

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 mA _{dc} , V _{CE} = 10 V _{dc} 2N3485A 2N3486A	h _{FE}	40		
I _C = 1.0 mA _{dc} , V _{CE} = 10 V _{dc} 2N3485A 2N3486A		75		
I _C = 10 mA _{dc} , V _{CE} = 10 V _{dc} 2N3485A 2N3486A		40		
I _C = 150 mA _{dc} , V _{CE} = 10 V _{dc} 2N3485A 2N3486A		100		
I _C = 500 mA _{dc} , V _{CE} = 10 V _{dc} 2N3485A 2N3486A		40	120	
		100	300	
Collector-Emitter Saturation Voltage I _C = 150 mA _{dc} , I _B = 15 mA _{dc} I _C = 500 mA _{dc} , I _B = 50 mA _{dc}	V _{CE(sat)}		0.4 1.6	V _{dc}
Base-Emitter Saturation Voltage I _C = 150 mA _{dc} , I _B = 15 mA _{dc} I _C = 500 mA _{dc} , I _B = 50 mA _{dc}	V _{BE(sat)}		1.3 2.6	V _{dc}

DYNAMIC CHARACTERISTICS

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

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

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