

isc Silicon NPN RF Transistor

2SC3110

DESCRIPTION

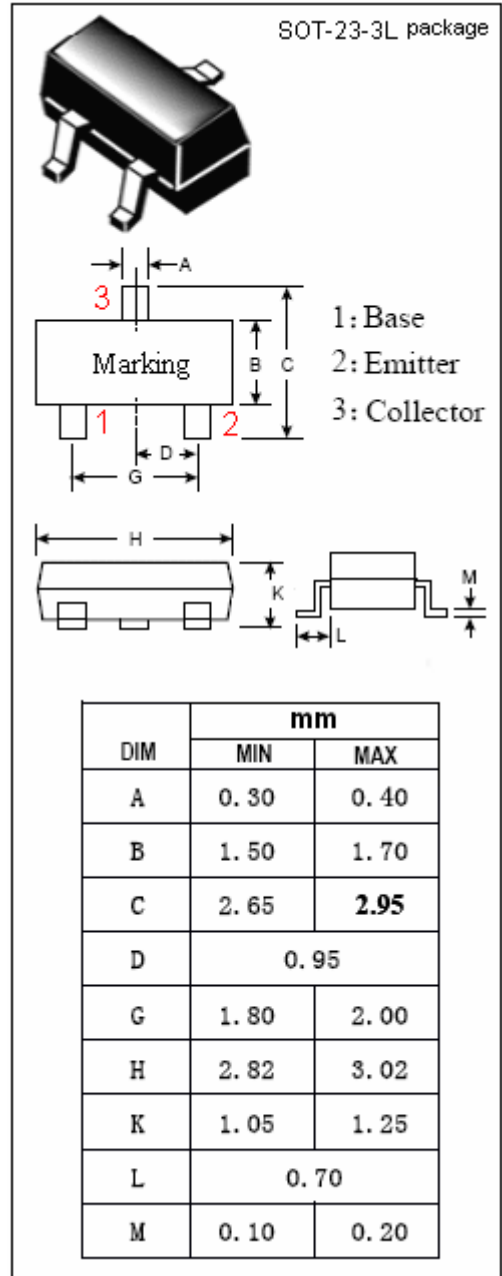
- Low Noise
- High Gain
- High Current-Gain Bandwidth Product

APPLICATIONS

- Designed for use in RF wide band low noise amplifier.

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 15 | V |
| V_{CEO} | Collector-Emitter Voltage | 12 | V |
| V_{EBO} | Emitter-Base Voltage | 2.5 | V |
| I_C | Collector Current-Continuous | 30 | mA |
| I_{CP} | Collector Current-Peak | 50 | mA |
| P_C | Collector Power Dissipation @ $T_C=25^\circ\text{C}$ | 0.2 | W |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -55~150 | $^\circ\text{C}$ |



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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---------------|--------------------------------|---|-----|------|-----|---------------|
| I_{CBO} | Collector Cutoff Current | $V_{CB}= 10V; I_E= 0$ | | | 0.1 | μA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB}= 2V; I_C= 0$ | | | 1 | μA |
| h_{FE} | DC Current Gain | $I_C= 10\text{mA}; V_{CE}= 10V$ | 40 | | | |
| f_T | Current-Gain—Bandwidth Product | $I_E= -10\text{mA}; V_{CE}= 10V$ | | 4.5 | | GHz |
| C_{OB} | Output Capacitance | $I_E= 0; V_{CB}= 10V; f= 1.0\text{MHz}$ | | | 1.2 | pF |
| $ S_{21e} ^2$ | Insertion Power Gain | $I_C= 20\text{mA}; V_{CE}= 10V; f= 0.8\text{GHz}$ | 9 | 12 | | dB |
| GUM | Power Gain | | 12 | 14 | | dB |
| NF | Noise Figure | $I_C= 5\text{mA}; V_{CE}= 10V; f= 0.8\text{GHz}$ | | 1.3 | 2.5 | dB |