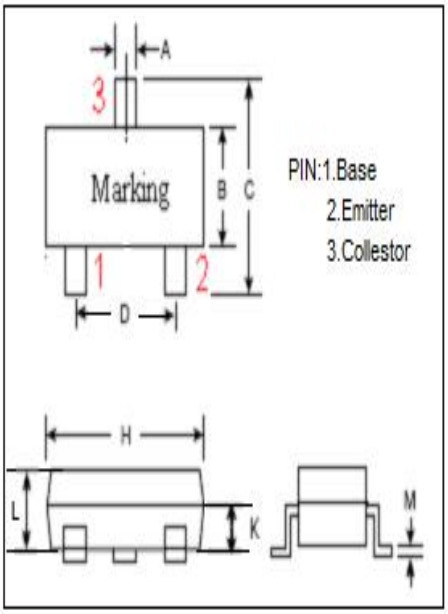
# isc Silicon NPN Power Transistor 2SC4116

## DESCRIPTION

- With SOT-323 packaging
- High collector-base voltage
- High power dissipation
- Low saturation voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- Power amplifier applications




| DIM | MIN(mm) | MAX(mm) |
|---|---|---|
| A | 0.20 | 0.40 |
| B | 1.24 | 1.32 |
| C | 2.06 | 2.21 |
| D | 1.26 | 1.34 |
| H | 2.08 | 2.16 |
| K | 0.51 | 0.56 |
| L | 0.80 | 0.90 |
| M | 0.10 | 0.25 |

## ABSOLUTE MAXIMUM RATINGS(Ta=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 60 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 50 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 5 | V |
| $I_C$ | Collector Current-Continuous | 0.15 | A |
| $P_C$ | Collector Power Dissipation @ $T_C$=25℃ | 0.1 | W |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -55~150 | ℃ |

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## ELECTRICAL CHARACTERISTICS

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

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $BV_{CBO}$ | Collector-Base Breakdown Voltage | $I_C$= 0.1mA ; $I_E$= 0 | 60 | | | V |
| $BV_{CEO}$ | Collector-Emitter Breakdown Voltage | $I_C$= 1mA ; $I_B$= 0 | 50 | | | V |
| $BV_{EBO}$ | Emitter-Base Breakdown Voltage | $I_E$= 0.1mA ; $I_C$= 0 | 5 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C$= 0.1A; $I_B$= 0.01A | | | 0.25 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C$= 0.1A; $I_B$= 0.01A | | | 0.25 | V |
| $I_{CBO}$ | Collector Cutoff Current | $V_{CB}$= 60V ; $I_E$= 0 | | | 0.1 | μA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= 5V; $I_C$= 0 | | | 0.1 | μA |
| $h_{FE}$ | DC Current Gain | $I_C$= 2mA ; $V_{CE}$= 6V | 70 | | 700 | |

### Classification of $h_{FE}$

| Rank | O | Y | GR | BL |
|---|---|---|---|---|
| Range | 70-140 | 120-240 | 200-400 | 350-700 |