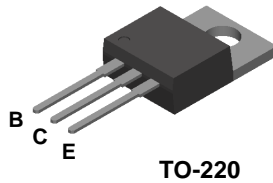
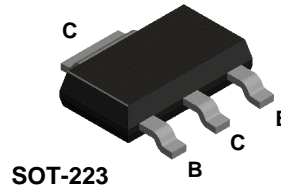


**D45C11**



**NZT45C11**



**PNP Current Driver Transistor**

This device is designed for power amplifier, regulator and switching circuits where speed is important. Sourced from Process 5P. See NZT751 for characteristics.

**Absolute Maximum Ratings\*** TA = 25°C unless otherwise noted

| Symbol                            | Parameter  | Value       | Units |
|-----------------------------------|--|-------------|-------|
| V <sub>CEO</sub>                  | Collector-Emitter Voltage                        | 80          | V     |
| I <sub>c</sub>                    | Collector Current - Continuous                   | 4.0         | A     |
| T <sub>J</sub> , T <sub>stg</sub> | 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 |
|------------------|---|--------|-----------|-------|
|                  |   | D45C11 | *NZT45C11 |       |
| P <sub>D</sub>   | Total Device Dissipation<br>Derate above 25°C | 60     | 1.2       | W     |
|                  |   | 480    | 9.7       | mW/°C |
| R <sub>θJC</sub> | Thermal Resistance, Junction to Case          | 2.1    |           | °C/W  |
| R <sub>θJA</sub> | Thermal Resistance, Junction to Ambient       | 62.5   | 103       | °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 cm<sup>2</sup>.

**PNP Current Driver**  
(continued)

**D45C11 / NZT45C11**

**Electrical Characteristics**

TA = 25°C unless otherwise noted

| Symbol | Parameter | Test Conditions | Min | Max | Units |
|--------|-----------|-----------------|-----|-----|-------|
|--------|-----------|-----------------|-----|-----|-------|

**OFF CHARACTERISTICS**

|               |                                     |                                   |    |     |               |
|---------------|-------------------------------------|-----------------------------------|----|-----|---------------|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | $I_C = 100 \text{ mA}, I_B = 0$   | 60 |     | V             |
| $I_{CES}$     | Collector-Cutoff Current            | $V_{CB} = 90 \text{ V}, I_E = 0$  |    | 10  | $\mu\text{A}$ |
| $I_{EBO}$     | Emitter-Cutoff Current              | $V_{EB} = 5.0 \text{ V}, I_C = 0$ |    | 100 | $\mu\text{A}$ |

**ON CHARACTERISTICS**

|               |                                      |  |          |     |   |
|---------------|--------------------------------------|--|----------|-----|---|
| $h_{FE}$      | DC Current Gain                      | $I_C = 0.2 \text{ A}, V_{CE} = 1.0 \text{ V}$<br>$I_C = 1.0 \text{ A}, V_{CE} = 1.0 \text{ V}$ | 40<br>20 | 120 |   |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = 1.0 \text{ A}, I_B = 50 \text{ mA}$   |          | 0.5 | V |
| $V_{BE(sat)}$ | Base-Emitter On Voltage              | $I_C = 1.0 \text{ A}, I_B = 100 \text{ mA}$  |          | 1.3 | V |

**SMALL SIGNAL CHARACTERISTICS**

|       |                                  |  |    |  |     |
|-------|----------------------------------|--|----|--|-----|
| $f_T$ | Current Gain - Bandwidth Product | $I_C = 20 \text{ mA}, V_{CE} = 4.0 \text{ V},$ | 32 |  | MHz |
|-------|----------------------------------|--|----|--|-----|

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| CROSSVOLT™           | POP™          | UHC™        |
| E <sup>2</sup> CMOS™ | PowerTrench®  | VCX™        |
| FACT™                | QFET™         |             |
| FACT Quiet Series™   | QS™           |             |
| FAST®                | Quiet Series™ |             |
| FASTr™               | SuperSOT™-3   |             |
| GTO™                 | SuperSOT™-6   |             |

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|--------------------------|------------------------|---|
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