

**Type 2N3764**  
**Geometry 6706**  
**Polarity PNP**  
**Qual Level: JAN - JANTXV**

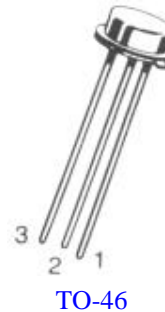
**Generic Part Number:**

**REF: MIL-PRF-19500/396**

**Features:**

[Request Quotation](#)

- General-purpose transistor for switching and amplifier applications.
- Housed in a [TO-46](#) case.
- Also available in chip form using the 6706 chip geometry.
- The Min and Max limits shown are per [MIL-PRF-19500/396](#) which Semicoa meets in all cases.



**Maximum Ratings**

$T_C = 25^{\circ}\text{C}$  unless otherwise specified

Rating	Symbol	Rating	Unit
Collector-Emitter Voltage	$V_{CEO}$	40	V
Collector-Base Voltage	$V_{CBO}$	40	V
Emitter-Base Voltage	$V_{EBO}$	5.0	V
Collector Current, Continuous	$I_C$	1.5	mA
Operating Junction Temperature	$T_J$	-55 to +200	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to +200	$^{\circ}\text{C}$

## Electrical Characteristics

$T_C = 25^\circ\text{C}$  unless otherwise specified

OFF Characteristics	Symbol	Min	Max	Unit
Collector-Base Breakdown Voltage $I_C = 10 \mu\text{A}$	$V_{(BR)CBO}$	40	---	V
Collector-Emitter Breakdown Voltage $I_C = 10 \text{mA}$	$V_{(BR)CEO}$	40	---	V
Emitter-Base Breakdown Voltage $I_E = 10 \mu\text{A}$	$V_{(BR)EBO}$	5.0	---	V
Collector-Emitter Cutoff Current $V_{EB} = 2.0 \text{V}, V_{CE} = 20 \text{V}$	$I_{CEX1}$	---	100	nA
Collector-Emitter Cutoff Current $V_{EB} = 2.0 \text{V}, V_{CE} = 20 \text{V}, T_A = 150^\circ\text{C}$	$I_{CEX2}$	---	150	$\mu\text{A}$
Collector-Base Cutoff Current $V_{CB} = 20 \text{V}$	$I_{CBO}$	---	100	nA
Emitter-Base Cutoff Current $V_{EB} = 2.0 \text{V}$	$I_{EBO}$	---	200	nA

ON Characteristics	Symbol	Min	Max	Unit
<b>Forward current Transfer Ratio</b>				
$I_C = 10 \text{mA}, V_{CE} = 1.0 \text{V}$	$h_{FE1}$	35	---	---
$I_C = 150 \text{mA}, V_{CE} = 1.0 \text{V}$ (pulse test)	$h_{FE2}$	40	---	---
$I_C = 500 \text{mA}, V_{CE} = 1.0 \text{V}$ (pulse test)	$h_{FE3}$	40	140	---
$I_C = 1.0 \text{A}, V_{CE} = 1.5 \text{V}$ (pulse test)	$h_{FE4}$	30	120	---
$I_C = 1.5 \text{A}, V_{CE} = 5.0 \text{V}$ (pulse test)	$h_{FE5}$	30	---	---
$I_C = 500 \text{mA}, V_{CE} = 1.0 \text{V}$ (pulsed), $T_A = -55^\circ\text{C}$	$h_{FE6}$	20	---	---
<b>Collector-Emitter Saturation Voltage</b>				
$I_C = 10 \text{mA}, I_B = 1 \text{mA}$ (pulse test)	$V_{CE(sat)1}$	---	0.1	V dc
$I_C = 150 \text{mA}, I_B = 15 \text{mA}$ (pulse test)	$V_{CE(sat)2}$	---	0.22	V dc
$I_C = 500 \text{mA}, I_B = 50 \text{mA}$ (pulse test)	$V_{CE(sat)3}$	---	0.50	V dc
$I_C = 1.0 \text{A}, I_B = 100 \text{mA}$ (pulse test)	$V_{CE(sat)4}$	---	0.90	V dc
<b>Base-Emitter Saturation Voltage</b>				
$I_C = 10 \text{mA}, I_B = 1 \text{mA}$	$V_{BE(sat)1}$	---	0.8	V dc
$I_C = 150 \text{mA}, I_B = 15 \text{mA}$ (pulse test)	$V_{BE(sat)2}$	---	1.0	V dc
$I_C = 500 \text{mA}, I_B = 50 \text{mA}$ (pulse test)	$V_{BE(sat)3}$	---	1.2	V dc
$I_C = 1.0 \text{A}, I_B = 100 \text{mA}$ (pulse test)	$V_{BE(sat)4}$	---	1.4	V dc

Small Signal Characteristics	Symbol	Min	Max	Unit
Magnitude of Common Emitter Short Circuit Forward Current Transfer Ratio $I_C = 50 \text{mA}, V_{CE} = 10 \text{V}, f = 100 \text{MHz}$	$ h_{FE} $	1.8	6.0	---
Open Circuit Output Capacitance $V_{CB} = 10 \text{V}, I_E = 0, 100 \text{kHz} < f < 1 \text{MHz}$	$C_{OBO}$	---	25	pF
Input Capacitance, Output Open Circuited $V_{EB} = 0.5 \text{V}, I_C = 0, 100 \text{kHz} < f < 1 \text{MHz}$	$C_{IBO}$	---	80	pF

Switching Characteristics Per Figure 1, MIL-S-19500/396D	Symbol	Min	Max	Unit
Pulse Delay Time	$t_d$	---	8	ns
Pulse Rise Time	$t_r$	---	35	ns
Pulse Storage Time	$t_s$	---	80	ns
Pulse Fall Time	$t_f$	---	35	ns