2N3700

Low Power Transistor

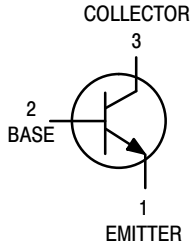
NPN Silicon

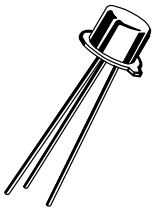
ON Semiconductor®

http://onsemi.com

Features

- MIL−PRF−19500/391 Qualified
- Available as JAN, JANTX, and JANTXV
- Hermetically Sealed Commercial Product with Option for Military Temperature Range Screening





TO−18
CASE 206AA
STYLE 1

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Value	Unit
Collector − Emitter Voltage	V_{CEO}	80	Vdc
Collector − Base Voltage	V_{CBO}	140	Vdc
Emitter − Base Voltage	V_{EBO}	7.0	Vdc
Collector Current − Continuous	I_C	1.0	Adc
Total Device Dissipation @ T_A = 25°C	P_T	500	mW
Total Device Dissipation @ T_C = 25°C	P_T	1.0	W
Operating and Storage Junction Temperature Range	T_J, T_{stg}	−65 to +200	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient (Note 1)	$R_{\theta JA}$	325	°C/W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	150	°C/W

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1. This number assumes a substrate of 1 oz. thick copper and a copper area of 550 mm^2.

ORDERING INFORMATION

Device	Package	Shipping
JAN2N3700	TO−18	Bulk
JANTX2N3700		
JANTXV2N3700		

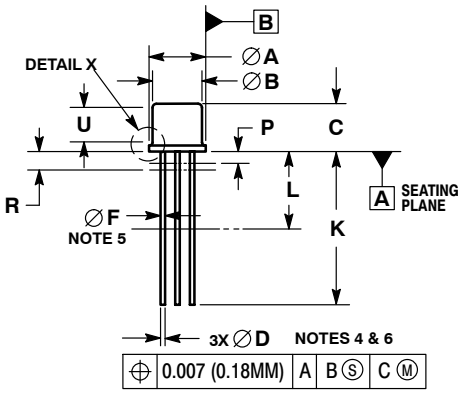
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

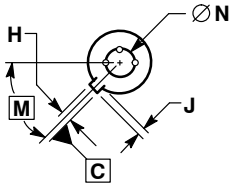
Characteristic	Symbol	Min	Max	Unit
ON CHARACTERISTICS				
DC Current Gain (I_C = 0.1 mAdc, V_{CE} = 10 Vdc) (Note 2) (I_C = 10 mAdc, V_{CE} = 10 Vdc) (Note 2) (I_C = 150 mAdc, V_{CE} = 10 Vdc) (Note 2) (I_C = 500 mAdc, V_{CE} = 10 Vdc) (Note 2) (I_C = 1.0 Adc, V_{CE} = 10 Vdc) (Note 2)	h_{FE}	 50 90 100 50 15	 300 – 300 300 –	–
Collector – Emitter Saturation Voltage (Note 2) (I_C = 150 mAdc, I_B = 15 mAdc) (I_C = 500 mAdc, I_B = 50 mAdc)	$V_{CE(sat)}$	 – –	 0.2 0.5	Vdc
Base – Emitter Saturation Voltage (Note 2) (I_C = 150 mAdc, I_B = 15 mAdc)	$V_{BE(sat)}$	 –	 1.1	Vdc
SMALL−SIGNAL CHARACTERISTICS				
Output Capacitance (V_{CB} = 10 Vdc, I_E = 0, 100 kHz ≤ f ≤ 1.0 MHz)	C_{obo}	–	12	pF
Small−Signal Current Gain (I_C = 50 mAdc, V_{CE} = 10 Vdc, f = 20 MHz)	$\|h_{fe}\|$	 5.0	 20	–

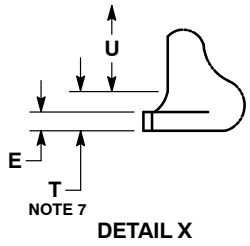
2. Pulse Test: See section 4 of MIL−STD−750.

PACKAGE DIMENSIONS

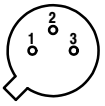
TO−18 3
CASE 206AA−01
ISSUE O







DETAIL X



LEAD IDENTIFICATION DETAIL

NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: INCHES.
3. DIMENSION J MEASURED FROM DIAMETER A TO EDGE.
4. LEAD TRUE POSITION TO BE DETERMINED AT THE GUAGE PLANE DEFINED BY DIMENSION R.
5. DIMENSION F APPLIES BETWEEN DIMENSION P AND L.
6. DIMENSION D APPLIES BETWEEN DIMENSION L AND K.
7. BODY CONTOUR OPTIONAL WITHIN ZONE DEFINED BY DIMENSIONS A, B, AND T.

	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
A	5.31	5.84	0.209	0.230
B	4.52	4.95	0.178	0.195
C	4.32	5.33	0.170	0.210
D	0.41	0.53	0.016	0.021
E	---	0.76	---	0.030
F	0.41	0.48	0.016	0.019
H	0.91	1.17	0.036	0.046
J	0.71	1.22	0.028	0.048
K	12.70	19.05	0.500	0.750
L	6.35	---	0.250	---
M	45 ° BSC		45 ° BSC	
N	2.54 BSC		0.100 BSC	
P	---	1.27	---	0.050
R	1.37 BSC		0.054 BSC	
T	---	0.76	---	0.030
U	2.54	---	0.100	---

STYLE 1:
PIN 1. EMITTER
2. BASE
3. COLLECTOR

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
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