



Micro Commercial Components



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2N4403

PNP General Purpose Amplifier

Features

- Halogen free available upon request by adding suffix "-HF"
- Capable of 625mWatts of Power Dissipation
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: Type number
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C

Electrical Characteristics @ 25°C Unless Otherwise Specified

| Symbol | Parameter | Min | Max | Units |
|----------------------------|--|------|------|---------|
| OFF CHARACTERISTICS | | | | |
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage* ($I_C=-1.0mA$, $I_B=0$) | -40 | | Vdc |
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage ($I_C=-100\mu A$, $I_E=0$) | -40 | | Vdc |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage ($I_E=-100\mu A$, $I_C=0$) | -5.0 | | Vdc |
| I_{CBO} | Collector Cut-off Current ($V_{CE}=-35V$, $I_E=0$) | | -0.1 | μA |
| I_{EBO} | Emitter Cut-off Current ($V_{EB}=-5V$, $I_C=0$) | | -0.1 | μA |

ON CHARACTERISTICS

| | | | | |
|---------------|--|-------|----------------|-----|
| h_{FE} | DC Current Gain* ($I_C=-0.1mA$, $V_{CE}=-1.0V$) ($I_C=-1.0mA$, $V_{CE}=-1.0V$) ($I_C=-10mA$, $V_{CE}=-1.0V$) ($I_C=-150mA$, $V_{CE}=-1.0V$) ($I_C=-500mA$, $V_{CE}=-2.0V$) | 30 | | |
| | | 60 | | |
| | | 100 | | |
| | | 100 | 300 | |
| | | 20 | | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage ($I_C=-150mA$, $I_B=-15mA$) ($I_C=-500mA$, $I_B=-50mA$) | | -0.4 -0.75 | Vdc |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage ($I_C=-150mA$, $I_B=-15mA$) ($I_C=-500mA$, $I_B=-50mA$) | -0.75 | -0.95 -1.30 | Vdc |

SMALL-SIGNAL CHARACTERISTICS

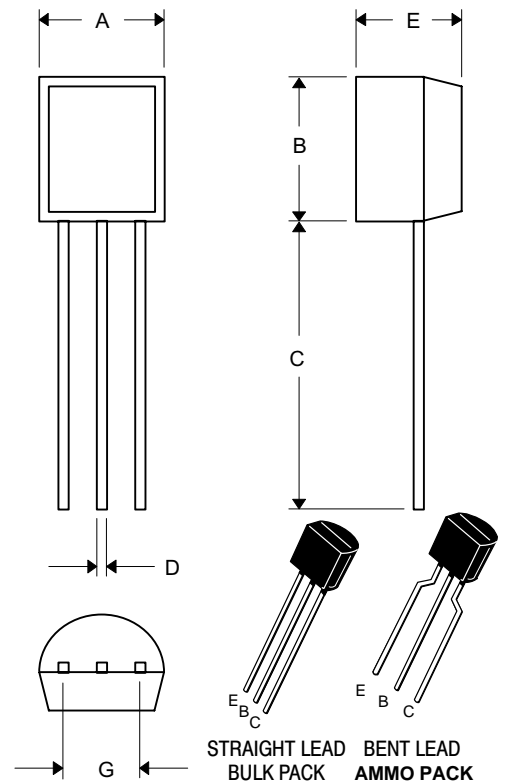
| | | | | |
|----------|--|-----|------|-----|
| f_T | Current Gain-Bandwidth Product ($I_C=-20mA$, $V_{CE}=-10V$, $f=100MHz$) | 200 | | MHz |
| C_{cb} | Output Capacitance ($V_{CB}=-10V$, $I_E=0$, $f=140kHz$) | | 8.5 | pF |
| C_{eb} | Input Capacitance ($V_{EB}=-0.5V$, $I_C=0$, $f=140kHz$) | | 30.0 | pF |

SWITCHING CHARACTERISTICS

| | | | | |
|-------|--------------|-------------------------------------|-----|----|
| t_d | Delay Time | ($V_{CC}=-3.0V$, $V_{BE}=-2.0V$) | 15 | ns |
| t_r | Rise Time | $I_C=-150mA$, $I_{B1}=-15mA$ | 20 | ns |
| t_s | Storage Time | ($V_{CC}=-3.0V$, $I_C=-150mA$) | 225 | ns |
| t_f | Fall Time | $I_{B1}=I_{B2}=-15mA$ | 30 | ns |

*Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2.0\%$

TO-92



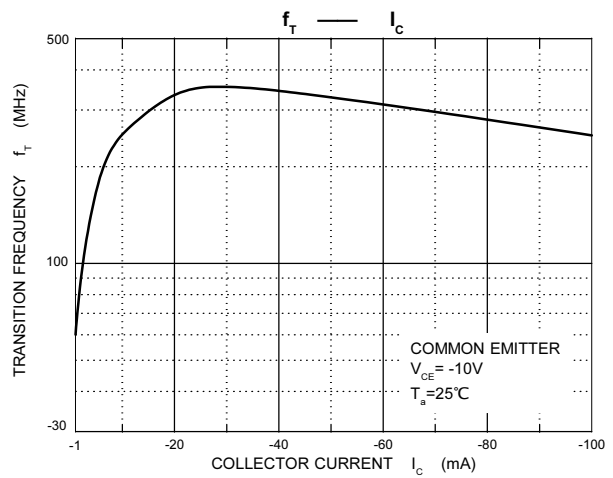
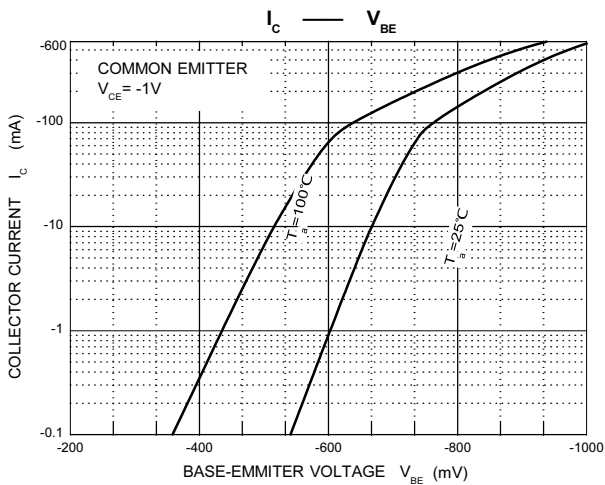
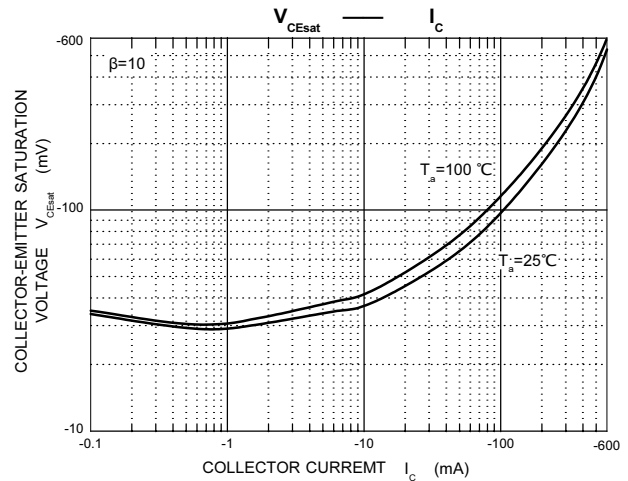
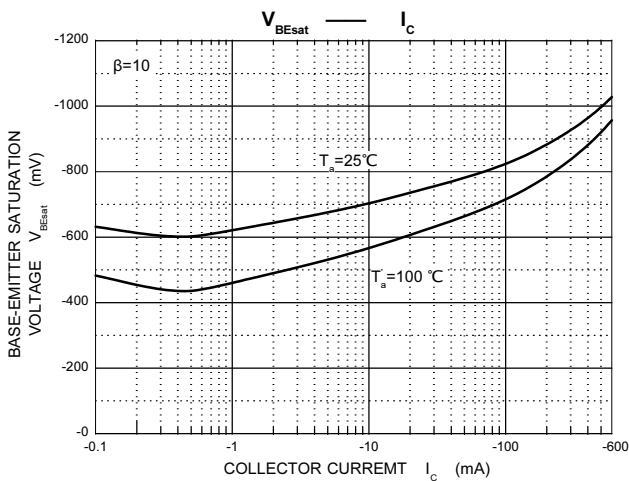
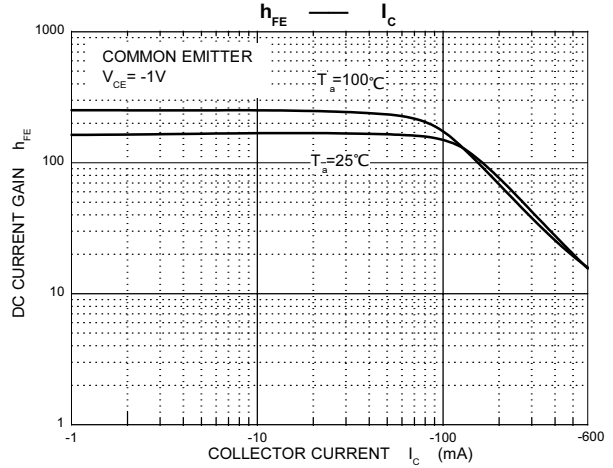
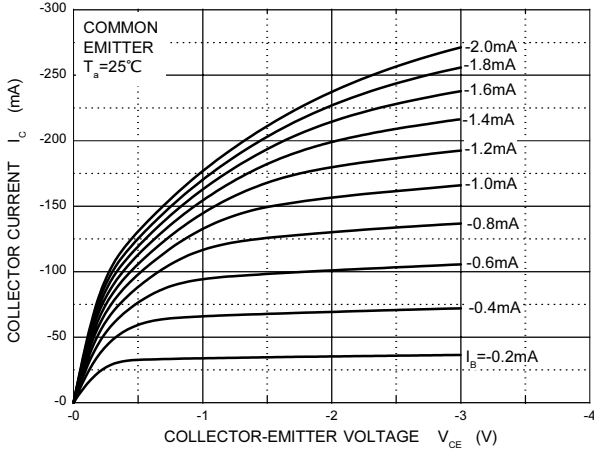
| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|-------|------|---------------|
| | MIN | MAX | MIN | MAX | |
| A | .175 | .185 | 4.45 | 4.70 | |
| B | .175 | .185 | 4.45 | 4.70 | |
| C | .500 | --- | 12.70 | --- | |
| D | .016 | .020 | 0.41 | 0.63 | |
| E | .135 | .145 | 3.43 | 3.68 | |
| G | .095 | .105 | 2.42 | 2.67 | Straight Lead |
| | .173 | .220 | 4.40 | 5.60 | Bent Lead |

* For ammo packing detailed specification, click here to visit our website of product packaging for details.

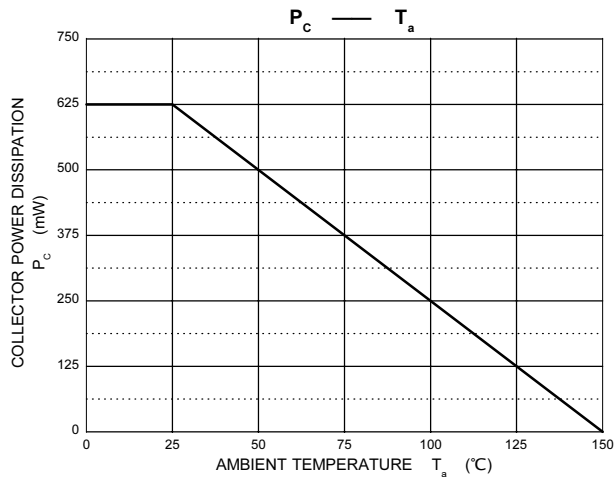
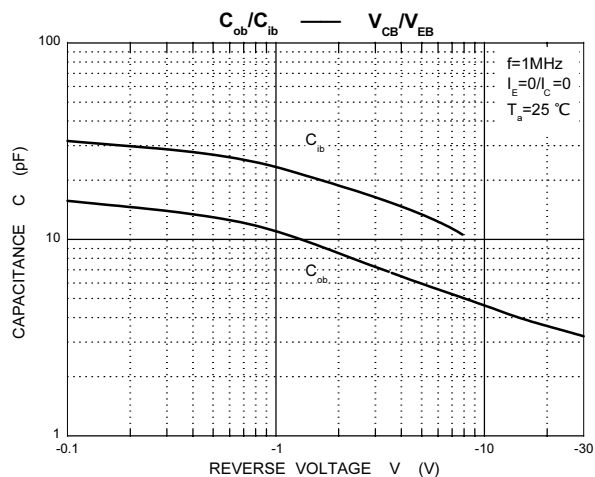
www.mccsemi.com

Typical Characteristics

Static Characteristic



Typical Characteristics





Micro Commercial Components

Ordering Information :

| Device | Packing |
|----------------|-----------------------------|
| Part Number-AP | Ammo Packing: 20Kpcs/Carton |
| Part Number-BP | Bulk: 100Kpcs/Carton |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-AP-HF

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