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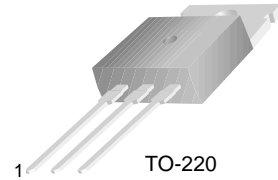
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# D45H2A

## PNP Power Amplifier

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



TO-220  
1. Base 2. Collector 3. Emitter

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

| Symbol         | Parameter  | Value      | Units            |
|----------------|--|------------|------------------|
| $V_{CEO}$      | Collector-Emitter Voltage                        | 30         | V                |
| $I_C$          | Collector Current - Continuous                   | 8.0        | A                |
| $T_J, T_{STG}$ | Operating and Storage Junction Temperature Range | - 55 ~ 150 | $^\circ\text{C}$ |

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

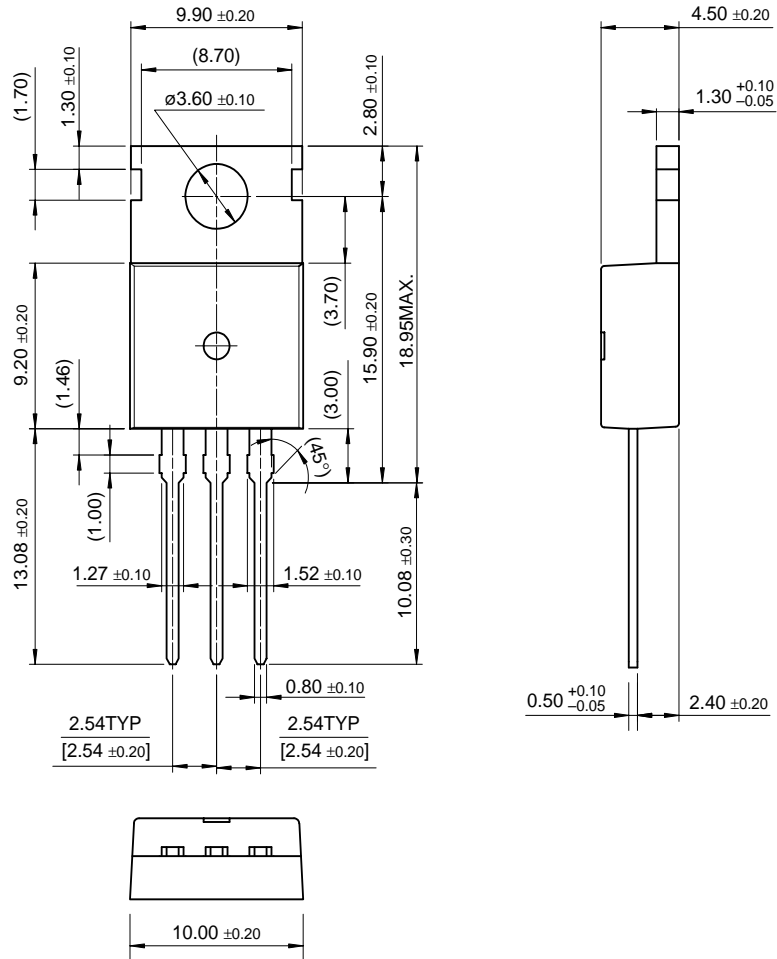
| Symbol                              | Parameter                            | Test Condition  | Min.            | Typ. | Max. | Units         |
|-------------------------------------|--------------------------------------|---|-----------------|------|------|---------------|
| <b>Off Characteristics</b>          |                                      |   |                 |      |      |               |
| $V_{(BR)CEO}$                       | Collector-Emitter Breakdown Voltage  | $I_C = 100\text{mA}, I_B = 0$   | 30              |      |      | V             |
| $I_{CBO}$                           | Collector Cut-off Current            | $V_{CB} = 60\text{V}, I_E = 0$  |                 |      | 10   | $\mu\text{A}$ |
| $I_{EBO}$                           | Emitter Cut-off Current              | $V_{EB} = 5\text{V}, I_C = 0$   |                 |      | 100  | $\mu\text{A}$ |
| <b>On Characteristics</b>           |                                      |   |                 |      |      |               |
| $h_{FE}$                            | DC Current Gain                      | $V_{CE} = 5\text{V}, I_C = 8\text{A}$<br>$V_{CE} = 5\text{V}, I_C = 10\text{A}$<br>$V_{CE} = 5\text{V}, I_C = 12\text{A}$ | 100<br>80<br>65 |      |      |               |
| $V_{CE(sat)}$                       | Collector-Emitter Saturation Voltage | $I_C = 8\text{A}, I_B = 0.4\text{A}$  |                 |      | 1    | V             |
| $V_{BE(sat)}$                       | Base-Emitter Saturation Voltage      | $I_C = 8\text{A}, I_B = 0.8\text{A}$  |                 |      | 1.5  | V             |
| <b>Small Signal Characteristics</b> |                                      |   |                 |      |      |               |
| $f_T$                               | Current Gain Bandwidth Product       | $V_{CE} = 10\text{V}, I_C = 500\text{mA}$   | 25              |      |      | 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>$\text{mW}/^\circ\text{C}$ |
| $R_{\theta JC}$ | Thermal Resistance, Junction to Case                        | 2.1       | $^\circ\text{C}/\text{W}$       |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient                     | 62.5      | $^\circ\text{C}/\text{W}$       |

# Package Dimensions

## TO-220



Dimensions in Millimeters

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