



TECHNICAL DATA

PNP SMALL SIGNAL SILICON TRANSISTOR

Qualified per MIL-PRF-19500/291

Devices

2N2906A	2N2907A
2N2906AL	2N2907AL
2N2906AUA	2N2907AUA
2N2906AUB	2N2907AUB

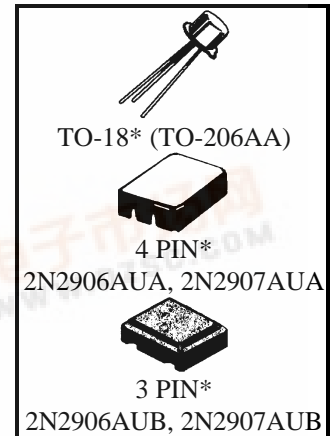
Qualified Level

JAN
JANTX
JANTXV
JANS

MAXIMUM RATINGS

Ratings	Symbol	All Types	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	I_C	600	mAdc	
Total Power Dissipation	$P_T^{(1)}$	@ $T_A = +25^\circ\text{C}$	0.4	W
		@ $T_C = +25^\circ\text{C}$	1.8	W
Operating & Storage Junction Temperature Range	T_j, T_{stg}	-65 to +200	$^\circ\text{C}$	

- 1) Derate linearly 2.28 mW/ $^\circ\text{C}$ for $T_A > +25^\circ\text{C}$.
- 2) Derate linearly 10.3 mW/ $^\circ\text{C}$ for $T_C > +25^\circ\text{C}$.
- 3) For UA and UB surface mount case outlines: $P_T = 1.16$ W; derate linearly 6.6mW/ $^\circ\text{C}$ for $T_C > +25^\circ\text{C}$.



*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 $I_C = 10$ mAdc	$V_{(BR)CEO}$	60		Vdc
Collector-Base Cutoff Current $V_{CE} = 50$ Vdc $V_{CE} = 60$ Vdc	I_{CBO}		10 10	μAdc ηAdc
Collector-Base Cutoff Current $V_{CE} = 50$ Vdc	I_{CES}		50	ηAdc
Emitter-Base Cutoff Current $V_{EB} = 4.0$ Vdc $V_{EB} = 5.0$ Vdc	I_{EBO}		50 10	ηAdc μAdc

2N2906A, 2N2907A JAN SERIES

ELECTRICAL CHARACTERISTICS (con't)

Characteristics	Symbol	Min.	Max.	Unit
ON CHARACTERISTICS ⁽⁴⁾				
Forward-Current Transfer Ratio $I_C = 0.1 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$	h_{FE}	2N2906A, UA, UB	40	
		2N2907A, UA, UB	75	
$I_C = 1.0 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$		2N2906A, UA, UB	40	175
		2N2907A, UA, UB	100	450
$I_C = 10 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$		2N2906A, UA, UB	40	
		2N2907A, UA, UB	100	
$I_C = 150 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$	2N2906A, UA, UB	40	120	
	2N2907A, UA, UB	100	300	
$I_C = 500 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$	2N2906A, UA, UB	40		
	2N2907A, UA, UB	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 $I_C = 150 \text{ mAdc}, I_B = 15 \text{ mAdc}$ $I_C = 500 \text{ mAdc}, I_B = 50 \text{ mAdc}$	$V_{BE(sat)}$	0.6	1.3 2.6	Vdc

DYNAMIC CHARACTERISTICS

Forward Current Transfer Ratio $V_{CE} = 10 \text{ Vdc}, I_C = 1.0 \text{ mAdc}, f = 1.0 \text{ kHz}$	2N2906A,UA, UB 2N2907A,UA, UB	h_{fe}	40 100	
Magnitude of Small-Signal Forward Current Transfer Ratio $V_{CE} = 20 \text{ Vdc}, I_C = 20 \text{ mAdc}, f = 100 \text{ MHz}$		$ h_{fe} $	2.0	
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

SWITCHING CHARACTERISTICS

Turn-On Time $V_{CC} = 30 \text{ Vdc}; I_C = 150 \text{ mAdc}; I_{B1} = 50 \text{ mAdc}$	t_{on}		45	ηs
Turn-Off Time $V_{CC} = 30 \text{ Vdc}; I_C = 150 \text{ mAdc}; I_{B1} = -I_{B2} = 50 \text{ mAdc}$	t_{off}		300	ηs

(4) Pulse Test: Pulse Width = 300 μs , Duty Cycle \leq 2.0%.