

**2SK242**

## Low-Frequency General-Purpose Amplifier Applications

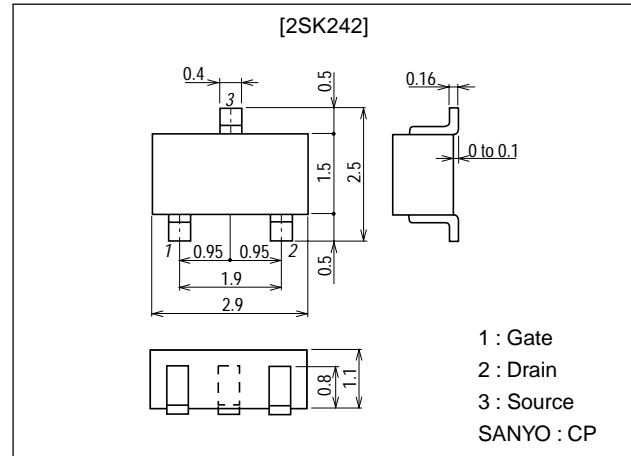
### Features

- Ultrasmall-sized package permitting 2SK242-applied sets to be made small and slim.
- Small Crss (Crss=0.04pF typ).

### Package Dimensions

unit:mm

2024B



### Specifications

#### Absolute Maximum Ratings at Ta = 25°C

| Parameter                   | Symbol    | Conditions | Ratings     | Unit |
|-----------------------------|-----------|------------|-------------|------|
| Gate-to-Drain Voltage       | $V_{GDO}$ |            | -20         | V    |
| Gate Current                | $I_G$     |            | 10          | mA   |
| Drain Current               | $I_D$     |            | 20          | mA   |
| Allowable Power Dissipation | $P_D$     |            | 150         | mW   |
| Junction Temperature        | $T_j$     |            | 125         | °C   |
| Storage Temperature         | $T_{stg}$ |            | -55 to +125 | °C   |

#### Electrical Characteristics at Ta = 25°C

| Parameter                       | Symbol        | Conditions                            | Ratings |      |       | Unit |
|---------------------------------|---------------|---------------------------------------|---------|------|-------|------|
|                                 |               |                                       | min     | typ  | max   |      |
| Gate-to-Drain Breakdown Voltage | $V_{(BR)GDO}$ | $I_G = -10\mu A$                      | -20     |      |       | V    |
| Gate-to-Source Leakage Current  | $I_{GSS}$     | $V_{GS} = -0.5V, V_{DS} = 0$          |         |      | -10   | nA   |
| Zero-Gate Voltage Drain Current | $I_{DSS}^*$   | $V_{DS} = 5V, V_{GS} = 0$             | 0.6*    |      | 12.0* | mA   |
| Cutoff Voltage                  | $V_{GS(off)}$ | $V_{DS} = 5V, I_D = 10\mu A$          |         |      | -2.5  | V    |
| Forward Transfer Admittance     | $ y_{fs} _1$  | $V_{DS} = 5V, V_{GS} = 0, f = 1kHz$   | 2.0     | 6.0  |       | mS   |
|                                 | $ y_{fs} _2$  | $V_{DS} = 5V, V_{GS} = 0, f = 100MHz$ | 2.0     | 6.0  |       | mS   |
| Input Capacitance               | $C_{iss}$     | $V_{DS} = 5V, V_{GS} = 0, f = 1MHz$   |         | 4.0  |       | pF   |
| Output Capacitance              | $C_{oss}$     | $V_{DS} = 5V, V_{GS} = 0, f = 1MHz$   |         | 4.0  |       | pF   |
| Reverse Transfer Capacitance    | $C_{rss}$     | $V_{DS} = 5V, V_{GS} = 0, f = 1MHz$   |         | 0.04 | 0.15  | pF   |

\* : The 2SK242 is classified by  $I_{DSS}$  as follows : (unit : mA).

Continued on next page.

|     |   |     |     |   |     |     |   |     |     |   |      |
|-----|---|-----|-----|---|-----|-----|---|-----|-----|---|------|
| 0.6 | 2 | 1.5 | 1.2 | 3 | 3.0 | 2.5 | 4 | 6.0 | 5.0 | 5 | 12.0 |
|-----|---|-----|-----|---|-----|-----|---|-----|-----|---|------|

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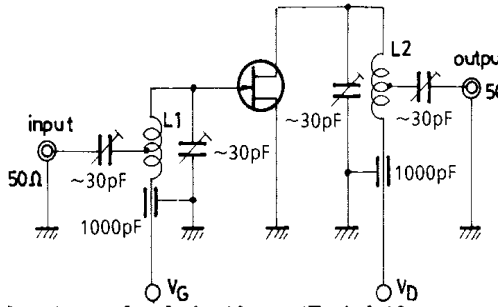
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# 2SK242

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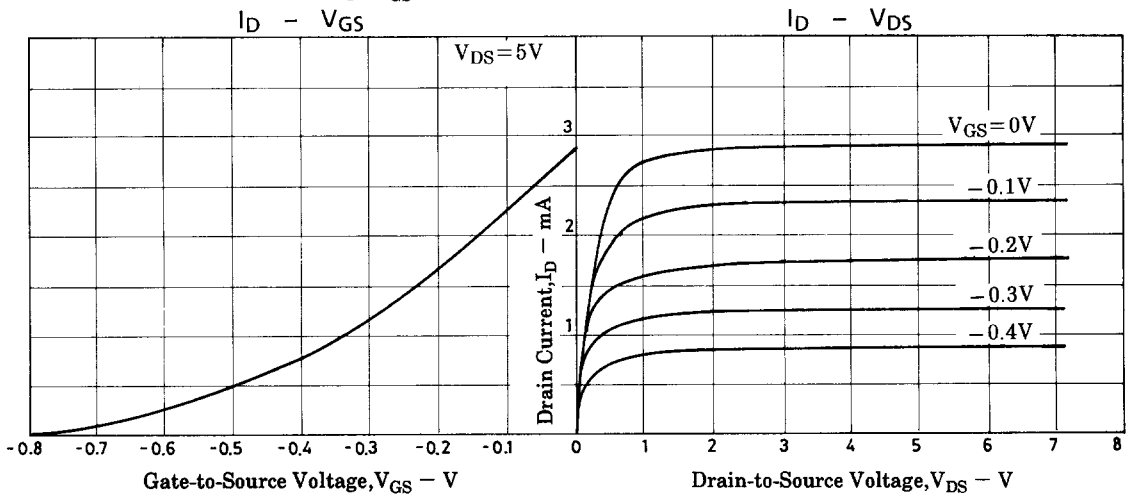
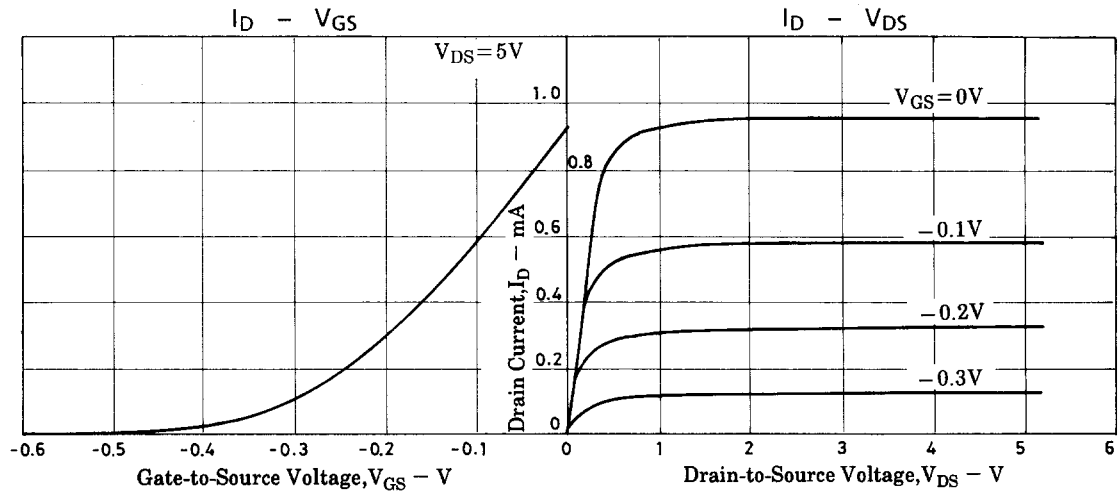
| Parameter    | Symbol | Conditions   | Ratings |     | Unit |
|--------------|--------|--|---------|-----|------|
| Power Gain   | PG     | $V_{DS}=5V, V_{GS}=0, f=100MHz,$<br>See specified Test Circuit | 24      |     | dB   |
| Noise Figure | NF     | See specified Test Circuit                                     | 3.5     | 6.0 | dB   |

## PG, NF Specified Test Circuit

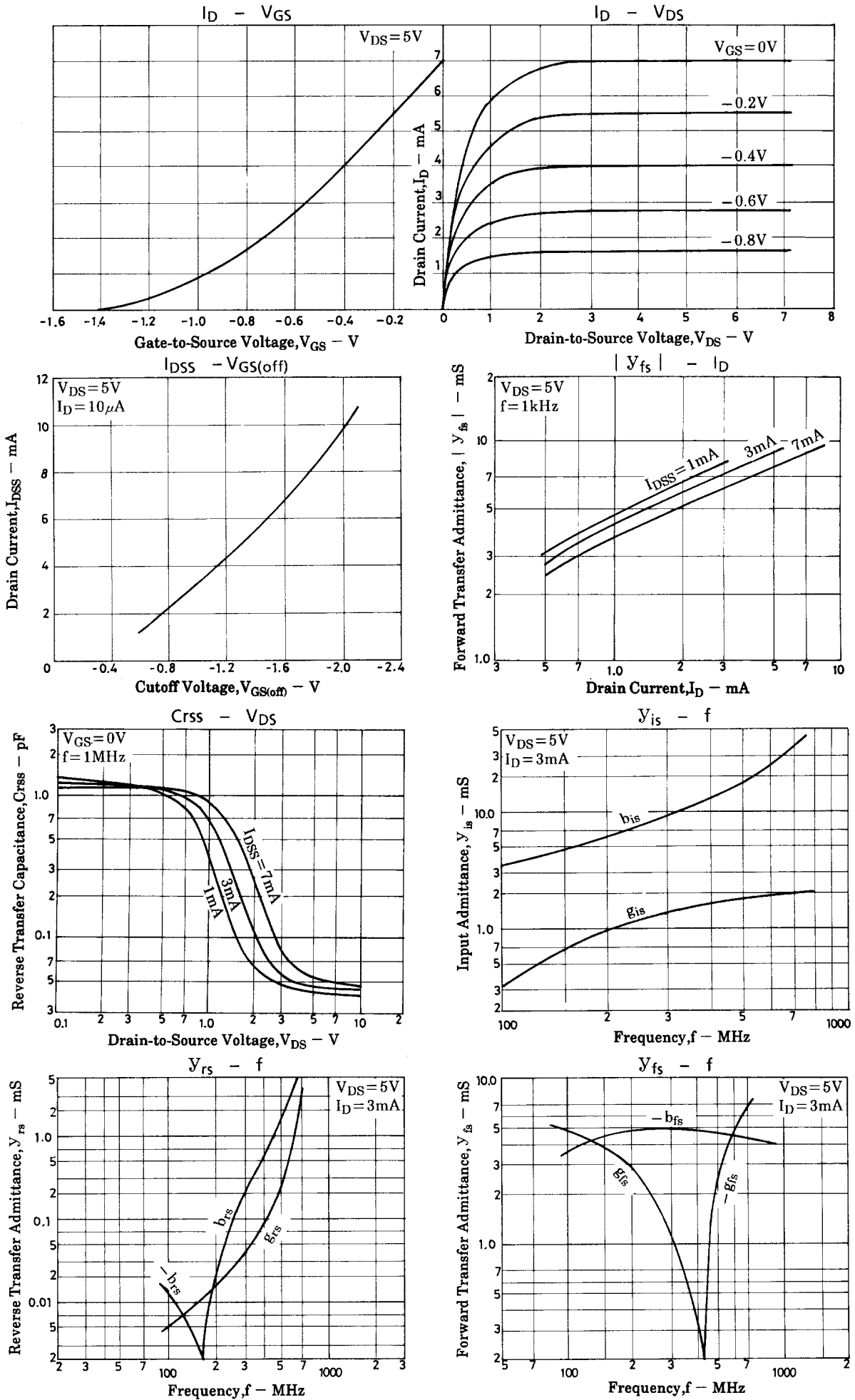


$L_1$ : 1mm $\phi$  plated wire 10mm $\phi$  4T, pitch 18mm,  
tap : 1T from gate side

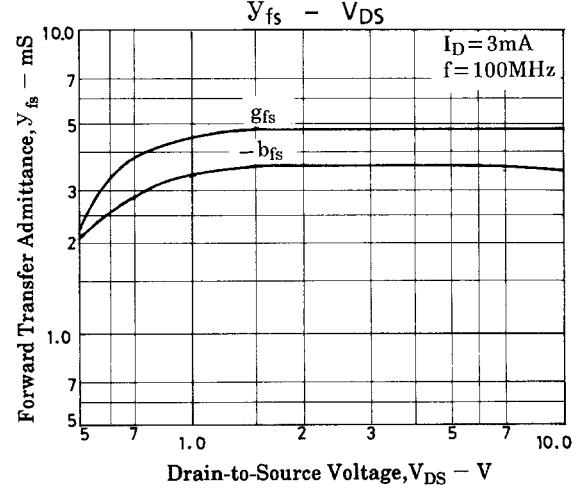
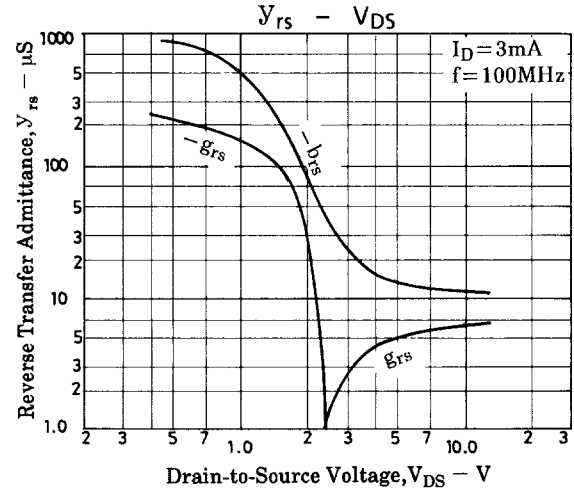
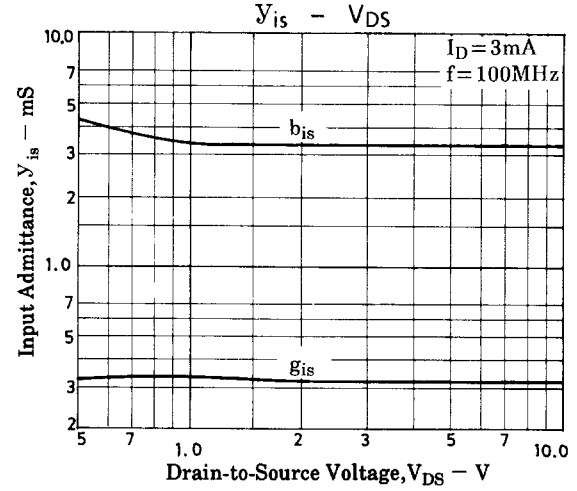
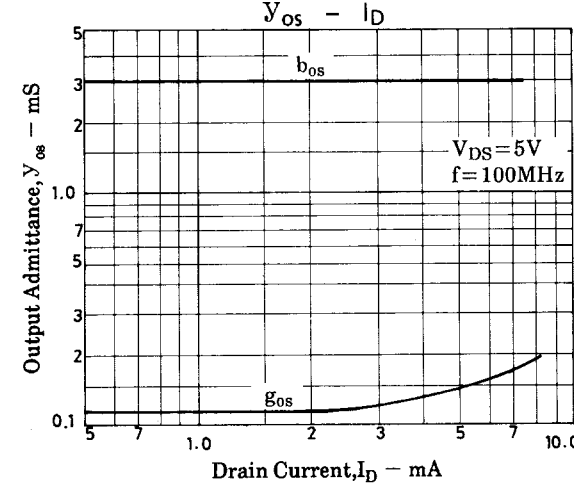
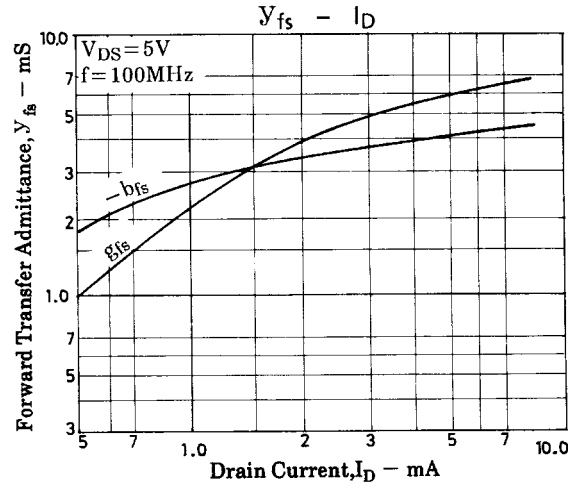
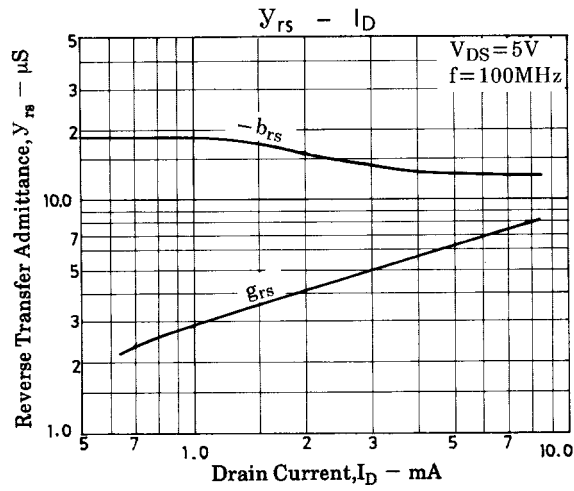
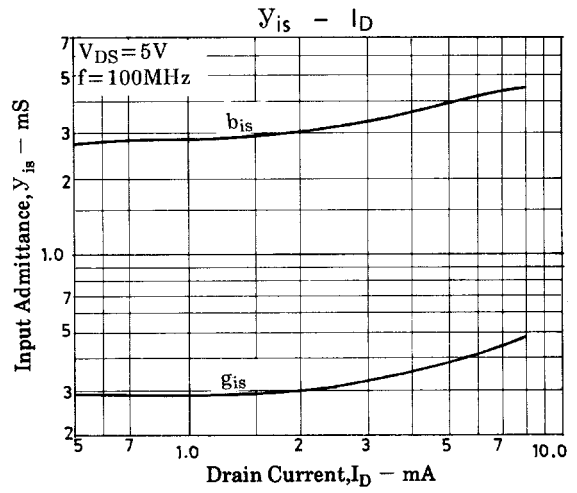
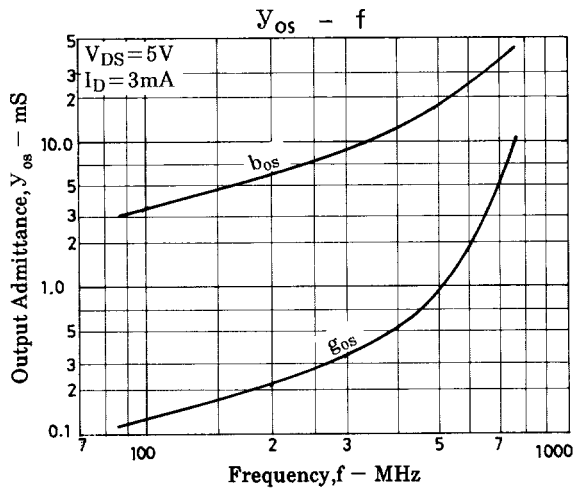
$L_2$ : 1mm $\phi$  plated wire 10mm $\phi$  6T, pitch 10mm,  
tap : 1T from drain side



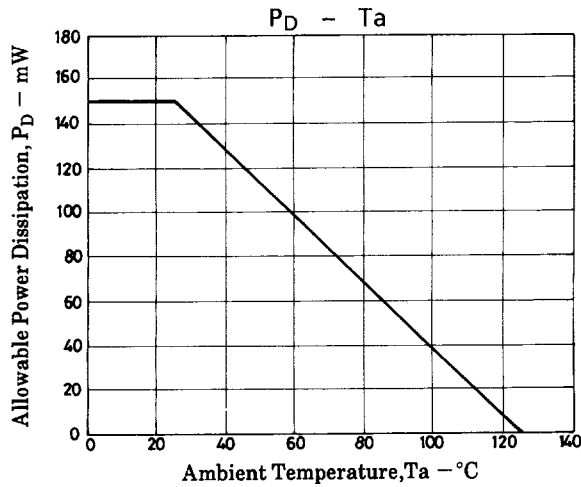
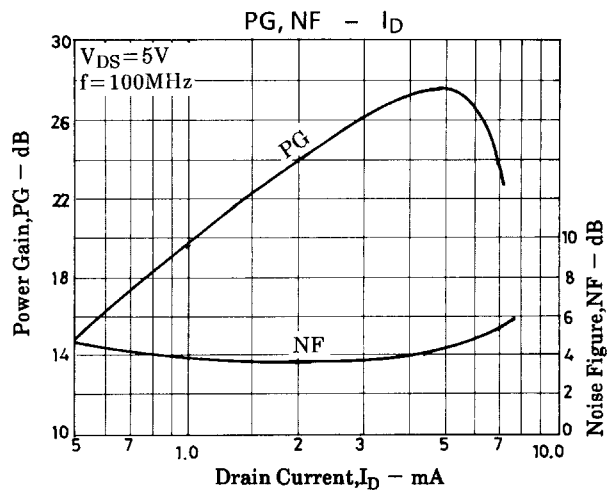
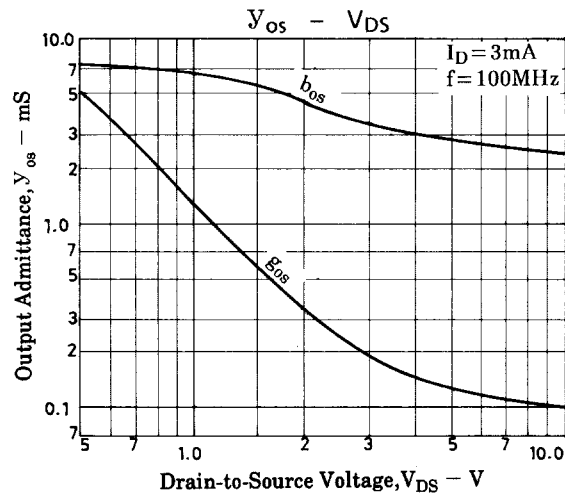
# 2SK242



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