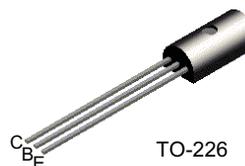


TN6707A

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°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	$^\circ\text{C}/\text{W}$

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