



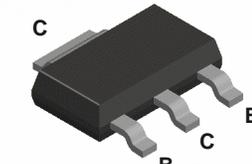
Discrete POWER & Signal Technologies

TN6726A



TO-226

NZT6726



SOT-223

PNP General Purpose Amplifier

This device is designed for general purpose medium power amplifiers and switches requiring collector currents to 1.0 A. Sourced from Process 77.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{CEO}	Collector-Emitter Voltage	30	V
V _{CB0}	Collector-Base Voltage	40	V
V _{EBO}	Emitter-Base Voltage	5.0	V
I _C	Collector Current - Continuous	1.5	A
T _J , T _{stg}	Operating and Storage Junction Temperature Range	-55 to +150	°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 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

TA = 25°C unless otherwise noted

Symbol	Characteristic	Max		Units
		TN6726A	*NZT6726	
P _D	Total Device Dissipation Derate above 25°C	1.0	1.0	W
		8.0	8.0	
R _{θJC}	Thermal Resistance, Junction to Case	50		°C/W
R _{θJA}	Thermal Resistance, Junction to Ambient	125	125	°C/W

*Device mounted on FR-4 PCB 36 mm X 18 mm X 1.5 mm; mounting pad for the collector lead min. 6 cm².



PNP General Purpose Amplifier

(continued)

Electrical Characteristics

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
OFF CHARACTERISTICS					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 10 \text{ mA}, I_B = 0$	30		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 100 \mu\text{A}, I_E = 0$	40		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 100 \mu\text{A}, I_C = 0$	5.0		V
I_{CBO}	Collector-Cutoff Current	$V_{CB} = 40 \text{ V}, I_E = 0$		0.1	μA
I_{EBO}	Emitter-Cutoff Current	$V_{EB} = 5.0 \text{ V}, I_C = 0$		0.1	μA

ON CHARACTERISTICS*

h_{FE}	DC Current Gain	$I_C = 100 \text{ mA}, V_{CE} = 1.0 \text{ V}$ $I_C = 1.0 \text{ A}, V_{CE} = 1.0 \text{ V}$	60 50	250	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 1.0 \text{ A}, I_B = 100 \text{ mA}$		0.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = 1.0 \text{ A}, V_{CE} = 1.0 \text{ V}$		1.2	V

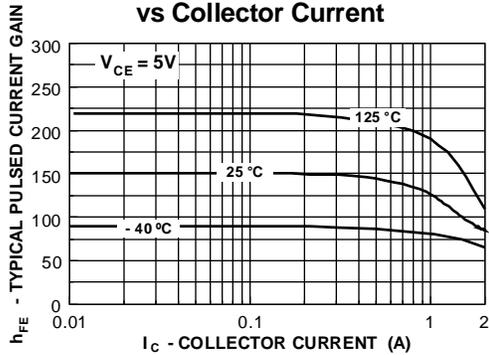
SMALL SIGNAL CHARACTERISTICS

h_{fe}	Small-Signal Current Gain	$I_C = 50 \text{ mA}, V_{CE} = 10 \text{ V},$ $f = 20 \text{ MHz}$	2.5	25	
C_{cb}	Collector-Base Capacitance	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1.0 \text{ MHz}$		30	pF

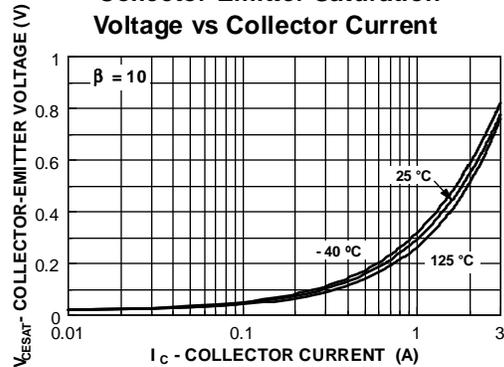
*Pulse Test: Pulse Width $\leq 300 \mu\text{s}$, Duty Cycle $\leq 1.0\%$

DC Typical Characteristics

Typical Pulsed Current Gain vs Collector Current



Collector-Emitter Saturation Voltage vs Collector Current

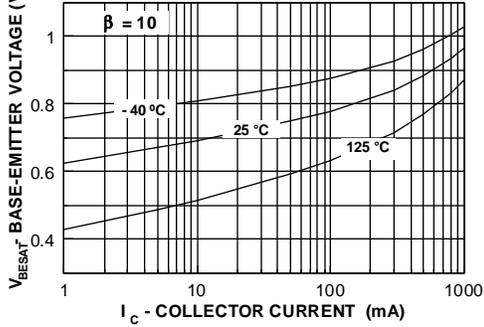


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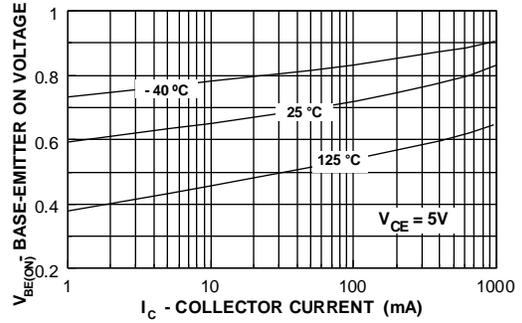
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DC Typical Characteristics (continued)

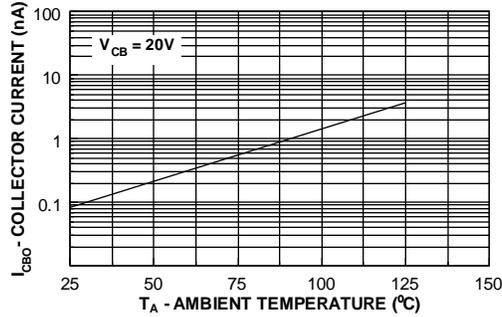
Base-Emitter Saturation Voltage vs Collector Current



Base-Emitter ON Voltage vs Collector Current

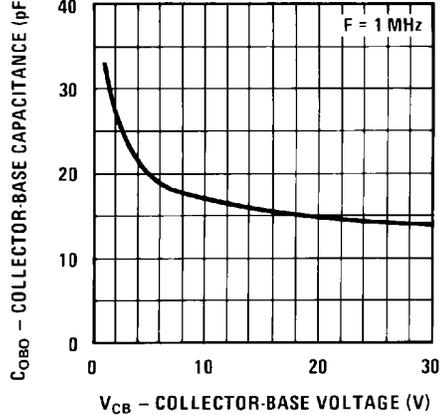


Collector-Cutoff Current vs Ambient Temperature

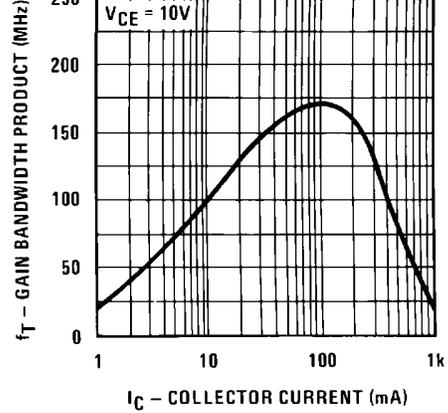


AC Typical Characteristics

Collector-Base Capacitance vs. Collector-Base Voltage



Gain Bandwidth Product vs. Collector Current



PNP General Purpose Amplifier

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TN6726A / NZT6726

AC Typical Characteristics (continued)

