

## NPN General Purpose Amplifier



### Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisture Sensitivity Level 1
- Low collector-emitter saturation voltage

### Mechanical Data

- **Package:** SOT-89
- Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** D882

### ■ Maximum Ratings (Ta=25°C unless otherwise noted)

| Item  | Symbol          | Unit | Conditions            | Value       |
|---|-----------------|------|-----------------------|-------------|
| Minimum Collector-Emitter Voltage           | $V_{CE0}$       | V    | $I_C=10mA, I_B=0$     | 30          |
| Minimum Collector-Base Voltage              | $V_{CBO}$       | V    | $I_C=100\mu A, I_E=0$ | 40          |
| Minimum Emitter-Base Voltage                | $V_{EBO}$       | V    | $I_E=100\mu A, I_C=0$ | 6           |
| Collector Current                           | $I_C$           | A    |                       | 3           |
| Collector Power Dissipation                 | $P_C$           | mW   |                       | 500         |
| Thermal Resistance From Junction To Ambient | $R_{\theta JA}$ | °C/W |                       | 250         |
| Operation Junction Temperature              | $T_j$           | °C   |                       | -55 to +150 |
| Storage Temperature                         | $T_{stg}$       | °C   |                       | -55 to +150 |



# BD882

## ■ Electrical Characteristics (Ta=25°C unless otherwise noted)

| Item                                 | Symbol        | Unit    | Conditions                      | Min | TYP | Max |
|--------------------------------------|---------------|---------|---------------------------------|-----|-----|-----|
| Collector-Emitter Voltage            | $V_{CE0}$     | V       | $I_C=10mA, I_B=0$               | 30  |     |     |
| Collector-Base Voltage               | $V_{CBO}$     | V       | $I_C=100\mu A, I_E=0$           | 40  |     |     |
| Emitter-Base Voltage                 | $V_{EBO}$     | V       | $I_E=100\mu A, I_C=0$           | 6   |     |     |
| Collector-Base cut-off current       | $I_{CBO}$     | $\mu A$ | $V_{CB}=40V$                    |     |     | 1   |
| Collector-Emitter cut-off current    | $I_{CEO}$     | $\mu A$ | $V_{CE}=30V$                    |     |     | 10  |
| Emitter-Base cut-off current         | $I_{EBO}$     | $\mu A$ | $V_{EB}=6V$                     |     |     | 1   |
| DC Current Gain                      | $h_{FE}$      |         | $V_{CE}=2V, I_C=1A$             | 160 |     | 400 |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | V       | $I_C=2A, I_B=200mA$             |     |     | 0.5 |
| Base-Emitter Saturation Voltage      | $V_{BE(sat)}$ | V       | $I_C=2A, I_B=200mA$             |     |     | 1.5 |
| Transition Frequency                 | $f_T$         | MHz     | $I_C=100mA, V_{CE}=5V, f=10MHz$ | 50  |     |     |

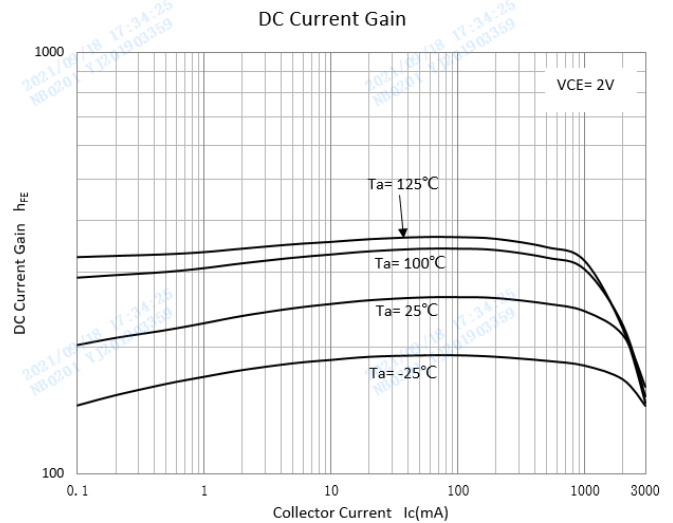
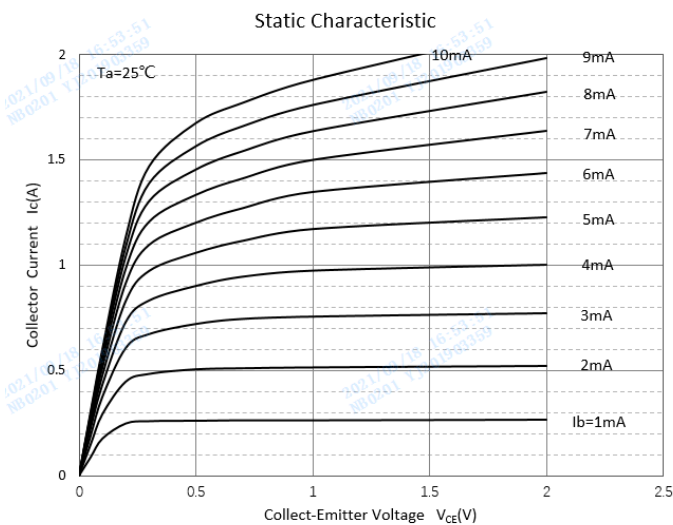
## ■ Classification of $h_{FE}$

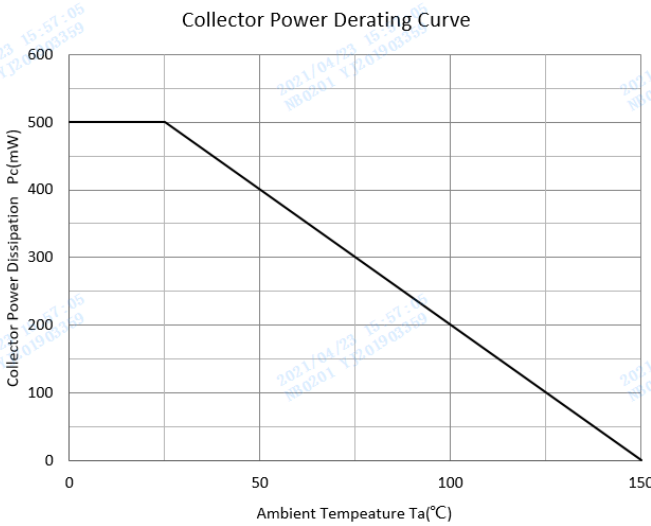
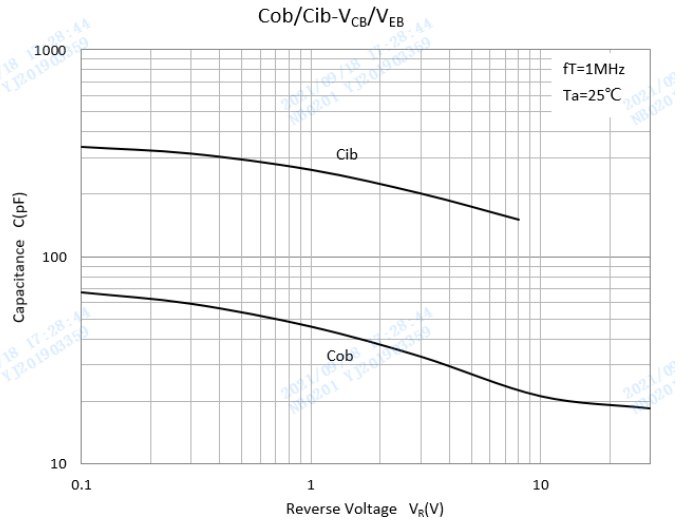
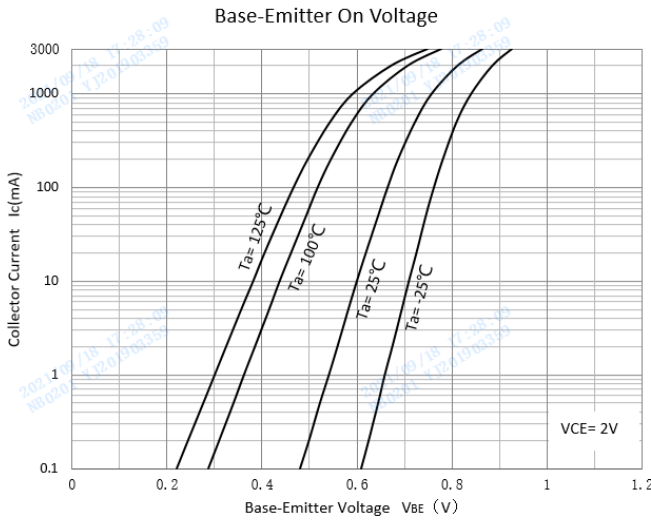
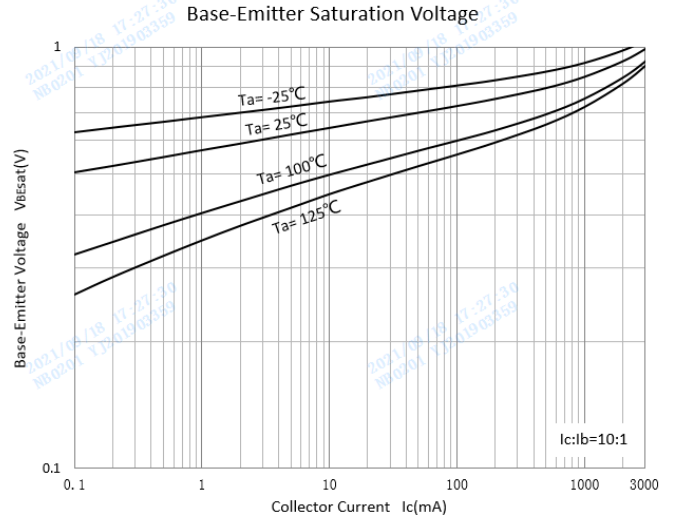
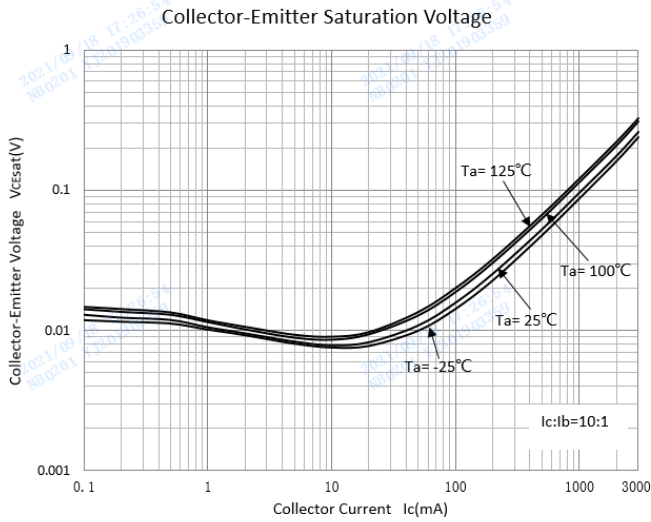
| Rank  | BD882-Y | BD882-GR |
|-------|---------|----------|
| Range | 160-320 | 200-400  |

## ■ Ordering Information (Example)

| PREFERED P/N | PACKING CODE | UNIT WEIGHT(g)    | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|--------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| BD882        | F2           | Approximate 0.055 | 1000                 | 8000                    | 32000                      | 7" reel       |

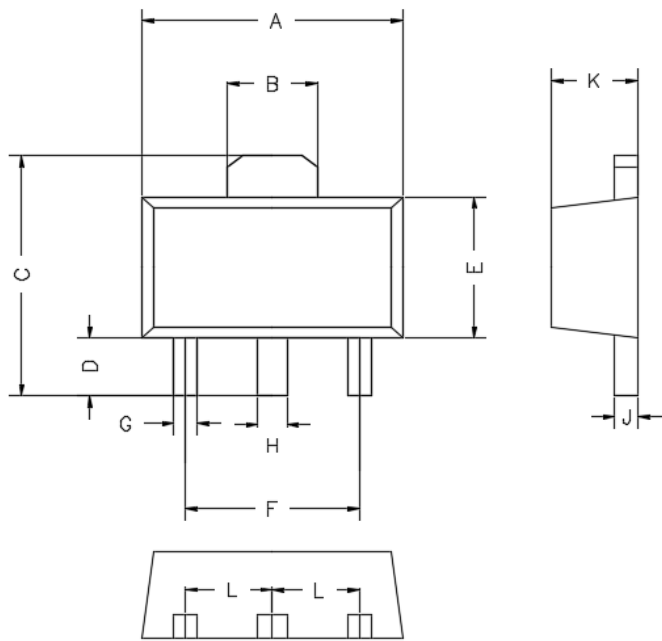
## ■ Characteristics (Typical)





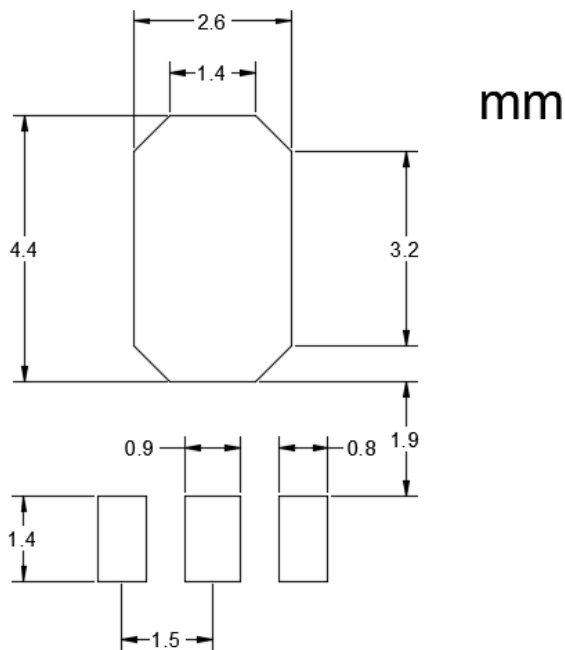


■SOT-89 Package Outline Dimensions



| DIMENSIONS |        |       |      |      |      |
|------------|--------|-------|------|------|------|
| DIM        | INCHES |       | MM   |      | NOTE |
|            | MIN    | MAX   | MIN  | MAX  |      |
| A          | 0.169  | 0.185 | 4.30 | 4.70 |      |
| B          | 0.061  |       | 1.55 |      | TYP  |
| C          | 0.154  | 0.171 | 3.91 | 4.35 |      |
| D          | 0.031  | 0.047 | 0.80 | 1.20 |      |
| E          | 0.089  | 0.104 | 2.25 | 2.65 |      |
| F          | 0.118  |       | 3.00 |      | TYP  |
| G          | 0.013  | 0.020 | 0.33 | 0.52 |      |
| H          | 0.016  | 0.023 | 0.40 | 0.58 |      |
| J          | 0.014  | 0.017 | 0.35 | 0.44 |      |
| K          | 0.055  | 0.063 | 1.40 | 1.60 |      |
| L          | 0.059  |       | 1.50 |      | TYP  |

■SOT-89 Suggested Pad Layout





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