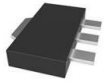


# BD882HY-TP Datasheet

[www.digi-electronics.com](http://www.digi-electronics.com)



|                              |  |
|------------------------------|--|
| DiGi Electronics Part Number | BD882HY-TP-DG  |
| Manufacturer                 | <a href="#">Micro Commercial Co</a>  |
| Manufacturer Product Number  | BD882HY-TP   |
| Description                  | Interface  |
| Detailed Description         | Bipolar (BJT) Transistor NPN 70 V 3 A 50MHz 500 mW<br>Surface Mount SOT-89 |

<https://www.DiGi-Electronics.com>



Tel: +00 852-30501935

RFQ Email: [Info@DiGi-Electronics.com](mailto:Info@DiGi-Electronics.com)

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## Purchase and inquiry

Manufacturer Product Number:

BD882HY-TP

Series:

-

Transistor Type:

NPN

Voltage - Collector Emitter Breakdown (Max):

70 V

Current - Collector Cutoff (Max):

1 $\mu$ A (ICBO)

Power - Max:

500 mW

Operating Temperature:

150°C (TJ)

Package / Case:

TO-243AA

Base Product Number:

BD882

Manufacturer:

Micro Commercial Co

Product Status:

Active

Current - Collector (Ic) (Max):

3 A

Vce Saturation (Max) @ Ib, Ic:

500mV @ 200mA, 2A

DC Current Gain (hFE) (Min) @ Ic, Vce:

160 @ 1A, 2V

Frequency - Transition:

50MHz

Mounting Type:

Surface Mount

Supplier Device Package:

SOT-89

## Environmental & Export classification

REACH Status:

REACH Unaffected

HTSUS:

8541.21.0095

ECCN:

EAR99

**Features**

- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

**Maximum Ratings @ 25°C Unless Otherwise Specified**

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 250°C/W Junction to Ambient<sup>(Note 2)</sup>
- Thermal Resistance: 125°C/W Junction to Ambient<sup>(Note 3)</sup>

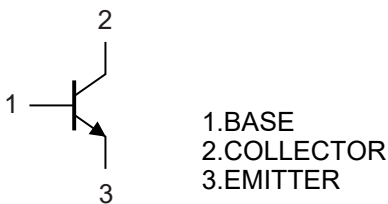
| Parameter                             | Symbol    | Rating | Unit |
|---------------------------------------|-----------|--------|------|
| Collector-Base Voltage                | $V_{CBO}$ | 70     | V    |
| Collector-Emitter Voltage             | $V_{CEO}$ | 70     | V    |
| Emitter-Base Voltage                  | $V_{EBO}$ | 6      | V    |
| Continuous Collector Current          | $I_C$     | 3      | A    |
| Power Dissipation <sup>(Note 2)</sup> | $P_D$     | 0.5    | W    |
| Power Dissipation <sup>(Note 3)</sup> | $P_D$     | 1      | W    |

Note:

1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Device mounted on an FR4 PCB, Single-sided copper, tin-plated and standard footprint.
3. Device mounted on an FR4 PCB, Single-sided copper, mounting pad for collector 1cm<sup>2</sup>.

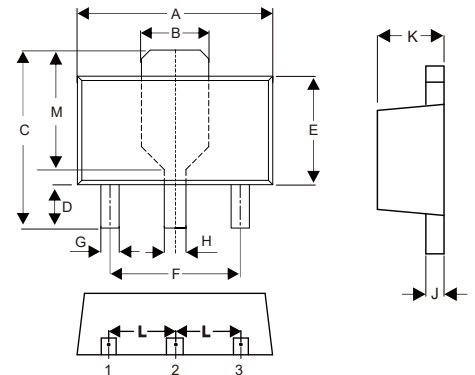
**Marking: D882H**

**Internal Structure**



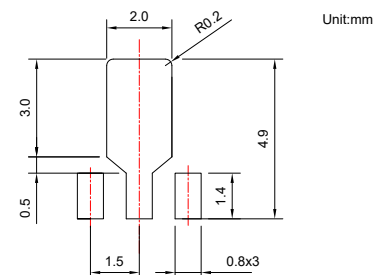
**NPN  
Plastic-Encapsulate  
Transistors**

**SOT-89**



| DIM | DIMENSIONS |       |      |      | NOTE |
|-----|------------|-------|------|------|------|
|     | INCHES     |       | MM   |      |      |
|     | 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   | 0.015      | 0.021 | 0.38 | 0.53 |      |
| J   | 0.014      | 0.017 | 0.35 | 0.44 |      |
| K   | 0.055      | 0.063 | 1.40 | 1.60 |      |
| L   | 0.059      |       | 1.50 |      | TYP. |
| M   | 0.108      |       | 2.75 |      | TYP. |

**Suggested Solder Pad Layout**



**Electrical Characteristics @  $T_A=25^\circ\text{C}$  Unless Otherwise Specified**

| Parameter                            | Symbol        | Min | Typ | Max | Units         | Conditions  |
|--------------------------------------|---------------|-----|-----|-----|---------------|---|
| Collector-Base Breakdown Voltage     | $V_{(BR)CBO}$ | 70  |     |     | V             | $I_C=100\mu\text{A}$ , $I_E=0$                            |
| Collector-Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | 70  |     |     | V             | $I_C=10\text{mA}$ , $I_B=0$                               |
| Emitter-Base Breakdown Voltage       | $V_{(BR)EBO}$ | 6   |     |     | V             | $I_E=100\mu\text{A}$ , $I_C=0$                            |
| Collector Cutoff Current             | $I_{CBO}$     |     |     | 1   | $\mu\text{A}$ | $V_{CB}=40\text{V}$ , $I_E=0$                             |
| Collector Cutoff Current             | $I_{CEO}$     |     |     | 10  | $\mu\text{A}$ | $V_{CE}=30\text{V}$ , $I_B=0$                             |
| Emitter Cutoff Current               | $I_{EBO}$     |     |     | 1   | $\mu\text{A}$ | $V_{EB}=6\text{V}$ , $I_C=0$                              |
| DC Current Gain                      | $h_{FE}$      | 160 |     | 320 |               | $V_{CE}=2\text{V}$ , $I_C=1\text{A}$                      |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ |     |     | 0.5 | V             | $I_C=2\text{A}$ , $I_B=0.2\text{A}$                       |
| Base-Emitter Saturation Voltage      | $V_{BE(sat)}$ |     |     | 1.5 | V             | $I_C=2\text{A}$ , $I_B=0.2\text{A}$                       |
| Transition Frequency                 | $f_T$         | 50  |     |     | MHz           | $V_{CE}=5\text{V}$ , $I_C=0.1\text{A}$ , $f=10\text{MHz}$ |

### Curve Characteristics

Fig. 1 - Static Characteristics

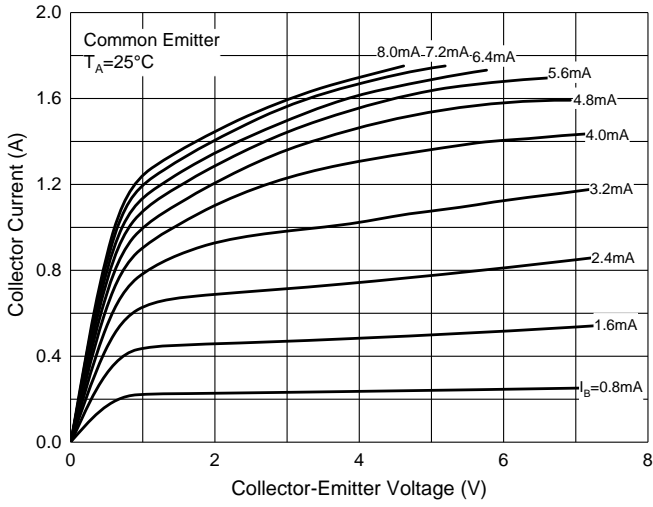


Fig. 2 - DC Current Gain Characteristics

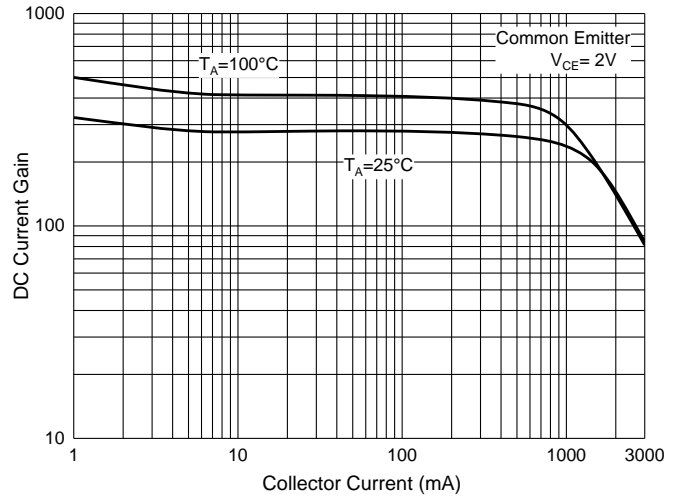


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

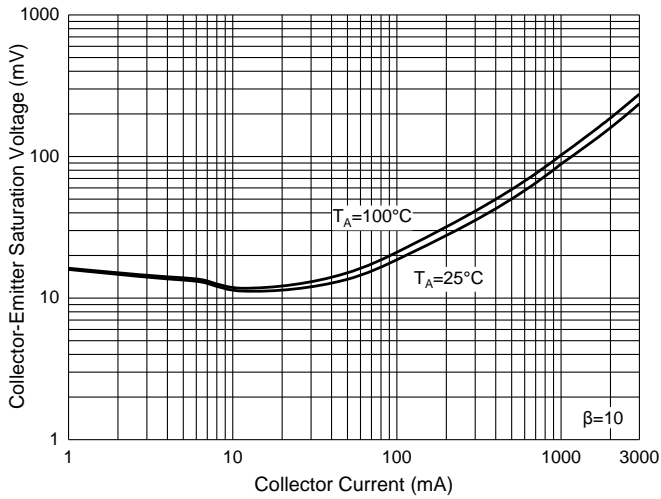


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

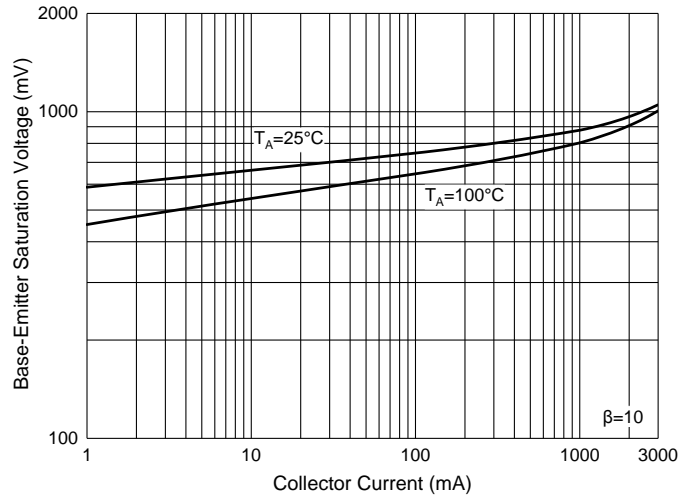


Fig. 5 - Base-Emitter Voltage Characteristics

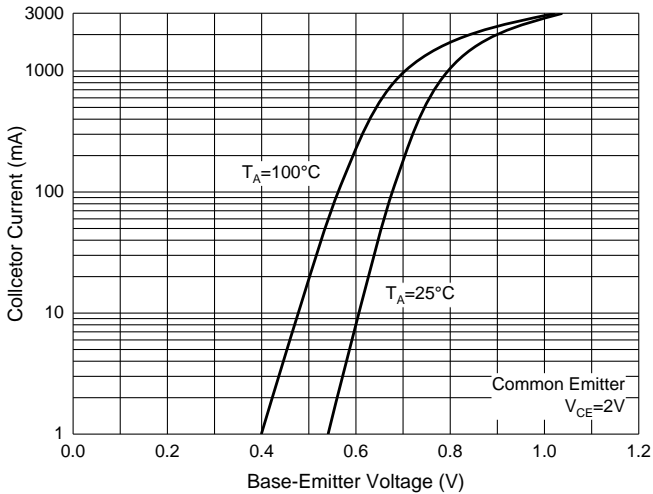
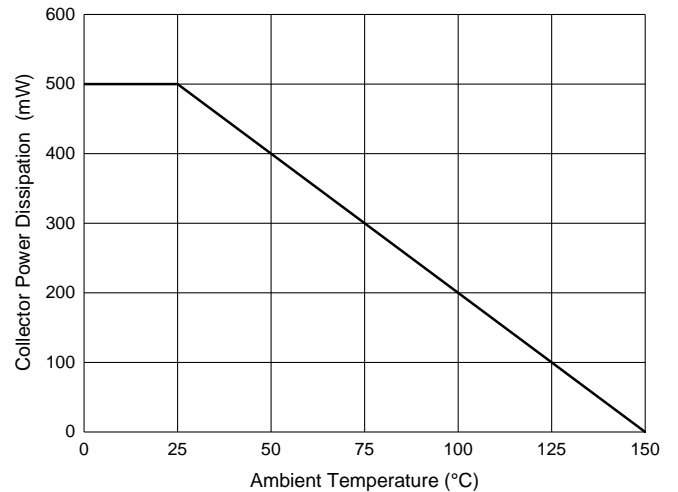


Fig. 6 - Collector Power Derating Curve



## Ordering Information

| Device         | Packing               |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 1Kpcs/Reel |

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