

## 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 @ $T_A = +25^\circ\text{C}$ <sup>(1)</sup>	$P_T$	360	mW
Operating & Storage Junction Temperature Range	$T_J, T_{stg}$	-65 to +200	$^\circ\text{C}$

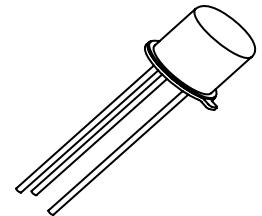
### THERMAL CHARACTERISTICS

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	

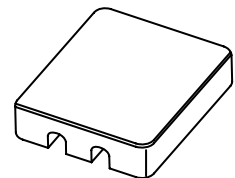
1. See 19500/376 for Thermal Performance Curves.

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

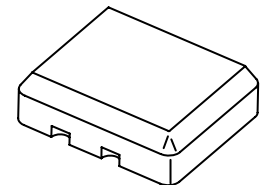
Parameters / Test Conditions	Symbol	Min.	Max.	Unit
<b>OFF CHARACTERISTICS</b>				
Collector-Emitter Breakdown Voltage $I_C = 10\text{mAdc}$	$V_{(BR)CEO}$	60		Vdc
Collector-Emitter Cutoff Current $V_{CE} = 45\text{Vdc}$	$I_{CES}$		5.0	$\eta\text{Adc}$
Collector-Base Cutoff Current $V_{CB} = 45\text{Vdc}$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



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
<b>OFF CHARACTERISTICS</b>				
Emitter-Base Cutoff Current $V_{EB} = 5.0\text{Vdc}$ $V_{EB} = 6.0\text{Vdc}$	$I_{EBO}$		2.0 10	$\eta\text{Adc}$ $\mu\text{Adc}$
<b>ON CHARACTERISTICS <sup>(2)</sup></b>				
Forward-Current Transfer Ratio $I_C = 1.0\mu\text{A}$ , $V_{CE} = 5.0\text{Vdc}$ $I_C = 10\mu\text{A}$ , $V_{CE} = 5.0\text{Vdc}$ $I_C = 100\mu\text{A}$ , $V_{CE} = 5.0\text{Vdc}$ $I_C = 500\mu\text{A}$ , $V_{CE} = 5.0\text{Vdc}$ $I_C = 1.0\text{mA}$ , $V_{CE} = 5.0\text{Vdc}$ $I_C = 10\text{mA}$ , $V_{CE} = 5.0\text{Vdc}$	$h_{FE}$	45 200 225 250 250 225	500 675 800 800	
Collector-Emitter Saturation Voltage $I_C = 1.0\text{mA}$ , $I_B = 100\mu\text{A}$	$V_{CE(sat)}$		0.3	Vdc
Base-Emitter Voltage $V_{CE} = 5.0\text{Vdc}$ , $I_C = 100\mu\text{A}$	$V_{BE(ON)}$	0.5	0.7	Vdc

### DYNAMIC CHARACTERISTICS

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Forward Current Transfer Ratio $I_C = 50\mu\text{A}$ , $V_{CE} = 5.0\text{Vdc}$ , $f = 5.0\text{MHz}$ $I_C = 500\mu\text{A}$ , $V_{CE} = 5.0\text{Vdc}$ , $f = 30\text{MHz}$	$ h_{fe} $	3.0 2.0	0.7	
Open Circuit Output Admittance $I_C = 1.0\text{mA}$ , $V_{CE} = 5.0\text{Vdc}$ , $f = 1.0\text{kHz}$	$h_{oe}$		40	$\mu\text{hos}$
Open Circuit Reverse-Voltage Transfer Ratio $I_C = 1.0\text{mA}$ , $V_{CE} = 5.0\text{Vdc}$ , $f = 1.0\text{kHz}$	$h_{re}$		$8.0 \times 10^{-4}$	
Input Impedance $I_C = 1.0\text{mA}$ , $V_{CE} = 5.0\text{Vdc}$ , $f = 1.0\text{kHz}$	$h_{je}$	3.5	24	$k\Omega$
Small-Signal Short-Circuit Forward Current Transfer Ratio $I_C = 1.0\text{mA}$ , $V_{CE} = 5.0\text{Vdc}$ , $f = 1.0\text{kHz}$	$h_{fe}$	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 $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$ .