

## PNP SILICON SMALL SIGNAL TRANSISTOR

Qualified per MIL-PRF-19500/392

### Devices

2N3485A

2N3486A

### Qualified Level

JAN  
JANTX  
JANTXV

### MAXIMUM RATINGS

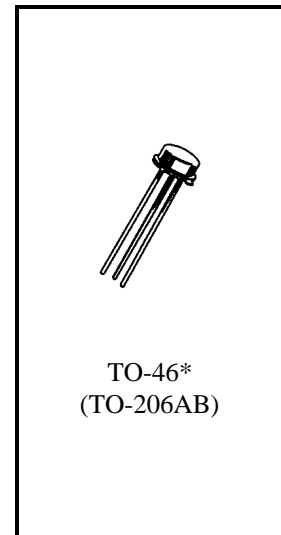
Ratings	Symbol	2N3485A 2N3486A	Unit
Collector-Emitter Voltage	$V_{CEO}$	60	Vdc
Collector-Base Voltage	$V_{CBO}$	60	Vdc
Emitter-Base Voltage	$V_{EBO}$	5.0	Vdc
Collector Current -- Continuous	$I_C$	600	mAdc
Total Power Dissipation	$P_T$	@ $T_A = +25^{\circ}\text{C}^{(1)}$	0.4
		@ $T_C = +25^{\circ}\text{C}^{(2)}$	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
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**ON CHARACTERISTICS <sup>(3)</sup>**

Forward-Current Transfer Ratio $I_C = 0.1 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$	2N3485A 2N3486A	40 75		
$I_C = 1.0 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$	2N3485A 2N3486A	40 100		
$I_C = 10 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$	2N3485A 2N3486A	40 100		
$I_C = 150 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$	2N3485A 2N3486A	40 100	120 300	
$I_C = 500 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$	2N3485A 2N3486A	40 50		
Collector-Emitter Saturation Voltage $I_C = 150 \text{ mAdc}, I_B = 15 \text{ mAdc}$ $I_C = 500 \text{ mAdc}, I_B = 50 \text{ mAdc}$	$V_{CE(sat)}$		0.4 1.6	Vdc
Base-Emitter Saturation Voltage $I_C = 150 \text{ mAdc}, I_B = 15 \text{ mAdc}$ $I_C = 500 \text{ mAdc}, I_B = 50 \text{ mAdc}$	$V_{BE(sat)}$		1.3 2.6	Vdc

**DYNAMIC CHARACTERISTICS**

Small-Signal Forward Current Transfer Ratio $I_C = 1.0 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}, f = 1.0 \text{ kHz}$	2N3485A 2N3486A	$h_{fe}$	40 100	
Magnitude of Small-Signal Forward Current Transfer Ratio $I_C = 50 \text{ mAdc}, V_{CE} = 20 \text{ Vdc}, f = 100 \text{ MHz}$		$ h_{fe} $	2.0	10
Output Capacitance $V_{CB} = 10 \text{ Vdc}, I_E = 0, 100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$		$C_{obo}$		8.0 pF
Input Capacitance $V_{EB} = 2.0 \text{ Vdc}, I_C = 0, 100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$		$C_{ibo}$		30 pF

(3) Pulse Test: Pulse Width = 300 $\mu$ s, Duty Cycle  $\leq$  2.0%.



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