

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 @ $T_A = +25^{\circ}\text{C}^{(1)}$ @ $T_C = +25^{\circ}\text{C}^{(2)}$	P_T	0.4 2.0	W W
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	$^{\circ}\text{C/W}$
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 $T_C = +25^{\circ}\text{C}$


TO-46*
(TO-206AB)

*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	ηAdc μAdc
Emitter-Base Cutoff Current $V_{EB} = 3.5 \text{ Vdc}$ $V_{EB} = 5.0 \text{ Vdc}$	I_{EBO}		50 10	ηAdc μAdc

2N3485A, 2N3486A JAN SERIES

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
ON CHARACTERISTICS ⁽³⁾				
Forward-Current Transfer Ratio $I_C = 0.1 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$ $I_C = 1.0 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$ $I_C = 10 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$ $I_C = 150 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$ $I_C = 500 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$	h_{FE}	40 75 40 100 40 100 40 100 40 50	120 300	
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 $I_C = 1.0 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}, f = 1.0 \text{ kHz}$	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 μ s, Duty Cycle $\leq$ 2.0%.