



NPN 2N2484

SILICON PLANAR EPITAXIAL TRANSISTORS

The 2N2484 are a silicon planar epitaxial NPN transistors mounted in TO-18 metal package. They are intended for use in high-performance, low-noise amplifier circuits from audio to high-frequency.

Compliance to RoHS.

ABSOLUTE MAXIMUM RATINGS

| Symbol | Ratings | Value | Unit |
|-----------|---------------------------|--------------------------|------------------|
| V_{CEO} | Collector-Emitter Voltage | 60 | V |
| V_{CBO} | Collector-Base Voltage | 60 | V |
| V_{EBO} | Emitter-Base Voltage | 6 | V |
| I_C | Collector Current | 50 | mA |
| P_D | Total Power Dissipation | @ $T_{amb} = 25^\circ$ | 0.36 |
| | | @ $T_{case} = 25^\circ$ | 1.2 |
| | | @ $T_{case} < 100^\circ$ | 0.68 |
| T_J | Junction Temperature | 200 | $^\circ\text{C}$ |
| T_{Stg} | Storage Temperature range | -65 to +200 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| Symbol | Ratings | Value | Unit |
|-------------|--------------------------------------|-------|---------------------------|
| R_{thJ-a} | Thermal Resistance, Junction-ambient | 486 | $^\circ\text{C}/\text{W}$ |
| R_{thJ-c} | Thermal Resistance, Junction-case | 146 | $^\circ\text{C}/\text{W}$ |

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ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

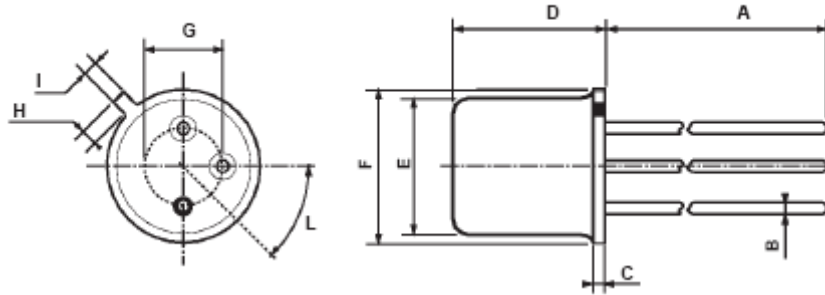
| Symbol | Ratings | Test Condition(s) | Min | Typ | Max | Unit | |
|---------------|--------------------------------------|-------------------------------------------------------------------------|----------------------------------|------|------|---------------|----|
| I_{CBO} | Collector Cutoff Current | $V_{CB}=45\text{ V}, I_E=0$ | - | - | 10 | nA | |
| I_{CBO} | Collector Cutoff Current | $V_{CB}=45\text{ V}, I_E=0$ $T_j=150^\circ\text{C}$ | - | - | 10 | μA | |
| I_{EBO} | Emitter Cutoff Current | $V_{BE}=5.0\text{ V}, I_C=0$ | - | - | 10 | nA | |
| V_{CEO}^* | Collector Emitter Breakdown Voltage | $I_C=10\text{ mA}, I_B=0$ | 60 | - | - | V | |
| V_{CBO} | Collector Base Breakdown Voltage | $I_C=10\text{ }\mu\text{A}, I_E=0$ | 60 | - | - | V | |
| V_{EBO} | Emitter Base Breakdown Voltage | $I_E=10\text{ }\mu\text{A}, I_C=0$ | 6 | - | - | V | |
| h_{FE}^* | DC Current Gain | $I_C=1\text{ }\mu\text{A}, V_{CE}=5\text{ V}$ | 30 | 200 | - | - | |
| | | $I_C=10\text{ }\mu\text{A}, V_{CE}=5\text{ V}$ | 100 | 290 | 500 | | |
| | | $I_C=100\text{ }\mu\text{A}, V_{CE}=5\text{ V}$ | 175 | 375 | - | | |
| | | $I_C=500\text{ }\mu\text{A}, V_{CE}=5\text{ V}$ | 200 | 430 | - | | |
| | | $I_C=1\text{ mA}, V_{CE}=5\text{ V}$ | 250 | 450 | - | | |
| | | $I_C=10\text{ mA}, V_{CE}=5\text{ V}$ | - | 430 | 800 | | |
| | | $I_C=10\text{ }\mu\text{A}, V_{CE}=5\text{ V}$ $T_{amb} = -55^\circ$ | 20 | - | - | | |
| $V_{CE(SAT)}$ | Collector-Emitter saturation Voltage | $I_C=1\text{ mA}, I_B=0.1\text{ mA}$ | - | 0.2 | 0.35 | V | |
| V_{BE} | Base-Emitter Voltage | $I_C=100\text{ }\mu\text{A}, V_{CE}=5\text{ V}$ | 0.5 | 0.57 | 0.7 | | |
| f_T | Transition frequency | $I_C=50\text{ }\mu\text{A}, V_{CE}=5\text{ V}$ $f=5\text{ MHz}$ | 15 | 20 | - | MHz | |
| | | $I_C=500\text{ }\mu\text{A}, V_{CE}=5\text{ V}$ $f=30\text{ MHz}$ | 60 | 78 | - | | |
| h_{fe} | Small signal current gain | $I_C=1\text{ mA}, V_{CE}=5.0\text{ V}$ $f=1\text{ KHz}$ | 150 | 400 | 900 | - | |
| C_{CBO} | Collector-Base Capacitance | $I_E=0, V_{CB}=5\text{ V}$ $f=1\text{ MHz}$ | - | 3.5 | 6 | pF | |
| C_{EBO} | Emitter-Base Capacitance | $I_C=0, V_{EB}=0.5\text{ V}$ $f=1\text{ MHz}$ | - | 3.5 | 6 | pF | |
| NF | Noise figure | $I_C=0$ $V_{CE}=5.0\text{ V}$ $R_g=10\text{ k}\Omega$ | $f=100\text{ Hz}$ | - | 4 | 10 | dB |
| | | | $f=1\text{ kHz}$ | - | 1.8 | 3 | |
| | | | $f=10\text{ kHz}$ | - | 0.6 | 2 | |
| | | | $f=10\text{ to }10000\text{ Hz}$ | - | 1.8 | 3 | |

(*) Pulse conditions : $t_p < 300\text{ }\mu\text{s}, \delta = 1\%$

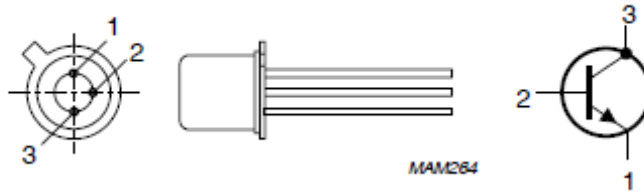
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MECHANICAL DATA CASE TO-18

| DIMENSIONS (mm) | | |
|-----------------|------|------|
| | min | max |
| A | 12.7 | - |
| B | - | 0.49 |
| C | 0.9 | - |
| D | - | 5.3 |
| E | - | 4.9 |
| F | - | 5.8 |
| G | 2.54 | - |
| H | - | 1.2 |
| I | - | 1.16 |
| L | 45° | - |



| | |
|---------|-----------|
| Pin 1 : | emitter |
| Pin 2 : | base |
| Pin 3 : | Collector |
| Case : | Collector |



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