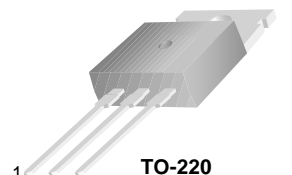


# D45C8

## PNP Power Amplifier

- Sourced from process 5P.



1. Base 2. Collector 3. Emitter

### Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol         | Parameter  | Value       | Units            |
|----------------|--|-------------|------------------|
| $V_{CEO}$      | Collector-Emitter Voltage                        | -60         | V                |
| $I_C$          | Collector Current - Continuous                   | -4.0        | A                |
| $T_J, T_{STG}$ | Operating and Storage Junction Temperature Range | -55 to +150 | $^\circ\text{C}$ |

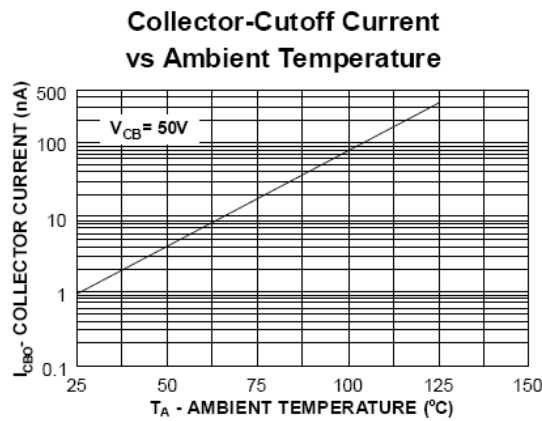
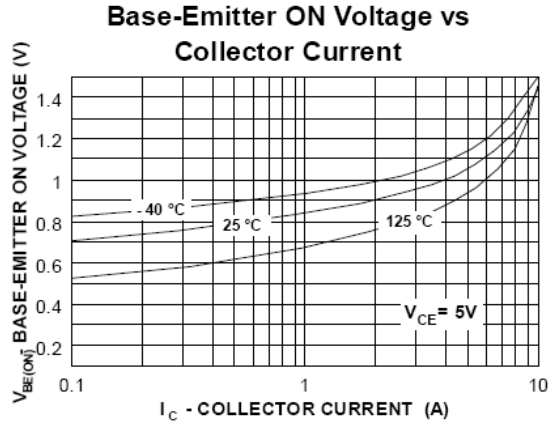
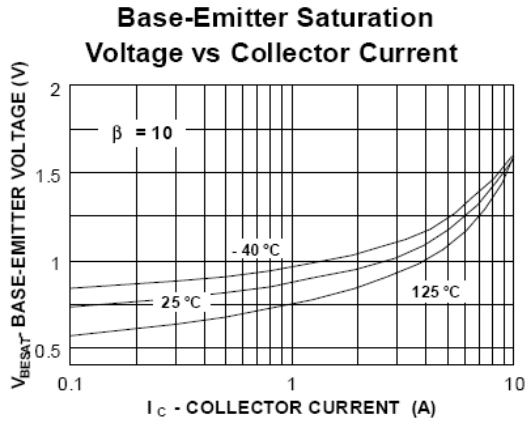
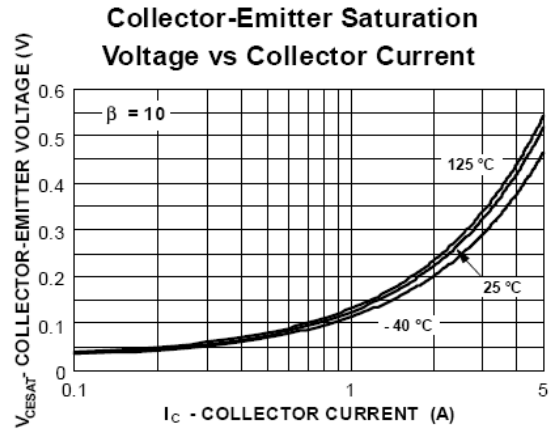
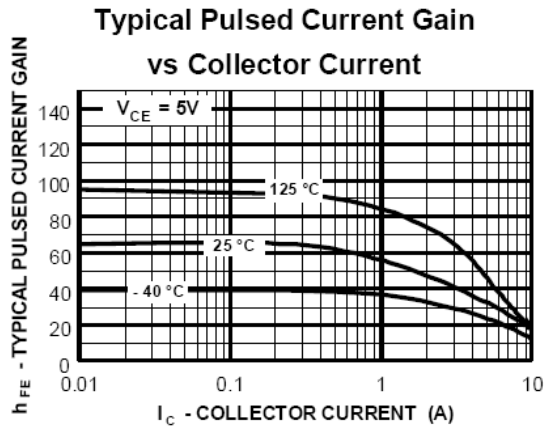
### Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol                              | Parameter                            | Test Condition   | Min.     | Typ. | Max. | Units         |
|-------------------------------------|--------------------------------------|--|----------|------|------|---------------|
| <b>Off Characteristics</b>          |                                      |  |          |      |      |               |
| $V_{(BR)CEO}$                       | Collector-Emitter Breakdown Voltage  | $I_C = -100\text{mA}, I_B = 0$   | -60      |      |      | V             |
| $I_{CES}$                           | Collector-Emitter-(Base)Short        | $V_{CE} = -70\text{V}, I_E = 0$  |          |      | -10  | $\mu\text{A}$ |
| $I_{CEO}$                           | Collector-Emitter-(Base)Open         | $V_{CE} = -55\text{V}, I_E = 0$  |          |      | -100 | $\mu\text{A}$ |
| $I_{EBO}$                           | Emitter-Base Current                 | $V_{EB} = -5.0\text{V}, I_B = 0$   |          |      | -100 | $\mu\text{A}$ |
| <b>On Characteristics</b>           |                                      |  |          |      |      |               |
| $h_{FE}$                            | DC Current Gain                      | $V_{CE} = -1.0\text{V}, I_C = -0.2\text{A}$<br>$V_{CE} = -1.0\text{V}, I_C = -2.0\text{A}$ | 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 Saturation Voltage      | $I_C = -1.0\text{A}, I_B = -100\text{mA}$  |          |      | -1.3 | V             |
| <b>Small Signal Characteristics</b> |                                      |  |          |      |      |               |
| $C_{ob}$                            | Output Capacitance                   | $V_{CB} = -10\text{V}, f = 1.0\text{MHz}$  |          |      | 125  | pF            |
| $f_T$                               | Current Gain Bandwidth Product       | $I_C = -20\text{mA}, V_{CE} = -4.0\text{V}$  | 32       |      |      | MHz           |
| $t_{ON}$                            | $t_d$ , Delay Time                   | $I_C = -1.0\text{A},$<br>$I_{B1} = I_{B2} = -0.1\text{A}$                                  |          | 59   |      | ns            |
|                                     | $t_r$ , Rise Time                    |  |          | 502  |      |               |
| $t_{OFF}$                           | $t_s$ , Storage Time                 | $V_{CC} = -30\text{V}, t_p = 25\mu\text{s}$  |          | 474  |      | ns            |
|                                     | $t_f$ , Fall Time                    |  |          | 59   |      |               |

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

| Symbol          | Parameter   | Max.      | Units                           |
|-----------------|---|-----------|---------------------------------|
| $P_D$           | Total Device Dissipation<br>Derate above $25^\circ\text{C}$ | 60<br>480 | W<br>$\text{mW}/^\circ\text{C}$ |
| $R_{\theta JC}$ | Thermal Resistance, Junction to Case                        | 2.1       | $^\circ\text{C}/\text{W}$       |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient                     | 62.5      | $^\circ\text{C}/\text{W}$       |







Typical Performance Characteristics





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