



D45H5 D45H8 \ D45H11

PNP SILICON POWER TRANSISTORS

- STMicroelectronics PREFERRED SALESTYPES
- LOW COLLECTOR-EMITTER SATURATION VOLTAGE
- FAST SWITCHING SPEED

APPLICATIONS

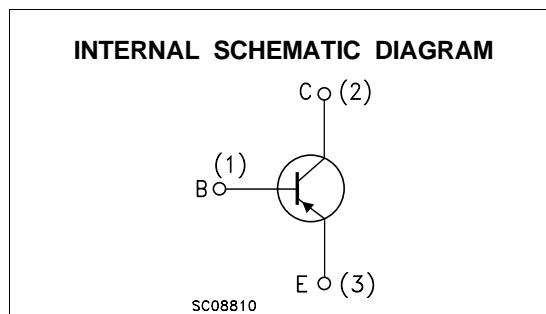
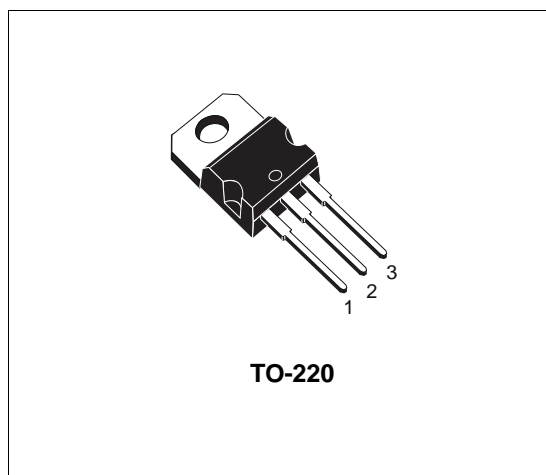
- GENERAL PURPOSE SWITCHING AND AMPLIFIER

DESCRIPTION

The D45H5, D45H8 and D45H11 are silicon Multi-Epitaxial Planar PNP transistors mounted in Jedec TO-220 plastic package.

They are intended for various switching and general purpose applications.

D45H8, D45H11 are complementary with D44H8, D44H11.



ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | | | Unit |
|-----------|--|------------|-------|--------|------------------|
| | | D45H5 | D45H8 | D45H11 | |
| V_{CEO} | Collector-Emitter Voltage ($I_B = 0$) | -45 | -60 | -80 | V |
| V_{EBO} | Emitter-Base Voltage ($I_C = 0$) | -5 | | | V |
| I_C | Collector Current | -10 | | | A |
| I_{CM} | Collector Peak Current | -20 | | | A |
| I_B | Base Current | -5 | | | A |
| P_{tot} | Total Dissipation at $T_c \leq 25^\circ\text{C}$ | 50 | | | W |
| T_{stg} | Storage Temperature | -65 to 150 | | | $^\circ\text{C}$ |
| T_j | Max. Operating Junction Temperature | 150 | | | $^\circ\text{C}$ |

D45H5/D45H8/D45H11

THERMAL DATA

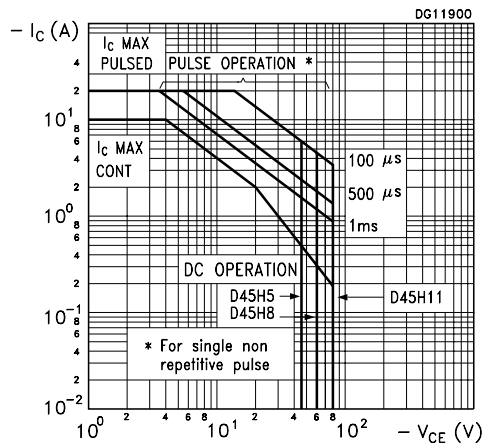
| | | | | |
|----------------|----------------------------------|-----|-----|---------------|
| $R_{thj-case}$ | Thermal Resistance Junction-case | Max | 2.5 | $^{\circ}C/W$ |
|----------------|----------------------------------|-----|-----|---------------|

ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

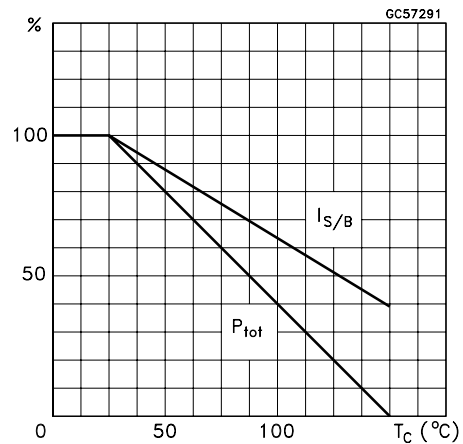
| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|-----------------|--|--|-------------------|-----------|----------|---------|
| I_{CBO} | Collector Cut-off Current ($I_E = 0$) | $V_{CB} = \text{rated } V_{CEO}$ | | | -10 | μA |
| I_{EBO} | Emitter Cut-off Current ($I_C = 0$) | $V_{EB} = -5V$ | | | -100 | μA |
| $V_{CEO(sus)*}$ | Collector-Emitter Sustaining Voltage ($I_B = 0$) | $I_C = -100 \text{ mA}$ for D45H5 for D45H8 for D45H11 | -45 -60 -80 | | | V V |
| $V_{CE(sat)*}$ | Collector-Emitter Saturation Voltage | $I_C = -8 \text{ A}$ $I_B = -0.4 \text{ A}$ $I_C = -8 \text{ A}$ $I_B = -0.8 \text{ A}$ | | | -1 -1 | V V |
| $V_{BE(sat)*}$ | Base-Emitter Saturation Voltage | $I_C = -8 \text{ A}$ $I_B = -0.8 \text{ A}$ | | | -1.5 | V |
| h_{FE*} | DC Current Gain | $I_C = -2 \text{ A}$ $V_{CE} = -1 \text{ V}$ $I_C = -4 \text{ A}$ $V_{CE} = -1 \text{ V}$ | 60 40 | 120 70 | | |

* Pulsed: Pulse duration = 300 μs , duty cycle $\leq 2\%$

Safe Operating Area

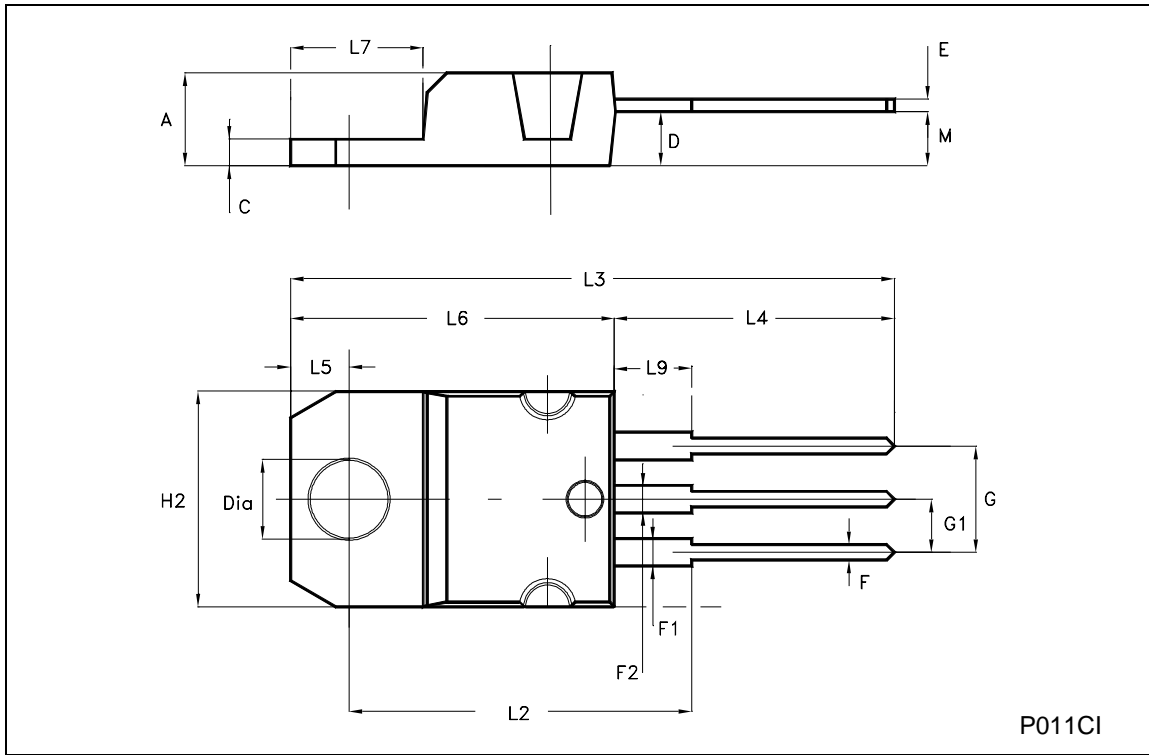


Derating Curves



TO-220 MECHANICAL DATA

| DIM. | mm | | | inch | | |
|------|-------|-------|-------|-------|-------|-------|
| | MIN. | TYP. | MAX. | MIN. | TYP. | MAX. |
| A | 4.40 | | 4.60 | 0.173 | | 0.181 |
| C | 1.23 | | 1.32 | 0.048 | | 0.052 |
| D | 2.40 | | 2.72 | 0.094 | | 0.107 |
| E | 0.49 | | 0.70 | 0.019 | | 0.027 |
| F | 0.61 | | 0.88 | 0.024 | | 0.034 |
| F1 | 1.14 | | 1.70 | 0.044 | | 0.067 |
| F2 | 1.14 | | 1.70 | 0.044 | | 0.067 |
| G | 4.95 | | 5.15 | 0.194 | | 0.202 |
| G1 | 2.40 | | 2.70 | 0.094 | | 0.106 |
| H2 | 10.00 | | 10.40 | 0.394 | | 0.409 |
| L2 | | 16.40 | | | 0.645 | |
| L4 | 13.00 | | 14.00 | 0.511 | | 0.551 |
| L5 | 2.65 | | 2.95 | 0.104 | | 0.116 |
| L6 | 15.25 | | 15.75 | 0.600 | | 0.620 |
| L7 | 6.20 | | 6.60 | 0.244 | | 0.260 |
| L9 | 3.50 | | 3.93 | 0.137 | | 0.154 |
| M | | 2.60 | | | 0.102 | |
| DIA. | 3.75 | | 3.85 | 0.147 | | 0.151 |



P011CI