

NPN SILICON LOW POWER TRANSISTOR

Qualified per MIL-PRF-19500/376

DEVICES

2N2484UA
 2N2484UB
 2N2484UBC *

* Available to JANS quality level only.

LEVELS

JAN
 JANTX
 JANTXV
 JANS

ABSOLUTE MAXIMUM RATINGS ($T_C = +25^\circ\text{C}$ unless otherwise noted)

| Parameters / Test Conditions | Symbol | Value | Unit |
|--|----------------|-------------|------------------|
| Collector-Emitter Voltage | V_{CEO} | 60 | Vdc |
| Collector-Base Voltage | V_{CBO} | 60 | Vdc |
| Emitter-Base Voltage | V_{EBO} | 6.0 | Vdc |
| Collector Current | I_C | 50 | mAdc |
| Total Power Dissipation @ $T_A = +25^\circ\text{C}$ ⁽¹⁾ | P_T | 360 | mW |
| Operating & Storage Junction Temperature Range | T_J, T_{stg} | -65 to +200 | $^\circ\text{C}$ |

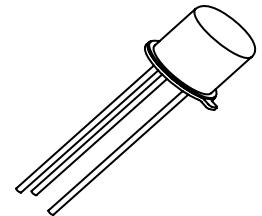
THERMAL CHARACTERISTICS

| Parameters / Test Conditions | Symbol | Value | Unit |
|-------------------------------------|-----------------|-------|--------------------|
| Thermal Resistance, Ambient-to-Case | $R_{\theta JA}$ | | $^\circ\text{C/W}$ |
| 2N2484 | | 325 | |
| 2N2484UA | | 275 | |
| 2N2484UB, UBC | | 350 | |

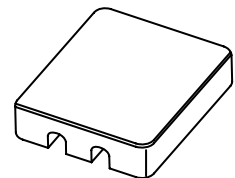
1. See 19500/376 for Thermal Performance Curves.

ELECTRICAL CHARACTERISTICS ($T_A = +25^\circ\text{C}$, unless otherwise noted)

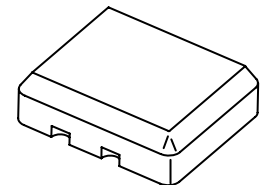
| Parameters / Test Conditions | Symbol | Min. | Max. | Unit |
|---|---------------|------|-----------|-------------------------------------|
| OFF CHARACTERISTICS | | | | |
| Collector-Emitter Breakdown Voltage $I_C = 10\text{mAdc}$ | $V_{(BR)CEO}$ | 60 | | Vdc |
| Collector-Emitter Cutoff Current $V_{CE} = 45\text{Vdc}$ | I_{CES} | | 5.0 | ηAdc |
| Collector-Base Cutoff Current $V_{CB} = 45\text{Vdc}$ $V_{CB} = 60\text{Vdc}$ | I_{CBO} | | 5.0 10 | ηAdc μAdc |
| Collector-Emitter Cutoff Current $V_{CE} = 5.0\text{Vdc}$ | I_{CEO} | | 2.0 | ηAdc |



TO-18 (TO-206AA)
2N2484



2N2484UA



2N2484UB, UBC
(UBC = Ceramic Lid Version)

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ELECTRICAL CHARACTERISTICS ($T_A = +25^\circ\text{C}$, unless otherwise noted)

| Parameters / Test Conditions | Symbol | Min. | Max. | Unit |
|--|---------------|---------------------------------------|--------------------------|-------------------------------------|
| OFF CHARACTERISTICS | | | | |
| Emitter-Base Cutoff Current $V_{EB} = 5.0\text{Vdc}$ $V_{EB} = 6.0\text{Vdc}$ | I_{EBO} | | 2.0 10 | ηAdc μAdc |
| ON CHARACTERISTICS ⁽²⁾ | | | | |
| Forward-Current Transfer Ratio $I_C = 1.0\mu\text{Adc}$, $V_{CE} = 5.0\text{Vdc}$ $I_C = 10\mu\text{Adc}$, $V_{CE} = 5.0\text{Vdc}$ $I_C = 100\mu\text{Adc}$, $V_{CE} = 5.0\text{Vdc}$ $I_C = 500\mu\text{Adc}$, $V_{CE} = 5.0\text{Vdc}$ $I_C = 1.0\text{mAdc}$, $V_{CE} = 5.0\text{Vdc}$ $I_C = 10\text{mAdc}$, $V_{CE} = 5.0\text{Vdc}$ | h_{FE} | 45 200 225 250 250 225 | 500 675 800 800 | |
| Collector-Emitter Saturation Voltage $I_C = 1.0\text{mAdc}$, $I_B = 100\mu\text{Adc}$ | $V_{CE(sat)}$ | | 0.3 | Vdc |
| Base-Emitter Voltage $V_{CE} = 5.0\text{Vdc}$, $I_C = 100\mu\text{Adc}$ | $V_{BE(ON)}$ | 0.5 | 0.7 | Vdc |

DYNAMIC CHARACTERISTICS

| Parameters / Test Conditions | Symbol | Min. | Max. | Unit |
|--|------------|------------|----------------------|------------------|
| Forward Current Transfer Ratio $I_C = 50\mu\text{Adc}$, $V_{CE} = 5.0\text{Vdc}$, $f = 5.0\text{MHz}$ $I_C = 500\mu\text{Adc}$, $V_{CE} = 5.0\text{Vdc}$, $f = 30\text{MHz}$ | $ h_{fe} $ | 3.0 2.0 | 0.7 | |
| Open Circuit Output Admittance $I_C = 1.0\text{mAdc}$, $V_{CE} = 5.0\text{Vdc}$, $f = 1.0\text{kHz}$ | h_{oe} | | 40 | μmhos |
| Open Circuit Reverse-Voltage Transfer Ratio $I_C = 1.0\text{mAdc}$, $V_{CE} = 5.0\text{Vdc}$, $f = 1.0\text{kHz}$ | h_{re} | | 8.0×10^{-4} | |
| Input Impedance $I_C = 1.0\text{mAdc}$, $V_{CE} = 5.0\text{Vdc}$, $f = 1.0\text{kHz}$ | h_{je} | 3.5 | 24 | $k\Omega$ |
| Small-Signal Short-Circuit Forward Current Transfer Ratio $I_C = 1.0\text{mAdc}$, $V_{CE} = 5.0\text{Vdc}$, $f = 1.0\text{kHz}$ | h_{fe} | 250 | 900 | |
| Output Capacitance $V_{CB} = 5.0\text{Vdc}$, $I_E = 0$, $100\text{kHz} \leq f \leq 1.0\text{MHz}$ | C_{obo} | | 5.0 | pF |
| Input Capacitance $V_{EB} = 0.5\text{Vdc}$, $I_C = 0$, $100\text{kHz} \leq f \leq 1.0\text{MHz}$ | C_{ibo} | | 6.0 | pF |

(2) Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$.