

TOSHIBA

2SC5257

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

2SC5257

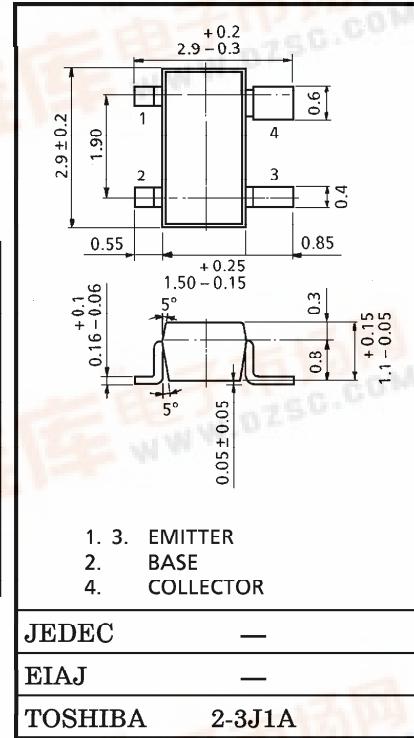
VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS

Unit in mm

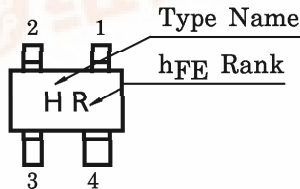
- Low Noise Figure : NF=1.5dB (f=2GHz)
- High Gain : Gain=10dB (f=2GHz)

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|-----------------------------|------------------|---------|------|
| Collector-Base Voltage | V _{CBO} | 15 | V |
| Collector-Emitter Voltage | V _{CEO} | 7 | V |
| Emitter-Base Voltage | V _{EB0} | 1.5 | V |
| Collector Current | I _C | 40 | mA |
| Base Current | I _B | 20 | mA |
| Collector Power Dissipation | P _C | 150 | mW |
| Junction Temperature | T _j | 128 | °C |
| Storage Temperature Range | T _{stg} | -55~125 | °C |



MARKING



MICROWAVE CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|----------------------|-------------------------------------|---|------|------|------|------|
| Transition Frequency | f _T | V _{CE} =5V, I _C =20mA | 9 | 12 | — | GHz |
| Insertion Gain | S _{21e} ² (1) | V _{CE} =5V, I _C =20mA, f=1GHz | 13 | 16 | — | dB |
| | S _{21e} ² (2) | V _{CE} =5V, I _C =20mA, f=2GHz | 7 | 10 | — | |
| Noise Figure | NF (1) | V _{CE} =5V, I _C =5mA, f=1GHz | — | 1.1 | — | dB |
| | NF (2) | V _{CE} =5V, I _C =5mA, f=2GHz | — | 1.5 | 3 | |

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|------------------------------|----------------------|--|------|------|------|---------|
| Collector Cut-off Current | I_{CBO} | $V_{CB} = 10V, I_E = 0$ | — | — | 1 | μA |
| Emitter Cut-off Current | I_{EBO} | $V_{EB} = 1V, I_C = 0$ | — | — | 1 | μA |
| DC Current Gain | h_{FE} (Note 1) | $V_{CE} = 5V, I_C = 20mA$ | 50 | — | 160 | — |
| Output Capacitance | C_{ob} | $V_{CB} = 5V, I_E = 0, f = 1MHz$ (Note 2) | — | 0.6 | — | pF |
| Reverse Transfer Capacitance | C_{re} | | — | 0.45 | 0.85 | pF |

(Note 1) : h_{FE} Classification R : 50~100, O : 80~160

(Note 2) : C_{re} is measured by 3 terminal method with capacitance bridge.