

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL PLANAR TYPE

2SA1245

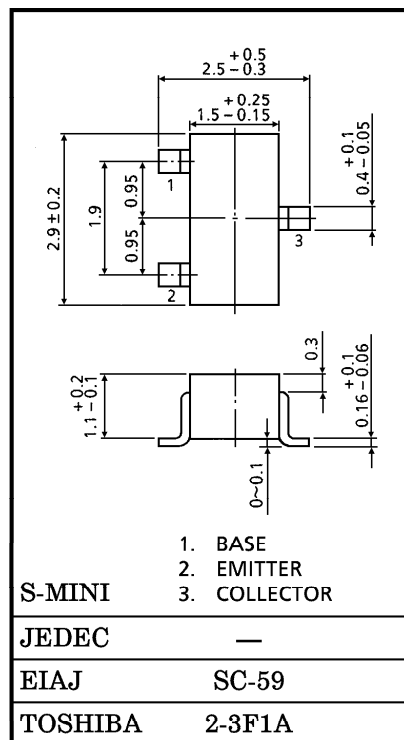
HIGH FREQUENCY AMPLIFIER AND SWITCHING APPLICATIONS

VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS

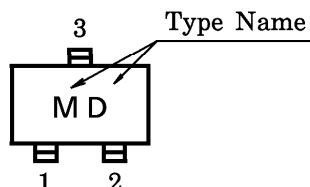
MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|-----------------------------|------------------|---------|------|
| Collector-Base Voltage | V _{CB0} | -15 | V |
| Collector-Emitter Voltage | V _{CEO} | -8 | V |
| Emitter-Base Voltage | V _{EB0} | -2 | V |
| Collector Current | I _C | -30 | mA |
| Base Current | I _B | -15 | mA |
| Collector Power Dissipation | P _C | 150 | mW |
| Junction Temperature | T _j | 125 | °C |
| Storage Temperature Range | T _{stg} | -55~125 | °C |

Unit in mm



Marking



MICROWAVE CHARACTERISTICS (Ta = 25°C)

Weight : 0.012g

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|----------------------|-------------------------------------|---|------|------|------|------|
| Transition Frequency | f _T | V _{CE} = -5V, I _C = -10mA | — | 4 | — | GHz |
| Insertion Gain | S _{21e} ² (1) | V _{CE} = -5V, I _C = -10mA, f = 500MHz | — | 14 | — | dB |
| | S _{21e} ² (2) | V _{CE} = -5V, I _C = -10mA, f = 1GHz | — | 9.5 | — | dB |
| Noise Figure | NF (1) | V _{CE} = -5V, I _C = -3mA, f = 500MHz | — | 2.5 | — | dB |
| | NF (2) | V _{CE} = -5V, I _C = -3mA, f = 1GHz | — | 3.0 | — | dB |

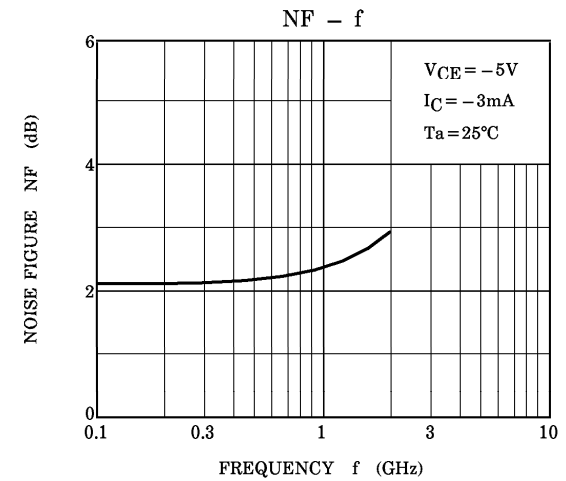
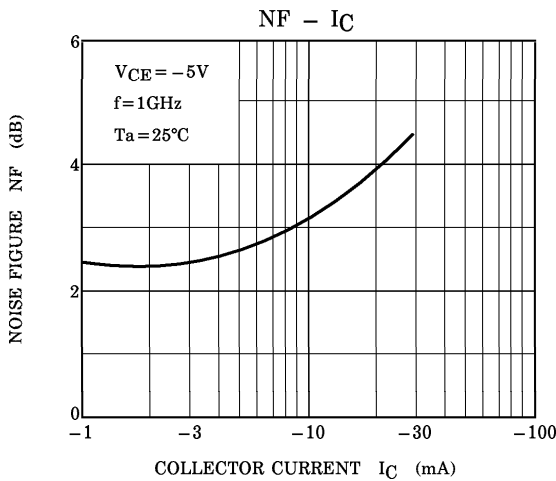
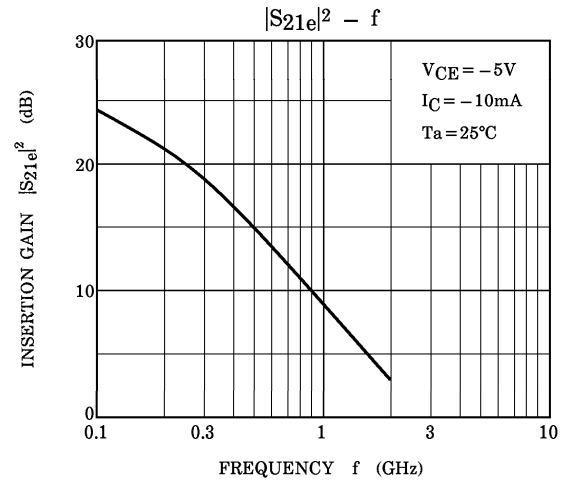
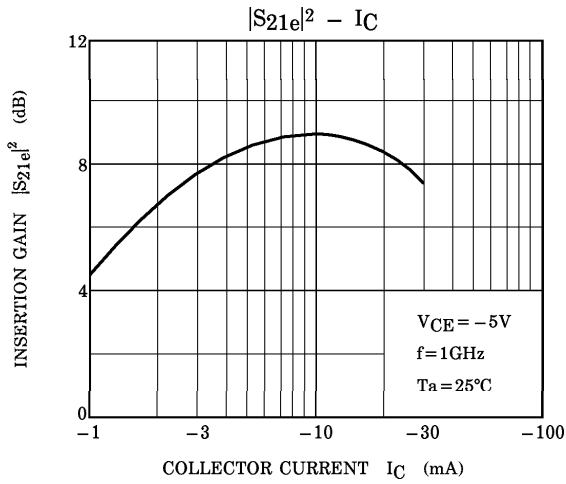
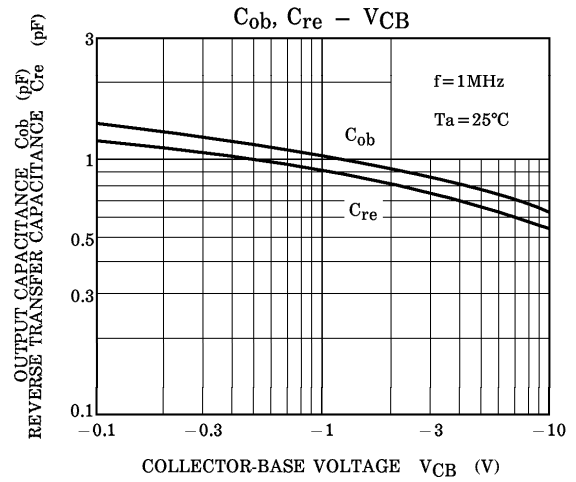
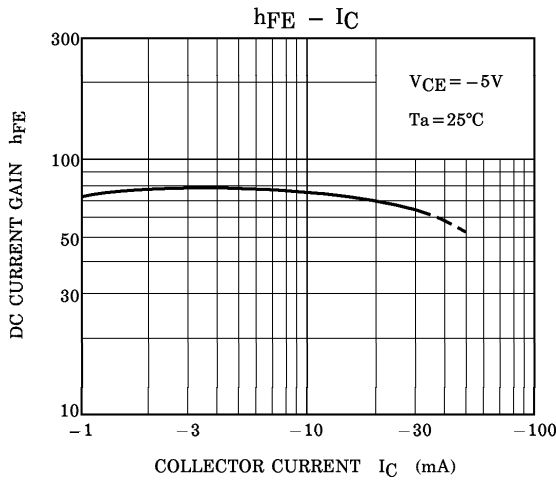
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|------------------------------|------------------|--|------|------|------|------|
| Collector Cut-off Current | I _{CBO} | V _{CB} = -5V, I _E = 0 | — | — | -0.1 | μA |
| Emitter Cut-off Current | I _{EBO} | V _{EB} = -1V, I _C = 0 | — | — | -0.1 | μA |
| DC Current Gain | h _{FE} | V _{CE} = -5V, I _C = -10mA | 20 | — | — | — |
| Output Capacitance | C _{ob} | V _{CB} = -5V, I _E = 0, f = 1MHz (Note) | — | 0.75 | — | pF |
| Reserve Transfer Capacitance | C _{re} | | — | 0.60 | — | pF |

Note : C_{re} is measured by 3 terminal method with Capacitance Bridge.

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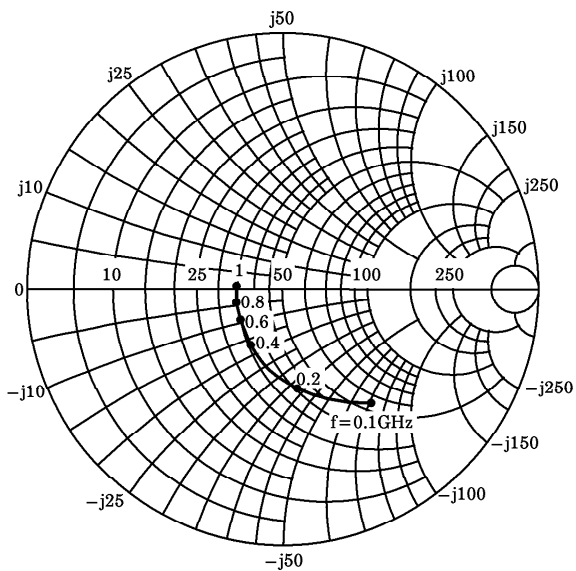
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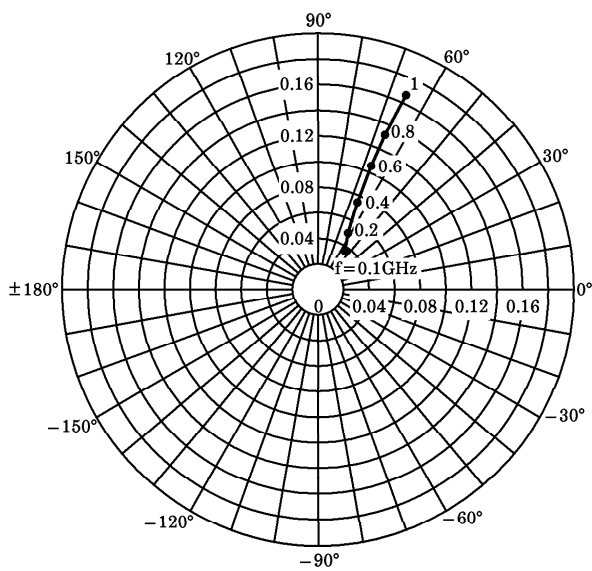
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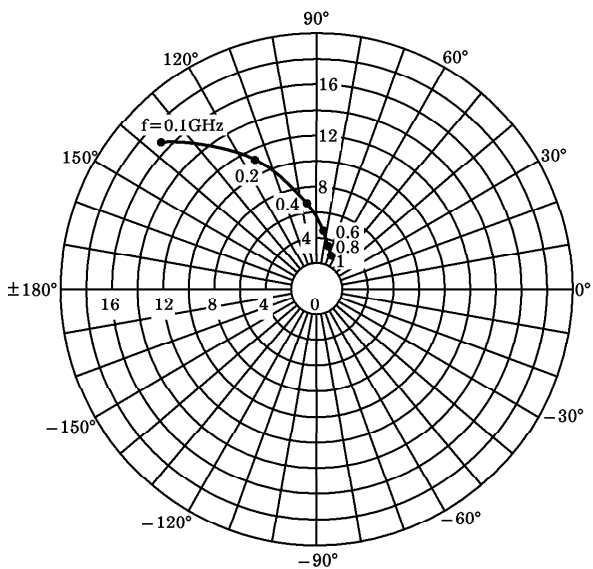
S11e
 VCE = -5V
 IC = -10mA
 Ta = 25°C
 (UNIT : Ω)



S12e
 VCE = -5V
 IC = -10mA
 Ta = 25°C



S21e
 VCE = -5V
 IC = -10mA
 Ta = 25°C



S22e
 VCE = -5V
 IC = -10mA
 Ta = 25°C
 (UNIT : Ω)

