

isc Silicon NPN RF Transistor
MMBR941L
DESCRIPTION

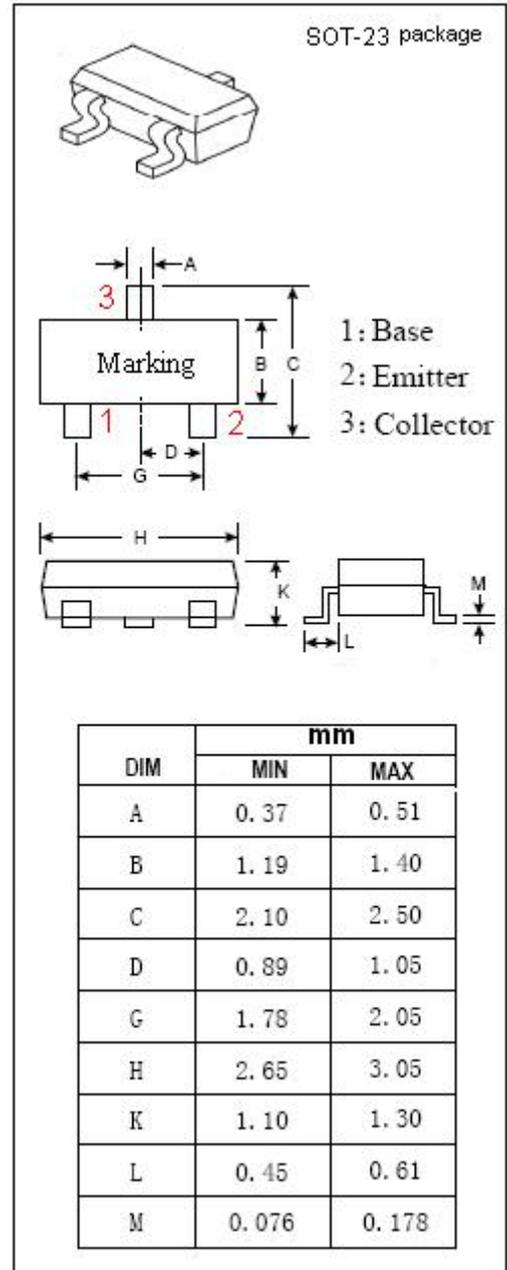
- Low Noise
- High Current-Gain Bandwidth Product
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for use in high gain , low noise small-signal amplifiers.

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

| SYMBOL | PARAMETER | VALUE | UNIT |
|------------------|---|---------|------|
| V _{CBO} | Collector-Base Voltage | 20 | V |
| V _{CEO} | Collector-Emitter Voltage | 10 | V |
| V _{EBO} | Emitter-Base Voltage | 1.5 | V |
| I _c | Collector Current-Continuous | 50 | mA |
| P _C | Collector Power Dissipation @T _c = 75°C | 0.25 | W |
| T _J | Junction Temperature | 150 | °C |
| T _{stg} | Storage Temperature Range | -55~150 | °C |



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ELECTRICAL CHARACTERISTICS

T_c=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---------------------------------|-------------------------------------|--|-----|------|-----|------|
| V _{(BR)CEO} | Collector-Emitter Breakdown Voltage | I _C = 0.1mA ; I _B = 0 | 10 | | | V |
| V _{(BR)CBO} | Collector-Base Breakdown Voltage | I _C = 0.1mA ; I _E = 0 | 20 | | | V |
| I _{EBO} | Emitter Cutoff Current | V _{EB} = 1V; I _C = 0 | | | 0.1 | μ A |
| I _{CBO} | Collector Cutoff Current | V _{CB} = 10V; I _E = 0 | | | 0.1 | μ A |
| h _{FE} | DC Current Gain | I _C = 5mA ; V _{CE} = 6V | 50 | | 200 | |
| C _{OB} | Output Capacitance | I _E = 0 ; V _{CB} = 10V; f= 1MHz | | 0.35 | | pF |
| f _T | Current-Gain—Bandwidth Product | I _C = 15mA ; V _{CE} = 6V; f= 1GHz | | 8 | | GHz |
| S _{21e} ² | Insertion Power Gain | I _C = 15mA ; V _{CE} = 6V;f= 1.0GHz | | 14 | | dB |
| S _{21e} ² | Insertion Power Gain | I _C = 15mA ; V _{CE} = 6V;f= 2.0GHz | | 8.0 | | dB |
| GU max | Maximum Unilateral Gain | I _C = 15mA ; V _{CE} = 6V;f= 1.0GHz | | 16 | | dB |
| GU max | Maximum Unilateral Gain | I _C = 15mA ; V _{CE} = 6V;f= 2.0GHz | | 10 | | dB |
| NF | Noise Figure | I _C = 5mA ; V _{CE} = 6V; f= 1GHz; R _G = 50 Ω | | 1.9 | 2.8 | dB |

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