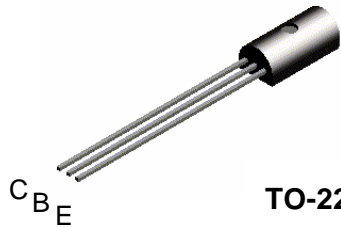


TN6718A



TO-226

NPN General Purpose Amplifier

This device is designed for general purpose medium power amplifiers and switches requiring collector currents to 1.0A. Sourced from Process 39. See TN6717A for characteristics.

Absolute Maximum Ratings* T_A = 25°C unless otherwise noted

| Symbol | Parameter | Value | Units |
|-----------------------------------|--|-------------|-------|
| V _{CEO} | Collector-Emitter Voltage | 100 | V |
| V _{CBO} | Collector-Base Voltage | 100 | V |
| V _{EBO} | Emitter-Base Voltage | 5 | 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°C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics T_A = 25°C unless otherwise noted

| Symbol | Characteristic | Max | Units |
|------------------|---|---------|-------|
| | | TN6718A | |
| P _D | Total Device Dissipation Derate above 25°C | 1 | W |
| | | 8 | |
| R _{θJC} | Thermal Resistance, Junction to Case | 50 | °C/W |
| R _{θJA} | Thermal Resistance, Junction to Ambient | 125 | °C/W |

NPN General Purpose Amplifier

(continued)

Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Test Conditions | Min | Max | Units |
|-------------------------------------|--------------------------------------|---|----------------|-------------|---------------|
| OFF CHARACTERISTICS | | | | | |
| BV_{CEO} | Collector-Emitter Breakdown Voltage | $I_C = 10\text{ mA}$ | 100 | | V |
| BV_{CBO} | Collector-Base Breakdown Voltage | $I_C = 100\text{ }\mu\text{A}$ | 100 | | V |
| BV_{EBO} | Emitter-Base Breakdown Voltage | $I_E = 100\text{ }\mu\text{A}$ | 5 | | V |
| I_{CBO} | Collector Cutoff Current | $V_{CB} = 80\text{ V}$ | | 100 | nA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB} = 5\text{ V}$ | | 10 | μA |
| ON CHARACTERISTICS | | | | | |
| h_{FE} | DC Current Gain | $I_C = 50\text{ mA}, V_{CE} = 1\text{ V}$ $I_C = 250\text{ mA}, V_{CE} = 1\text{ V}$ $I_C = 500\text{ mA}, V_{CE} = 1\text{ V}$ | 80 50 20 | 250 | - |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = 250\text{ mA}, I_B = 10\text{ mA}$ $I_C = 250\text{ mA}, I_B = 25\text{ mA}$ | | 0.5 0.35 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $I_C = 250\text{ mA}, V_{CE} = 1\text{ V}$ | | 1.2 | V |
| SMALL SIGNAL CHARACTERISTICS | | | | | |
| C_{cb} | Output Capacitance | $V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$ | | 30 | pF |
| h_{fe} | Small Signal Current Gain | $I_C = 200\text{ mA}, V_{CE} = 5\text{ V}, f = 20\text{ MHz}$ | 2.5 | 25 | - |

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

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| FACT Quiet Series™ | Quiet Series™ | |
| FAST® | SuperSOT™-3 | |
| FASTr™ | SuperSOT™-6 | |
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