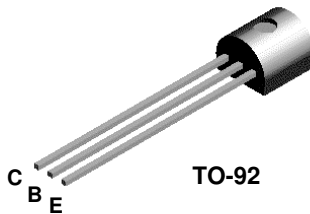
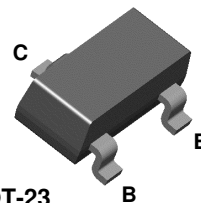


2N4126



TO-92

MMBT4126



SOT-23
Mark: ZF

PNP General Purpose Amplifier

This device is designed for general purpose amplifier and switching applications at collector currents to 10 μ A as a switch and to 100 mA as an amplifier.

Absolute Maximum Ratings*

TA = 25 °C unless otherwise noted

Symbol	Parameter	Value	Units
V _{CEO}	Collector-Emitter Voltage	25	V
V _{CBO}	Collector-Base Voltage	25	V
V _{EBO}	Emitter-Base Voltage	4.0	V
I _C	Collector Current - Continuous	200	mA
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.
- 3) All voltages (V) and currents (A) are negative polarity for PNP transistors.

Thermal Characteristics

TA = 25 °C unless otherwise noted

Symbol	Characteristic	Max		Units
		2N4126	*MMBT4126	
P _D	Total Device Dissipation	625	350	mW
	Derate above 25°C	5.0	2.8	mW/°C
R _{θJC}	Thermal Resistance, Junction to Case	83.3		°C/W
R _{θJA}	Thermal Resistance, Junction to Ambient	200	357	°C/W

*Device mounted on FR-4 PCB 1.6" X 1.6" X 0.06."

PNP General Purpose Amplifier

(continued)

2N4126 / MMBT4126

Electrical Characteristics

TA = 25 °C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
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OFF CHARACTERISTICS

$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 1.0 \text{ mA}, I_B = 0$	25		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 10 \text{ } \mu\text{A}, I_E = 0$	25		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_C = 10 \text{ } \mu\text{A}, I_C = 0$	4.0		V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 20 \text{ V}, I_E = 0$		50	nA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 3.0 \text{ V}, I_C = 0$		50	nA

ON CHARACTERISTICS*

h_{FE}	DC Current Gain	$I_C = 2.0 \text{ mA}, V_{CE} = 1.0 \text{ V}$ $I_C = 50 \text{ mA}, V_{CE} = 1.0 \text{ V}$	120 60	360	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 50 \text{ mA}, I_B = 5.0 \text{ mA}$		0.4	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 50 \text{ mA}, I_B = 5.0 \text{ mA}$		0.95	V

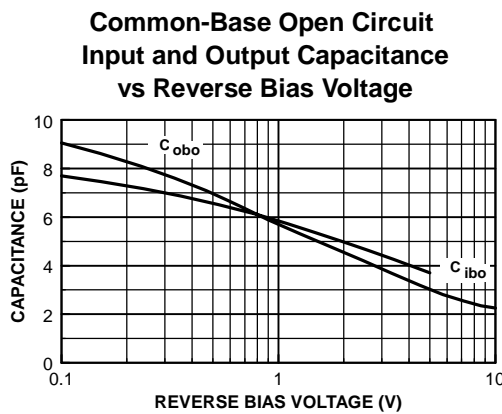
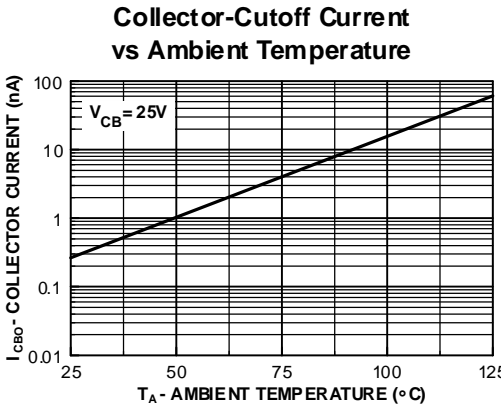
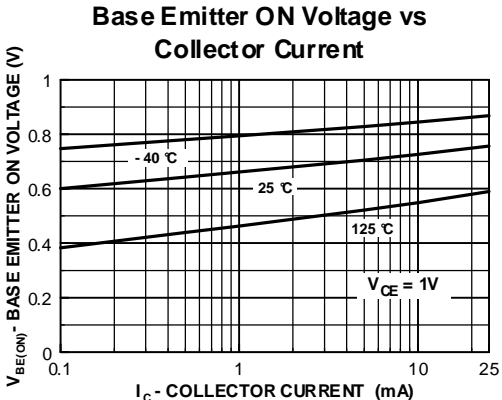
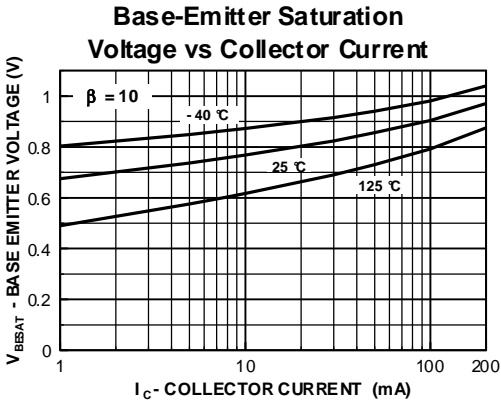
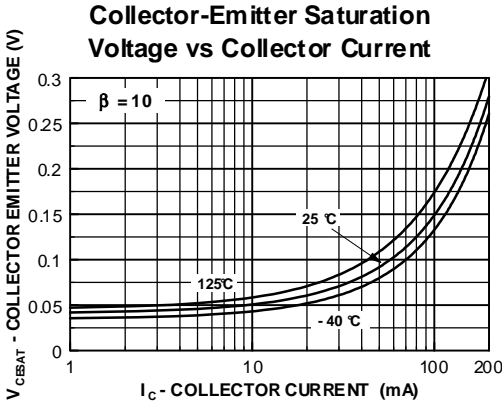
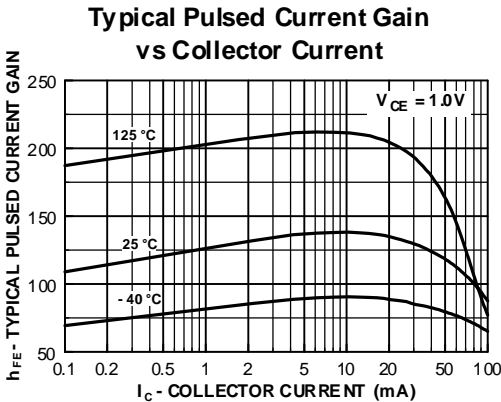
SMALL SIGNAL CHARACTERISTICS

f_T	Current Gain - Bandwidth Product	$I_C = 10 \text{ mA}, V_{CE} = 20 \text{ V},$ $f = 100 \text{ MHz}$	250		MHz
C_{ibo}	Input Capacitance	$V_{EB} = 0.5 \text{ V}, I_C = 0,$ $f = 1.0 \text{ MHz}$		10	pF
C_{cb}	Collector-Base Capacitance	$V_{CB} = 5.0 \text{ V}, I_E = 0,$ $f = 100 \text{ kHz}$		4.5	pF
h_{fe}	Small-Signal Current Gain	$I_C = 2.0 \text{ mA}, V_{CE} = 10 \text{ V},$ $f = 1.0 \text{ kHz}$	120	480	
NF	Noise Figure	$I_C = 100 \text{ } \mu\text{A}, V_{CE} = 5.0 \text{ V},$ $R_S = 1.0 \text{ k}\Omega, f = 10 \text{ Hz to } 15.7 \text{ kHz}$		4.0	dB

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

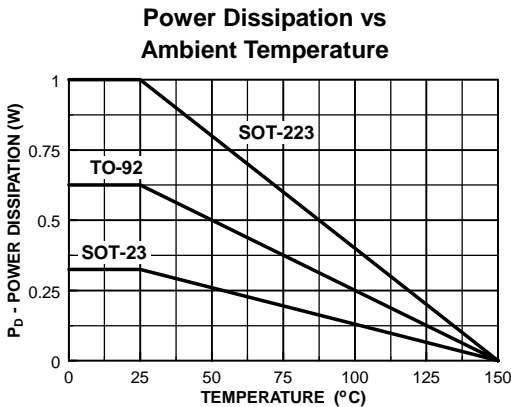
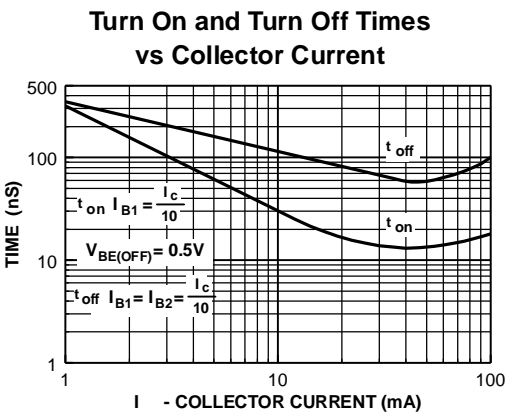
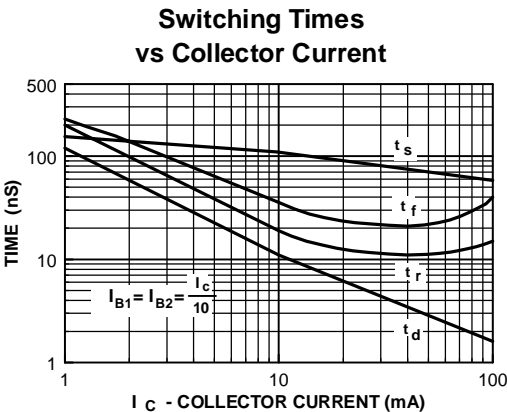
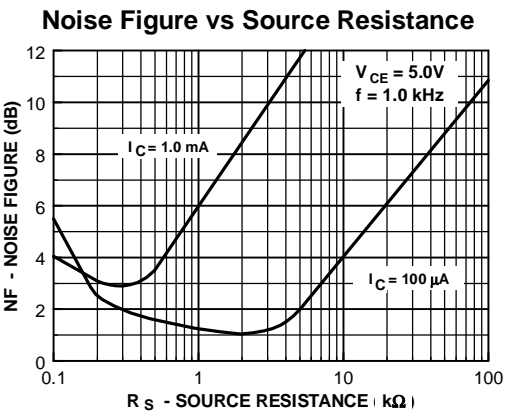
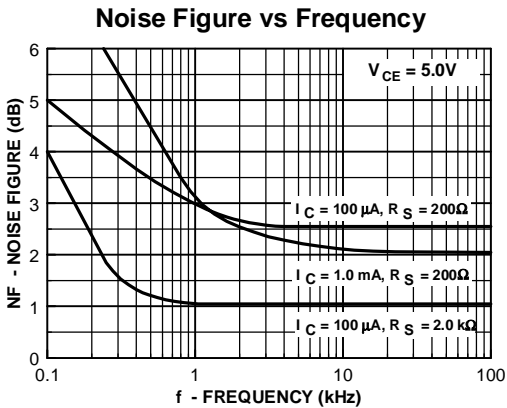
NOTE: All voltages (V) and currents (A) are negative polarity for PNP transistors.

Typical Characteristics

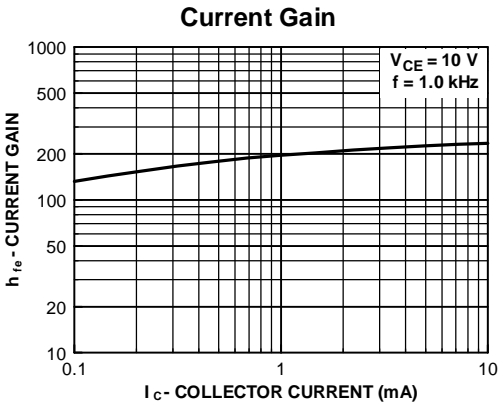
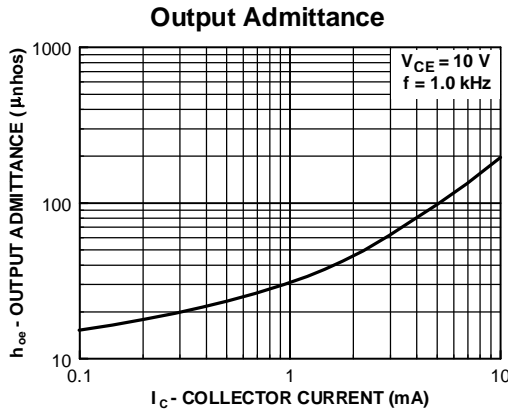
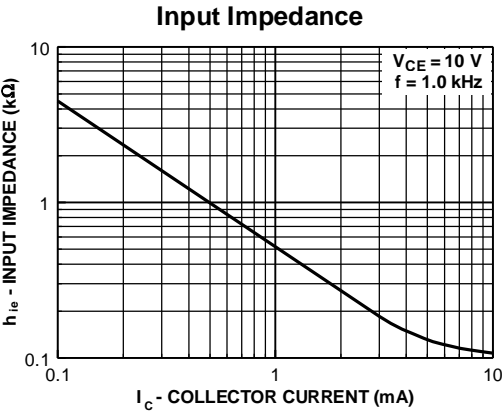
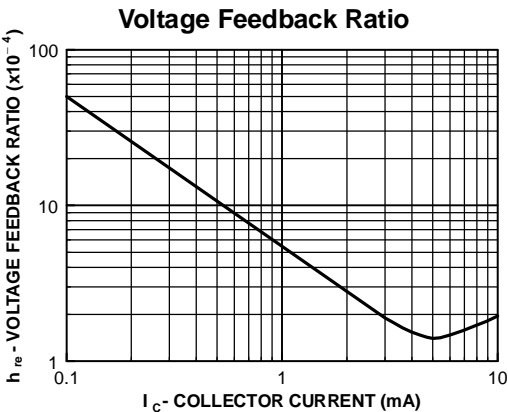


PNP General Purpose Amplifier
(continued)

Typical Characteristics (continued)



Typical Characteristics (continued)



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