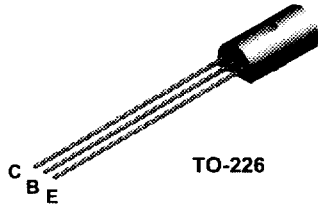
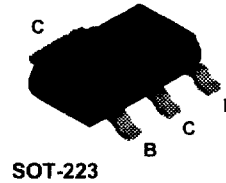


TN6728A



NZT6728



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 78.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

| Symbol | Parameter | Value | Units |
|-----------------------------------|--|-------------|-------|
| V _{CEO} | Collector-Emitter Voltage | 60 | V |
| V _{CBO} | Collector-Base Voltage | 60 | V |
| V _{EB0} | 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 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 |
|------------------|---|---------|----------|-------|
| | | TN6728A | *NZT6728 | |
| P _D | Total Device Dissipation | 1.0 | 1.0 | W |
| | Derate above 25°C | 8.0 | 8.0 | mW/°C |
| 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)

TN6728A / NZT16728

Electrical Characteristics

TA = 25°C unless otherwise noted

| Symbol | Parameter | Test Conditions | Min | Max | Units |
|----------------------------|-------------------------------------|---|-----|-----|---------------|
| OFF CHARACTERISTICS | | | | | |
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | $I_C = 10 \text{ mA}, I_B = 0$ | 60 | | V |
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage | $I_C = 100 \text{ } \mu\text{A}, I_E = 0$ | 60 | | V |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage | $I_E = 1.0 \text{ mA}, I_C = 0$ | 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*

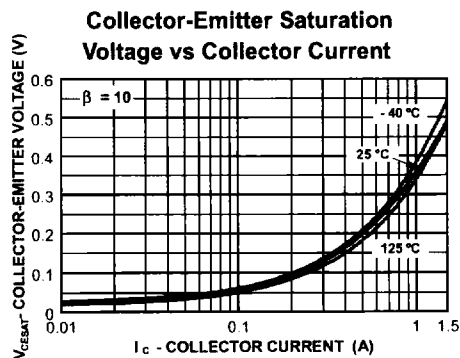
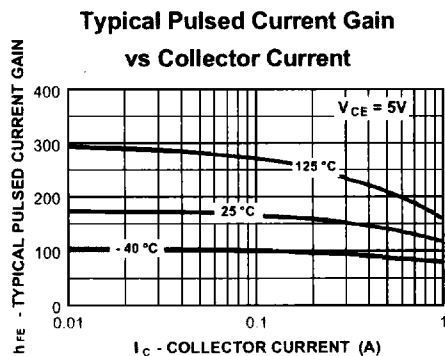
| | | | | | |
|---------------|--------------------------------------|--|----|------|---|
| h_{FE} | DC Current Gain | $I_C = 50 \text{ mA}, V_{CE} = 1.0 \text{ V}$ | 80 | | |
| | | $I_C = 250 \text{ mA}, V_{CE} = 1.0 \text{ V}$ | 50 | 250 | |
| | | $I_C = 500 \text{ mA}, V_{CE} = 1.0 \text{ V}$ | 20 | | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = 250 \text{ mA}, I_B = 10 \text{ mA}$ | | 0.5 | V |
| | | $I_C = 250 \text{ mA}, I_B = 25 \text{ mA}$ | | 0.35 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $I_C = 250 \text{ mA}, V_{CE} = 1.0 \text{ V}$ | | 1.2 | V |

SMALL SIGNAL CHARACTERISTICS

| | | | | | |
|----------|----------------------------|---|-----|----|----|
| h_{fe} | Small-Signal Current Gain | $V_{CE} = 5.0 \text{ V}, I_C = 200 \text{ mA},$ $f = 20 \text{ MHz}$ | 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 < 300 μs , Duty Cycle $\leq 1.0\%$

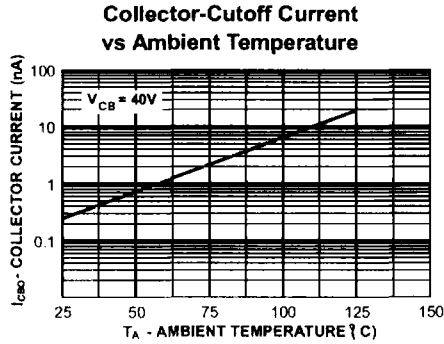
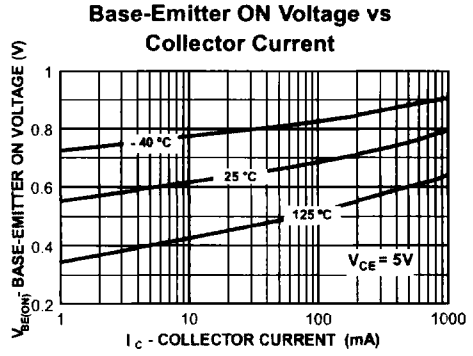
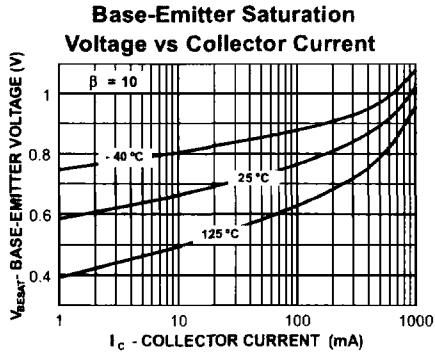
DC Typical Characteristics



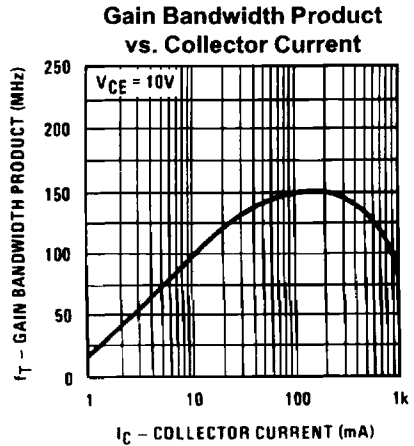
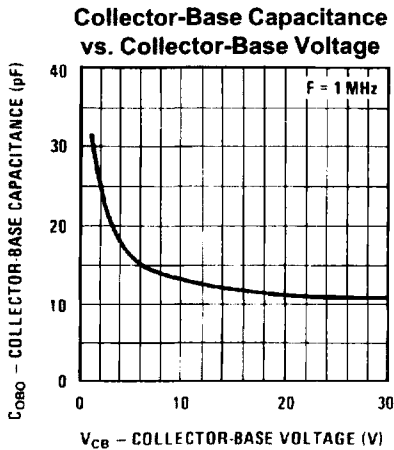
PNP General Purpose Amplifier

(continued)

DC Typical Characteristics (continued)



AC Typical Characteristics



AC Typical Characteristics (continued)

