

### Product Summary

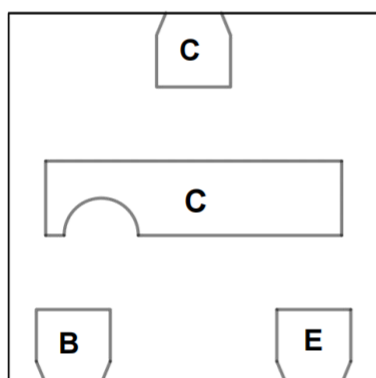
- $BVCBO \geq -80V(I_C = -100\mu A)$
- $BVCEO \geq -65V(I_C = -2mA)$
- $I_C = -100mA$

### Features

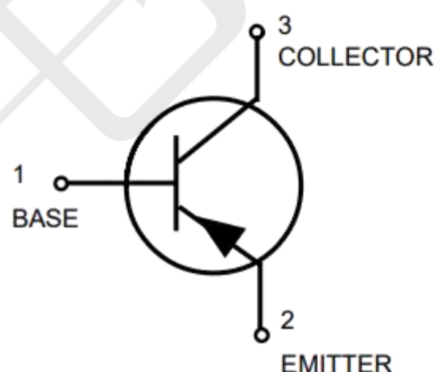
- Consumer electronics
- Voltage switching
- High DC Current Gain
- Space restricted applications

### Circuit diagram and pin information

Transparent top view



DFN1X1-3



### Absolute Maximum Ratings

( $T_a = 25^\circ C$  unless otherwise specified)

| PARAMETER                                                                             | SYMBOL    | LIMIT       | UNIT       |
|---------------------------------------------------------------------------------------|-----------|-------------|------------|
| Collector-Base Voltage                                                                | $V_{CBO}$ | -80         | V          |
| Collector-Emitter Voltage                                                             | $V_{CEO}$ | -65         | V          |
| Emitter-Base Voltage                                                                  | $V_{EBO}$ | -6          | V          |
| Collector Current (DC)                                                                | $I_C$     | -100        | mA         |
| Collector Peak Current (Pulse)<br>Single pulse, $P_w \leq 380\mu s$ , Duty $\leq 2\%$ | $I_{CM}$  | -200        | mA         |
| Power Total Dissipation @ $T_A = 25^\circ C$                                          | $P_D$     | 340         | mW         |
| Maximum Operating Junction Temperature                                                | $T_J$     | +150        | $^\circ C$ |
| Storage Temperature Range                                                             | $T_{STG}$ | -55 to +150 | $^\circ C$ |

### Electrical Characteristics

(TA=25°C unless otherwise specified)

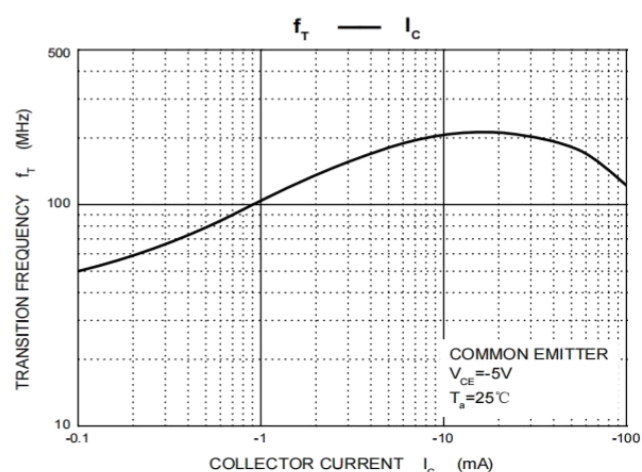
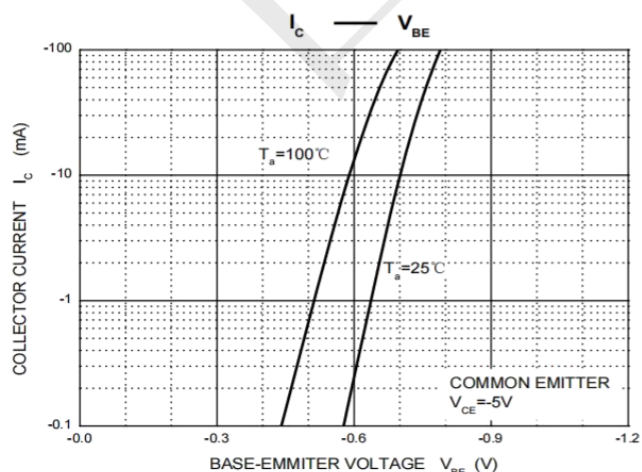
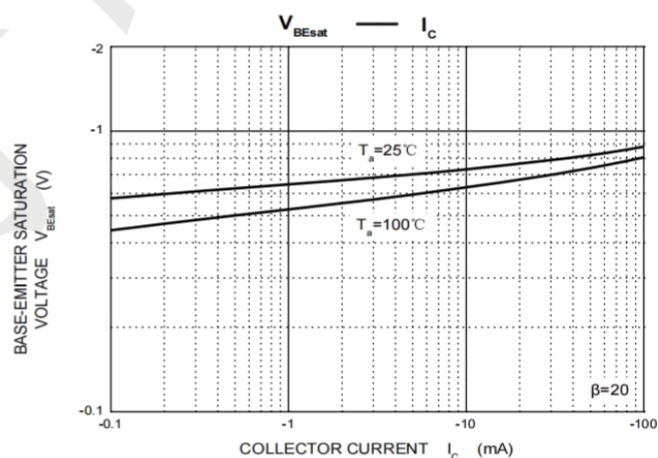
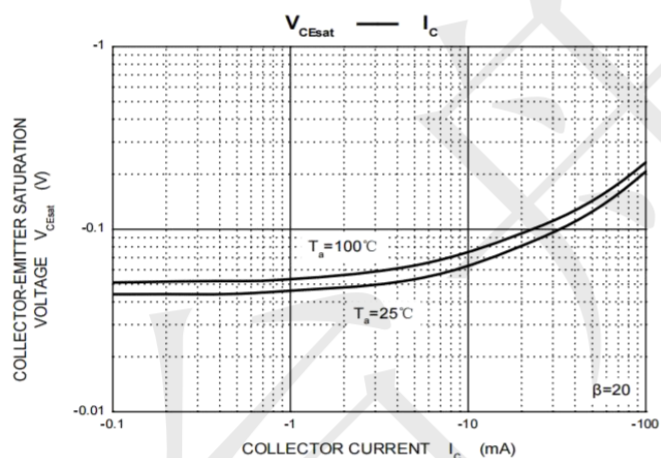
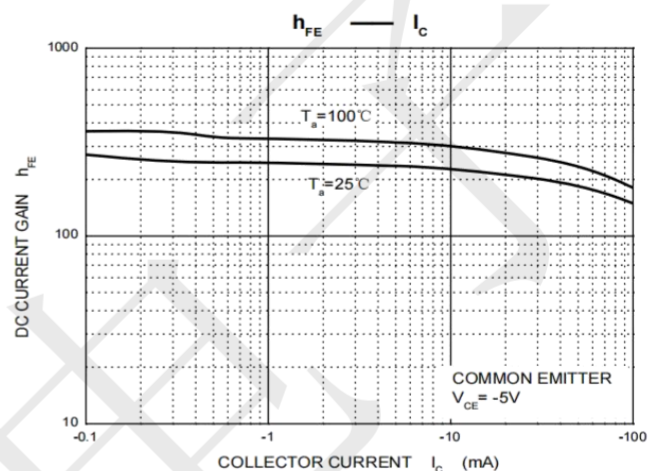
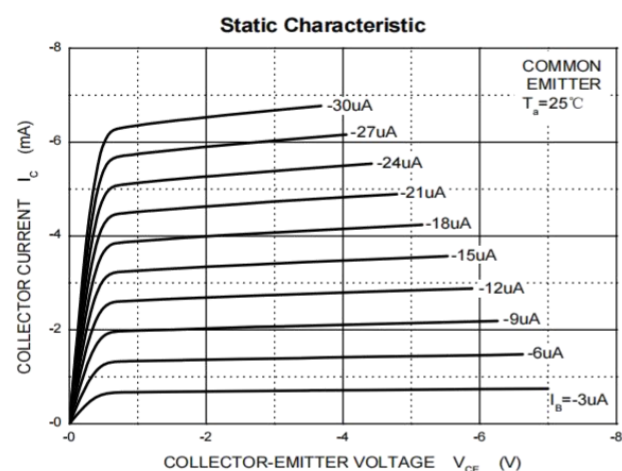
| PARAMETER                            | CONDITIONS                                   | SYMBOL        | MIN | TYP  | MAX   | UNIT |
|--------------------------------------|----------------------------------------------|---------------|-----|------|-------|------|
| <b>Static (Note 1)</b>               |                                              |               |     |      |       |      |
| Collector-Base Breakdown Voltage     | $I_C = -100\mu A, I_E = 0$                   | $BV_{CBO}$    | -80 | --   | --    | V    |
| Collector-Emitter Breakdown Voltage  | $I_C = -2mA, I_B = 0$                        | $BV_{CEO}$    | -65 | --   | --    | V    |
| Emitter-Base Breakdown Voltage       | $I_E = -100\mu A, I_C = 0$                   | $BV_{EBO}$    | -6  | --   | --    | V    |
| Collector Cutoff Current             | $V_{CB} = -50V, I_E = 0$                     | $I_{CBO}$     | --  | --   | -100  | nA   |
| Emitter Cutoff Current               | $V_{EB} = -5V, I_C = 0$                      | $I_{EBO}$     | --  | --   | -100  | nA   |
| Collector-Emitter Saturation Voltage | $I_C = -100mA, I_B = -5mA$                   | $V_{CE(SAT)}$ | --  | --   | -0.65 | V    |
| Base-Emitter Saturation Voltage      | $I_C = -100mA, I_B = -5mA$                   | $V_{BE(SAT)}$ | --  | 0.85 | --    | V    |
| DC Current Transfer Ratio            | $V_{CE} = -5V, I_C = -1mA$                   | $h_{FE}$      | 220 | --   | 475   |      |
| <b>Dynamic (Note 2)</b>              |                                              |               |     |      |       |      |
| Transition Frequency                 | $V_{CE} = -5V, I_C = -10mA,$<br>$f = 100MHz$ | $f_T$         | 100 | --   | --    | MHz  |
| Collector Output Capacitance         | $V_{CB} = -10V, I_E = 0A,$<br>$f = 1MHz$     | $C_{ob}$      | --  | 2    | --    | pF   |

Note:

1. Pulse test:  $\leq 380\mu s$ , duty cycle  $\leq 2\%$

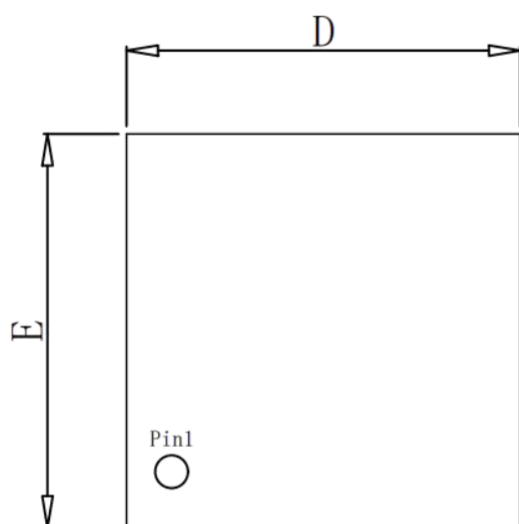
2. For DESIGN AID ONLY, not subject to production testing

**Typical Performance Characteristics(TA=25°C)**

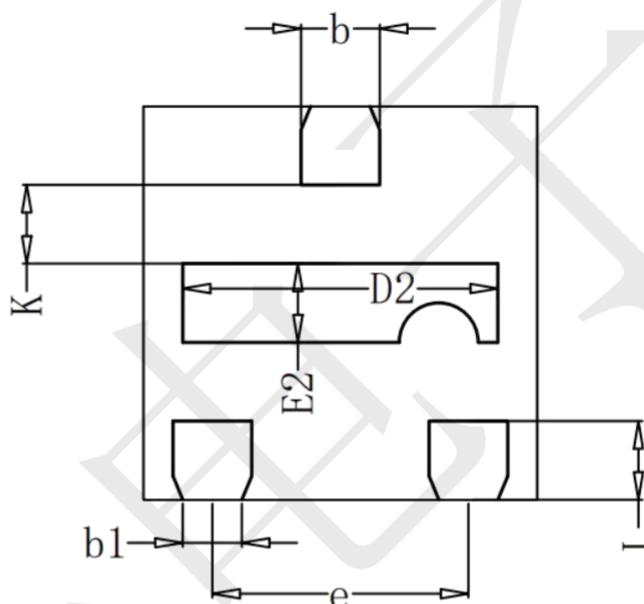


**Package Outline Dimensions**

DFN1111-3



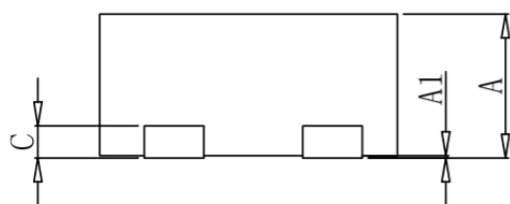
Top View



Bottom View



Side View



Side View

| SYMBOL | MILLIMETER |      |      |
|--------|------------|------|------|
|        | MIN        | NOM  | MAX  |
| A      | 0.45       | 0.50 | 0.55 |
| A1     | --         | 0.02 | 0.05 |
| b      | 0.15       | 0.20 | 0.25 |
| b1     | 0.150 REF. |      |      |
| c      | 0.100 REF. |      |      |
| D      | 0.95       | 1.00 | 1.05 |
| D2     | 0.75       | 0.80 | 0.85 |
| e      | 0.65 BSC   |      |      |
| E      | 0.95       | 1.00 | 1.05 |
| E2     | 0.15       | 0.20 | 0.25 |
| L      | 0.15       | 0.20 | 0.25 |
| K      | 0.20 TYP   |      |      |