 |   | 0.4 | k $\Omega$ | $V_{GS} = 0 V, I_D = 0 A$                       | f = 1 kHz             |
| Common Source Forward Transadmittance        | $ Y_{fs} $   | 1 | 4   | 1.5 | 5   | 2 | 6   | mS         | $V_{DS} = -15 V, V_{GS} = 0 V$                  | f = 1 kHz             |
| Common Source Output Admittance              | $ Y_{os} $   |   | 75  |     | 75  |   | 75  | $\mu S$    | $V_{DS} = -15 V, V_{GS} = 0 V$                  | f = 1 kHz             |
| Common Source Input Capacitance              | $C_{iss}$    |   | 7   |     | 7   |   | 7   | pF         | $V_{DS} = -15 V, V_{GS} = 0 V$                  | f = 1 MHz             |
| Common Source Reverse Transfer Capacitance   | $C_{rss}$    |   | 2   |     | 2   |   | 2   | pF         | $V_{DS} = -15 V, V_{GS} = 0 V$                  | f = 1 MHz             |
| Equivalent Short Circuit Input Noise Voltage | $\bar{e}_N$  |   | 2.5 |     | 2.5 |   | 2.5 | dB         | $V_{DS} = -15 V, V_{GS} = 0 V$                  | f = 100 Hz, BW = 1 Hz |
| Noise Figure                                 | NF           |   | 115 |     | 115 |   | 115 | nV/√Hz     | $V_{DS} = -15 V, V_{GS} = 0 V, R_G = 1 M\Omega$ | f = 100 Hz            |

## TO-226AA Package

Dimensions in Inches (mm)

## Pin Configuration

1 Drain, 2 Source, 3 Gate

## Surface Mount

SMP5460, SMP5461, SMP5462

