# isc Silicon NPN RF Transistor 2SC4245

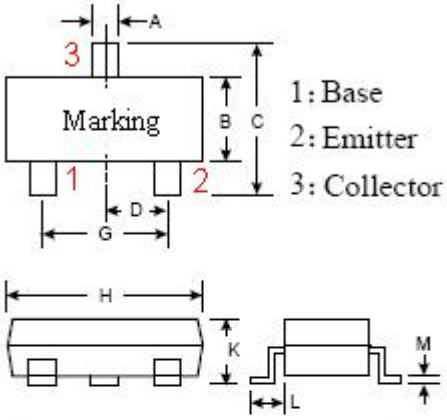
## DESCRIPTION

- High Current-Gain Bandwidth Product
  $f_T$= 2400MHz TYP. @$V_{CE}$ = 10 V, $I_C$ = 2 mA
- Low Noise
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- TV tuner , UHF mixer applications
- VHF~UHF band RF amplifier applications

SOT-323 package




| DIM | mm MIN | mm MAX |
|---|---|---|
| A | 0.30 | 0.40 |
| B | 1.15 | 1.35 |
| C | 2.00 | 2.40 |
| D | 0.65 | |
| H | 1.80 | 2.20 |
| K | 0.80 | 1.00 |
| M | 0.10 | 0.25 |

## ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 30 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 15 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 3 | V |
| $I_C$ | Collector Current-Continuous | 50 | mA |
| $I_B$ | Base Current-Continuous | 25 | mA |
| $P_C$ | Collector Power Dissipation @$T_C$=25℃ | 0.1 | W |
| $T_J$ | Junction Temperature | 125 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -55~125 | ℃ |

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## ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $I_{CBO}$ | Collector Cutoff Current | $V_{CB}$= 30V; $I_E$= 0 | | | 0.1 | μA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= 2V; $I_C$= 0 | | | 1.0 | μA |
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | $I_C$= 1mA ; $I_B$= 0 | 15 | | | V |
| $h_{FE}$ | DC Current Gain | $I_C$= 5mA ; $V_{CE}$= 10V | 40 | | 200 | |
| $f_T$ | Current-Gain—Bandwidth Product | $I_C$= 2mA ; $V_{CE}$= 10V | 1500 | 2400 | | MHz |
| $C_{re}$ | Feed-Back Capacitance | $I_E$= 0 ; $V_{CB}$= 10V; f= 1MHz | | 0.6 | 0.9 | pF |
| $G_{ce}$ | Conversion Gain | $I_C$= 2mA ; $V_{CC}$= 10V; f= 800MHz<br>$f_L$= 830MHz(+2dBm) | 12 | 17 | | dB |
| NF | Noise Figure | | | 8 | 13 | dB |