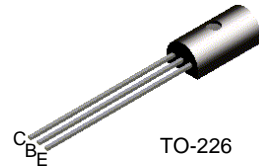


# TN6707A

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  $150^\circ\text{C}$ .
- 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
<b>Off Characteristics</b>					
$V_{(BR)CEO}$	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	$\mu\text{A}$
$I_{EBO}$	Emitter-Base Cutoff Current	$V_{EB} = 5.0\text{V}, I_C = 0$		0.1	$\mu\text{A}$
<b>On Characteristics *</b>					
$h_{FE}$	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
<b>Small Signal Characteristics</b>					
$h_{fe}$	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 $25^\circ\text{C}$	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	$^\circ\text{C}/\text{W}$



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