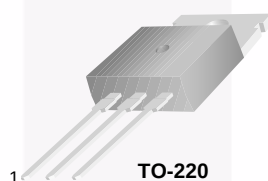


# D45H11

## PNP Power Amplifier

- This device is designed for power amplifier, regulator and switching circuits where speed is important.
- Sourced from process 5Q.



TO-220 Mark: D45H11  
 1. Base 2. Collector 3. Emitter

### Absolute Maximum Ratings

| Symbol         | Parameter                                        | Value       | Units |
|----------------|--------------------------------------------------|-------------|-------|
| $V_{CEO}$      | Collector-Emitter Voltage                        | -80         | V     |
| $I_C$          | Collector Current - Continuous                   | -10         | A     |
| $T_J, T_{STG}$ | Operating and Storage Junction Temperature Range | -55 to +150 | °C    |

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

| Symbol                              | Parameter                            | Test Condition                                                                     | Min.     | Max.  | Units         |
|-------------------------------------|--------------------------------------|------------------------------------------------------------------------------------|----------|-------|---------------|
| <b>Off Characteristics</b>          |                                      |                                                                                    |          |       |               |
| $V_{(BR)CEO}$                       | Collector-Emitter Breakdown Voltage  | $I_C = -100\text{mA}, I_B = 0$                                                     | -80      |       | V             |
| $I_{CBO}$                           | Collector-Cutoff Current             | $V_{CB} = -80\text{V}, I_E = 0$                                                    |          | -10   | $\mu\text{A}$ |
| $I_{EBO}$                           | Emitter-Cutoff Current               | $V_{EB} = -5\text{V}, I_C = 0$                                                     |          | -100  | $\mu\text{A}$ |
| <b>On Characteristics *</b>         |                                      |                                                                                    |          |       |               |
| $h_{FE}$                            | DC Current Gain                      | $V_{CE} = -1\text{V}, I_C = -2\text{A}$<br>$V_{CE} = -1\text{V}, I_C = -4\text{A}$ | 60<br>40 |       |               |
| $V_{CE(sat)}$                       | Collector-Emitter Saturation Voltage | $I_C = -8\text{A}, I_B = -0.4\text{A}$                                             |          | -1.0  | V             |
| $V_{BE(sat)}$                       | Base-Emitter Saturation Voltage      | $I_C = -8\text{A}, I_B = -0.8\text{A}$                                             |          | -1.5  | V             |
| $V_{BE(on)}$                        | Base-Emitter On Voltage              | $V_{CE} = -2\text{V}, I_C = -10\text{mA}$                                          | -0.54    | -0.65 | V             |
| <b>Small Signal Characteristics</b> |                                      |                                                                                    |          |       |               |
| $f_T$                               | Current Gain Bandwidth Product       | $I_C = -500\text{mA}, V_{CE} = -10\text{V}$                                        | 40       |       | MHZ           |

### 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>mW/°C |
| $R_{\theta JC}$ | Thermal Resistance, Junction to Case                        | 2.1       | °C/W       |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient                     | 62.5      | °C/W       |

\* Note) Device mounted on FR-4 PCB 36mm\*18mm\*1.5mm: Mounting pad for the collector lead min. 6cm2.



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