

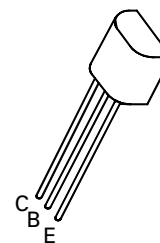
NPN SILICON PLANAR MEDIUM POWER DARLINGTON TRANSISTORS

2N6724
2N6725

ISSUE 1 – MARCH 94

FEATURES

- * 50 Volt V_{CEO}
- * Gain of 15k at $I_C = 0.5$ Amp
- * $P_{tot} = 1$ Watt



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | 2N6724 | 2N6725 | UNIT |
|---|----------------|-------------|--------|------------------|
| Collector-Base Voltage | V_{CBO} | 50 | 60 | V |
| Collector-Emitter Voltage | V_{CEO} | 40 | 50 | V |
| Emitter-Base Voltage | V_{EBO} | 10 | | V |
| Peak Pulse Current | I_{CM} | 2 | | A |
| Continuous Collector Current | I_C | 1 | | A |
| Power Dissipation at $T_{amb} = 25^\circ\text{C}$ | P_{tot} | 1 | | W |
| Operating and Storage Temperature Range | $T_j: T_{stg}$ | -55 to +200 | | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ\text{C}$ unless otherwise stated).

| PARAMETER | SYMBOL | 2N6724 | | 2N6725 | | UNIT | CONDITIONS. |
|---------------------------------------|---------------|------------------|------------|------------------|------------|---------------|--|
| | | MIN. | MAX. | MIN. | MAX. | | |
| Collector-Base Breakdown Voltage | $V_{(BR)CBO}$ | 50 | | 60 | | V | $I_C = 1\mu\text{A}$, $I_E = 0$ |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | 40 | | 50 | | V | $I_C = 1\text{mA}$, $I_B = 0^*$ |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | 10 | | 10 | | V | $I_E = 10\mu\text{A}$, $I_C = 0$ |
| Collector Cut-Off Current | I_{CBO} | | 1.0 | | 1.0 | μA | $V_{CB} = 30\text{V}$, $I_E = 0$ $V_{CB} = 40\text{V}$, $I_E = 0$ |
| Emitter Cut-Off Current | I_{EBO} | | 0.1 | | 0.1 | μA | $V_{EB} = 8\text{V}$, $I_C = 0$ |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | | 1.0 1.5 | | 1.0 1.5 | V | $I_C = 200\text{mA}$, $I_B = 2\text{mA}^*$ $I_C = 1\text{A}$, $I_B = 2\text{mA}^*$ |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | | 2.0 | | 2.0 | V | $I_C = 1\text{A}$, $I_B = 2\text{mA}^*$ |
| Base-Emitter Turn-On Voltage | $V_{BE(on)}$ | | 2.0 | | 2.0 | V | $I_C = 1\text{A}$, $V_{CE} = 5\text{V}^*$ |
| Static Forward Current Transfer Ratio | h_{FE} | 25K 15K 4K | 40K | 25K 15K 4K | 40K | | $I_C = 200\text{mA}$, $V_{CE} = 5\text{V}^*$ $I_C = 500\text{mA}$, $V_{CE} = 5\text{V}^*$ $I_C = 1\text{A}$, $V_{CE} = 5\text{V}^*$ |
| Collector Base Capacitance | C_{CB} | | 10 | | 10 | pF | $V_{CB} = 10\text{V}$, $f = 1\text{MHz}$ |

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$