

2N706A

**SILICON
NPN TRANSISTOR**



TO-18 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N706A is a silicon epitaxial planar NPN transistor designed for high speed saturated switching applications.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

Collector-Base Voltage
Collector-Emitter Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Power Dissipation ($T_A=25^\circ\text{C}$)
Power Dissipation ($T_C=25^\circ\text{C}$)
Power Dissipation ($T_C=100^\circ\text{C}$)
Operating and Storage Junction Temperature
Thermal Resistance
Thermal Resistance

SYMBOL

V_{CBO} 25
 V_{CER} 20
 V_{CEO} 15
 V_{EBO} 5.0
 I_C 50
 P_D 0.3
 P_D 1.0
 P_D 0.5
 T_J, T_{stg} -65 to +200
 θ_{JA} 500
 θ_{JC} 150

UNITS

V
V
V
V
mA
W
W
W
 $^\circ\text{C}$
 $^\circ\text{C/W}$
 $^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

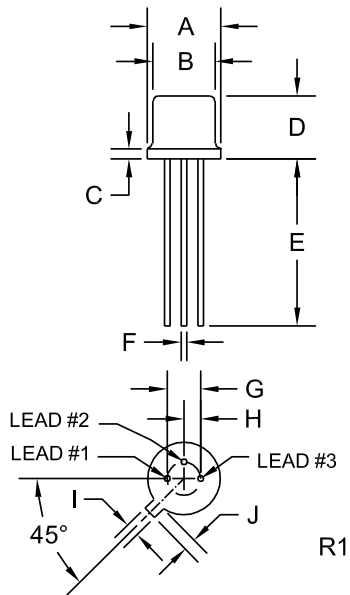
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=15\text{V}$		0.5	μA
I_{CBO}	$V_{CB}=15\text{V}, T_A=150^\circ\text{C}$		30	μA
I_{CBO}	$V_{CB}=25\text{V}$		10	μA
I_{CER}	$V_{CE}=20\text{V}, R_{BE}=100\text{k}\Omega$		10	μA
I_{EBO}	$V_{EB}=5\text{V}$		10	μA
BV_{CEO}	$I_C=10\text{mA}$	15		V
BV_{CER}	$I_C=10\text{mA}, R=10\Omega$	20		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.6	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	0.7	0.9	V
h_{FE}	$V_{CE}=1.0\text{V}, I_C=10\text{mA}$	20	60	
f_T	$V_{CE}=15\text{V}, I_E=10\text{mA}, f=100\text{MHz}$	200		MHz
C_{ob}	$V_{CB}=5.0\text{V}, I_E=0$		5.0	pF
t_{on}	$I_{B1}=3.0\text{mA}, I_{B2}=1.0\text{mA}$		40	ns
t_{off}	$I_{B1}=3.0\text{mA}, I_{B2}=1.0\text{mA}$		75	ns
t_s	$V_{CE}=10\text{V}, I_C=10\text{mA}, I_{B1}=I_{B2}=1.0\text{mA}$		25	ns

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TO-18 CASE - MECHANICAL OUTLINE



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.209	0.230	5.31	5.84
B (DIA)	0.178	0.195	4.52	4.95
C	-	0.030	-	0.76
D	0.170	0.210	4.32	5.33
E	0.500	-	12.70	-
F (DIA)	0.016	0.019	0.41	0.48
G (DIA)	0.100		2.54	
H	0.050		1.27	
I	0.036	0.046	0.91	1.17
J	0.028	0.048	0.71	1.22

TO-18 (REV: R1)

LEAD CODE:

- 1) Emitter
- 2) Base
- 3) Collector

MARKING: FULL PART NUMBER

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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