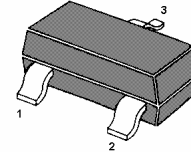


NPN Darlington Transistors

for preamplifier input applications



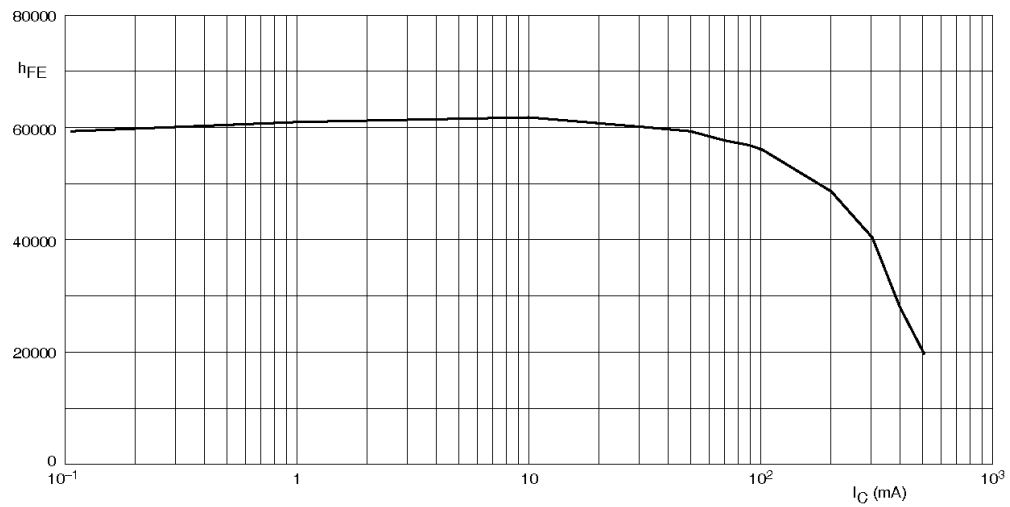
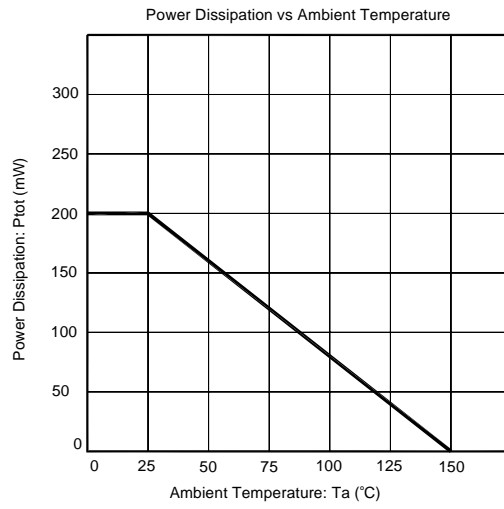
1. Base 2. Emitter 3. Collector
SOT-23 Plastic Package

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

| Parameter | Symbol | Value | Unit |
|---------------------------|----------------|------------------------|------------------|
| Collector Base Voltage | BCV27 BCV47 | V_{CBO} 40 80 | V |
| Collector Emitter Voltage | BCV27 BCV47 | V_{CEO} 30 60 | V |
| Emitter Base Voltage | | V_{EBO} 10 | V |
| Collector Current | | I_C 500 | mA |
| Peak Collector Current | | I_{CM} 800 | mA |
| Base Current | | I_B 100 | mA |
| Total Power Dissipation | | P_{tot} 200 | mW |
| Junction Temperature | | T_j 150 | $^\circ\text{C}$ |
| Storage Temperature Range | | T_s - 65 to + 150 | $^\circ\text{C}$ |

Characteristics at $T_a = 25\text{ }^\circ\text{C}$

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|--|----------------|----------------------------|-------------|-------------|-------------|
| DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 1\text{ mA}$ | BCV27 BCV47 | h_{FE} 4000 2000 | - - - | - - - | - - - |
| at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$ | BCV27 BCV47 | h_{FE} 10000 4000 | - - - | - - - | - - - |
| at $V_{CE} = 5\text{ V}$, $I_C = 100\text{ mA}$ | BCV27 BCV47 | h_{FE} 20000 10000 | - - - | - - - | - - - |
| Collector Cutoff Current at $V_{CB} = 30\text{ V}$ at $V_{CB} = 60\text{ V}$ | BCV27 BCV47 | I_{CBO} - - | - - - | 100 100 | nA |
| Emitter Cutoff Current at $V_{EB} = 10\text{ V}$ | | I_{EBO} - | - - | 100 | nA |
| Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$ | BCV27 BCV47 | $V_{(BR)CBO}$ 40 80 | - - - | - - - | V |
| Collector Emitter Breakdown Voltage at $I_C = 10\text{ mA}$ | BCV27 BCV47 | $V_{(BR)CEO}$ 30 60 | - - - | - - - | V |
| Emitter Base Breakdown Voltage at $I_E = 10\text{ }\mu\text{A}$ | | $V_{(BR)EBO}$ 10 | - - | - - | V |
| Collector Emitter Saturation Voltage at $I_C = 100\text{ mA}$, $I_B = 0.1\text{ mA}$ | | $V_{CE(sat)}$ - | - - | 1 | V |
| Base Emitter Saturation Voltage at $I_C = 100\text{ mA}$, $I_B = 0.1\text{ mA}$ | | $V_{BE(sat)}$ - | - - | 1.5 | V |
| Base Emitter On-state Voltage at $I_C = 10\text{ mA}$, $V_{CE} = 5\text{ V}$ | | $V_{BE(on)}$ - | - - | 1.4 | V |
| Transition Frequency at $V_{CE} = 5\text{ V}$, $I_C = 30\text{ mA}$, $f = 100\text{ MHz}$ | | f_T - | 220 | - | MHz |



$V_{CE} = 2V.$

DC current gain; typical values.

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