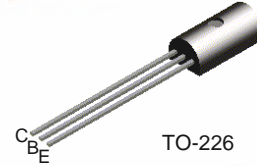


FAIRCHILD
SEMICONDUCTOR®

TN6707A

NPN General Purpose Amplifier

- These devices is designed for general purpose medium power amplifiers and switches requiring collector currents to 1.0A
- Sourced from process 39.



Absolute Maximum Ratings* $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	FPN660	Units
V_{CEO}	Collector-Emitter Voltage	80	V
V_{CBO}	Collector-Base Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5.0	V
I_C	Collector Current - Continuous	1.2	A
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 ~ +150	$^\circ\text{C}$

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

- 1) These ratings are based on a maximum junction temperature of 150°C .
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Electrical Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Conditions	Min.	Max.	Units
Off Characteristics					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage *	$I_C = 10\text{mA}, I_B = 0$	80		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_E = 100\mu\text{A}, I_C = 0$	100		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 1.0\text{mA}, I_C = 0$	5.0		V
I_{CBO}	Collector-Base Cutoff Current	$V_{CB} = 80\text{V}, I_E = 0$		0.1	μA
I_{EBO}	Emitter-Base Cutoff Current	$V_{EB} = 5.0\text{V}, I_C = 0$		0.1	μA
On Characteristics *					
h_{FE}	DC Current Gain	$V_{CE} = 2.0\text{V}, I_C = 50\text{mA}$ $V_{CE} = 2.0\text{V}, I_C = 250\text{mA}$ $V_{CE} = 2.0\text{V}, I_C = 500\text{mA}$	40 40 25	250	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 500\text{mA}, I_B = 50\text{mA}$ $I_C = 1.0\text{A}, I_B = 100\text{mA}$		0.5 1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE} = 2.0\text{V}, I_C = 1.0\text{A}$		1.5	V
Small Signal Characteristics					
h_{fe}	Output Capacitance	$V_{CE} = 5.0\text{V}, I_C = 200\text{mA}, f = 20\text{MHz}$	2.5	20	MHz
f_T	Current Gain Bandwidth Product	$V_{CE} = 5.0\text{V}, I_C = 50\text{mA}, f = 20\text{MHz}$	50		MHz

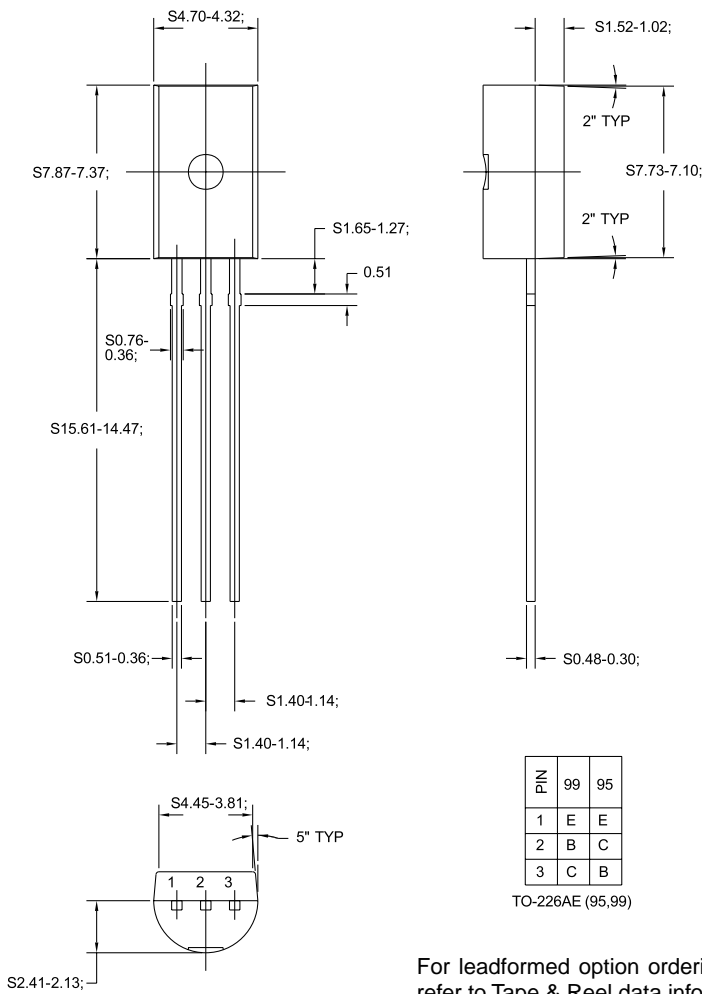
* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$

Thermal Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation Derate above 25°C	1.0 8.0	W $\text{mW}/^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	50	$^\circ\text{C}/\text{W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	125	$^\circ\text{C}/\text{W}$

Package Dimensions

TO-226



PIN	99	95
1	E	E
2	B	C
3	C	B

TO-226AE (95,99)

For leadformed option ordering, refer to Tape & Reel data information.

Dimensions in Millimeters

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Bottomless™	FAST®	LittleFET™	Power247™	SuperSOT™-3
CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOMET™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic®
E ² CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I ² C™	OCX™	RapidConfigure™	UHC™
Across the board. Around the world.™		OCXPro™	RapidConnect™	UltraFET®
The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.