

## PNP SILICON SMALL SIGNAL TRANSISTOR

Qualified per MIL-PRF-19500/ 392

### Devices

2N3485A

2N3486A

### Qualified Level

JAN  
JANTX  
JANTXV

### MAXIMUM RATINGS

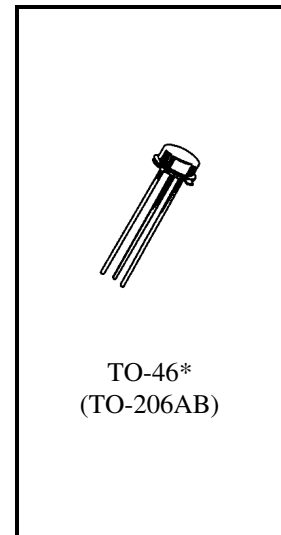
Ratings	Symbol	2N3485A 2N3486A	Unit
Collector-Emitter Voltage	$V_{CEO}$	60	Vdc
Collector-Base Voltage	$V_{CBO}$	60	Vdc
Emitter-Base Voltage	$V_{EBO}$	5.0	Vdc
Collector Current -- Continuous	$I_C$	600	mAdc
Total Power Dissipation	$P_T$	@ $T_A = +25^{\circ}\text{C}^{(1)}$	0.4
		@ $T_C = +25^{\circ}\text{C}^{(2)}$	2.0
Operating & Storage Junction Temperature Range	$T_J, T_{stg}$	-55 to +200	$^{\circ}\text{C}$

### THERMAL CHARACTERISTICS

Characteristics	Symbol	Max.	Unit
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	0.439	$^{\circ}\text{mC/W}$
Junction-to-Case	$R_{\theta JC}$	87	$^{\circ}\text{C/W}$

1) Derate linearly 2.28 mW/ $^{\circ}\text{C}$  above  $T_A = +25^{\circ}\text{C}$

2) Derate linearly 11.43 mW/ $^{\circ}\text{C}$  above  $T_C = +25^{\circ}\text{C}$



\*See appendix A for package outline

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

Characteristics	Symbol	Min.	Max.	Unit
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### OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage $I_C = 10 \text{ mAdc}$	$V_{(BR)CEO}$	60		Vdc
Collector-Base Cutoff Current $V_{CB} = 50 \text{ Vdc}$ $V_{CB} = 60 \text{ Vdc}$	$I_{CBO}$		10 10	$\eta\text{Adc}$ $\mu\text{Adc}$
Emitter-Base Cutoff Current $V_{EB} = 3.5 \text{ Vdc}$ $V_{EB} = 5.0 \text{ Vdc}$	$I_{EBO}$		50 10	$\eta\text{Adc}$ $\mu\text{Adc}$

**2N3485A, 2N3486A JAN SERIES**

**ELECTRICAL CHARACTERISTICS (con't)**

Characteristics	Symbol	Min.	Max.	Unit
<b>DC CHARACTERISTICS <sup>(3)</sup></b>				
Forward-Current Transfer Ratio I <sub>C</sub> = 0.1 mA <sub>dc</sub> , V <sub>CE</sub> = 10 V <sub>dc</sub>	h <sub>FE</sub>	2N3485A 40		
		2N3486A 75		
I <sub>C</sub> = 1.0 mA <sub>dc</sub> , V <sub>CE</sub> = 10 V <sub>dc</sub>		2N3485A 40		
		2N3486A 100		
I <sub>C</sub> = 10 mA <sub>dc</sub> , V <sub>CE</sub> = 10 V <sub>dc</sub>		2N3485A 40		
		2N3486A 100		
I <sub>C</sub> = 150 mA <sub>dc</sub> , V <sub>CE</sub> = 10 V <sub>dc</sub>	2N3485A 40	120		
	2N3486A 100	300		
I <sub>C</sub> = 500 mA <sub>dc</sub> , V <sub>CE</sub> = 10 V <sub>dc</sub>	2N3485A 40			
	2N3486A 50			
Collector-Emitter Saturation Voltage I <sub>C</sub> = 150 mA <sub>dc</sub> , I <sub>B</sub> = 15 mA <sub>dc</sub> I <sub>C</sub> = 500 mA <sub>dc</sub> , I <sub>B</sub> = 50 mA <sub>dc</sub>	V <sub>CE(sat)</sub>		0.4 1.6	V <sub>dc</sub>
Base-Emitter Saturation Voltage I <sub>C</sub> = 150 mA <sub>dc</sub> , I <sub>B</sub> = 15 mA <sub>dc</sub> I <sub>C</sub> = 500 mA <sub>dc</sub> , I <sub>B</sub> = 50 mA <sub>dc</sub>	V <sub>BE(sat)</sub>		1.3 2.6	V <sub>dc</sub>

**DYNAMIC CHARACTERISTICS**

Small-Signal Forward Current Transfer Ratio I <sub>C</sub> = 1.0 mA <sub>dc</sub> , V <sub>CE</sub> = 10 V <sub>dc</sub> , f = 1.0 kHz	h <sub>fe</sub>	2N3485A 40 2N3486A 100		
Magnitude of Small-Signal Forward Current Transfer Ratio I <sub>C</sub> = 50 mA <sub>dc</sub> , V <sub>CE</sub> = 20 V <sub>dc</sub> , f = 100 MHz	h <sub>fe</sub>		2.0	10
Output Capacitance V <sub>CB</sub> = 10 V <sub>dc</sub> , I <sub>E</sub> = 0, 100 kHz ≤ f ≤ 1.0 MHz	C <sub>obo</sub>			8.0 pF
Input Capacitance V <sub>EB</sub> = 2.0 V <sub>dc</sub> , I <sub>C</sub> = 0, 100 kHz ≤ f ≤ 1.0 MHz	C <sub>ibo</sub>			30 pF

(3) Pulse Test: Pulse Width = 300μs, Duty Cycle ≤ 2.0%.