

Features

- Halogen Free Available Upon Request By Adding Suffix "-HF"
- 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)

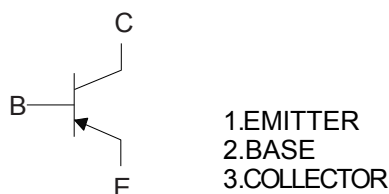
Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 200°C/W Junction to Ambient
- Thermal Resistance: 83.3°C/W Junction to Case

| Parameter | Symbol | Rating | Unit |
|------------------------------|--|--------|-------|
| Collector-Base Voltage | V_{CBO} | -80 | V |
| Collector-Emitter Voltage | V_{CEO} | -80 | V |
| Emitter-Base Voltage | V_{EBO} | -4 | V |
| Continuous Collector Current | I_C | -500 | mA |
| Power Dissipation | P_D | 625 | mW |
| | | 5 | mW/°C |
| | | 1.5 | W |
| | | 12 | mW/°C |
| | $T_A=25^\circ\text{C}$, Derate above 25°C | | |
| | $T_C=25^\circ\text{C}$, Derate above 25°C | | |

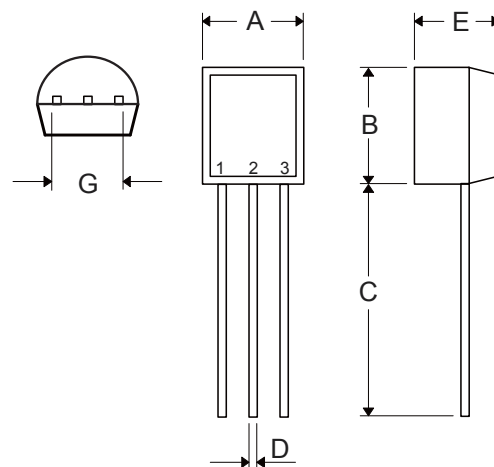
Marking Code: MPSA55, MPSA56

Internal Structure



PNP Silicon Amplifier Transistor

TO-92



| DIM | DIMENSIONS | | | | NOTE |
|-----|------------|-------|-------|-------|---------------|
| | INCHES | | MM | | |
| | MIN | MAX | MIN | MAX | |
| A | 0.169 | 0.185 | 4.30 | 4.70 | |
| B | 0.169 | 0.185 | 4.30 | 4.70 | |
| C | 0.500 | ----- | 12.70 | ----- | |
| D | 0.015 | 0.022 | 0.38 | 0.55 | |
| E | 0.130 | 0.146 | 3.30 | 3.70 | |
| G | 0.095 | 0.105 | 2.42 | 2.67 | Straight Lead |
| | 0.173 | 0.220 | 4.40 | 5.60 | Bent |

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

| Parameter | | Symbol | Min | Typ | Max | Units | Conditions |
|--------------------------------------|--------|---------------|-------------|-----|-------|---------------|---|
| Collector-Emitter Breakdown Voltage* | MPSA55 | $V_{(BR)CEO}$ | -60 | | | V | $I_C=-1\text{mA}, I_B=0$ |
| | MPSA56 | | -80 | | | | |
| Emitter-Base Breakdown Voltage | | $V_{(BR)EBO}$ | -4 | | | V | $I_E=-100\mu\text{A}, I_C=0$ |
| Collector Cutoff Current | | I_{CES} | | | -0.1 | μA | $V_{CE}=-60\text{V}, I_B=0$ |
| Collector Cutoff Current | MPSA55 | I_{CBO} | | | -0.1 | μA | $V_{CB}=-60\text{V}, I_E=0$ |
| | MPSA56 | | | | -0.1 | μA | $V_{CB}=-80\text{V}, I_E=0$ |
| DC Current Gain* | | | $h_{FE(1)}$ | 100 | | | $V_{CE}=-1\text{V}, I_C=-10\text{mA}$ |
| | | | $h_{FE(2)}$ | 100 | | | $V_{CE}=-1\text{V}, I_C=-100\text{mA}$ |
| Collector-Emitter Saturation Voltage | | $V_{CE(sat)}$ | | | -0.25 | V | $I_C=-100\text{mA}, I_B=-10\text{mA}$ |
| Base-Emitter Saturation Voltage | | $V_{BE(on)}$ | | | -1.2 | V | $V_{CE}=-1\text{V}, I_C=-100\text{mA}$ |
| Transition Frequency | | f_T | 50 | | | MHz | $V_{CE}=-1\text{V}, I_C=-100\text{mA}, f=100\text{MHz}$ |

*.Pulse test: Pulse Width $\leq 300\mu\text{s}$,Duty Cycle $\leq 2.0\%$.

Curve Characteristics

Fig. 1 - Static Characteristics

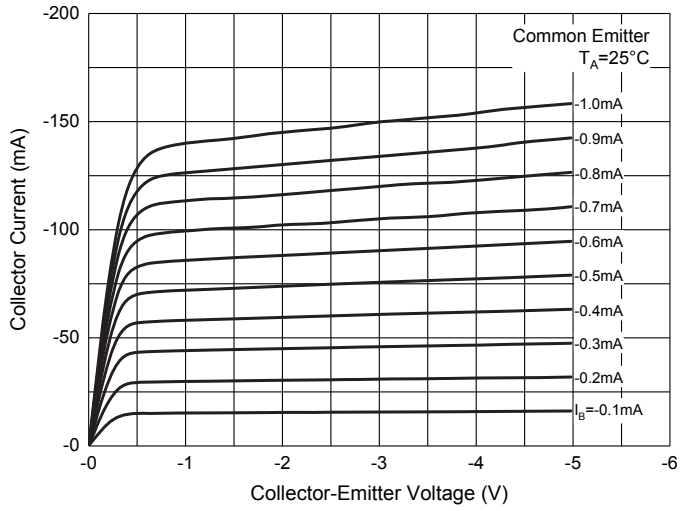


Fig. 2 - DC Current Gain Characteristics

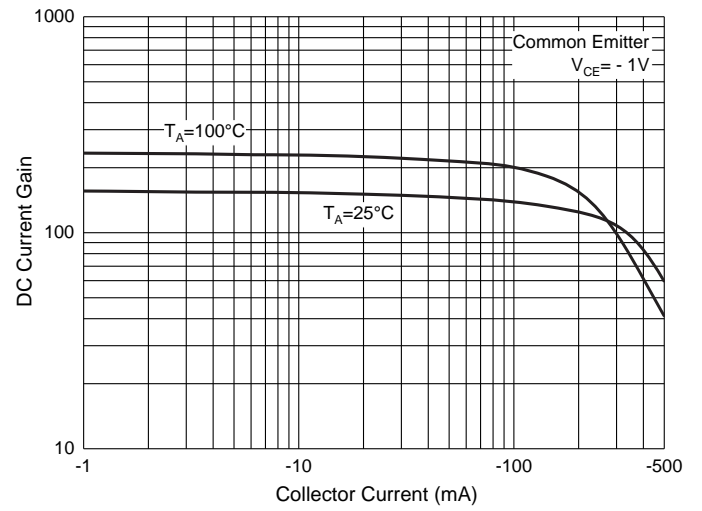


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

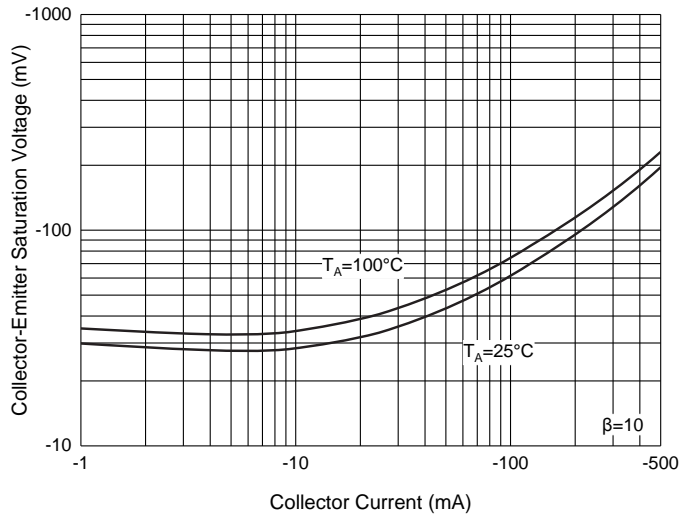


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

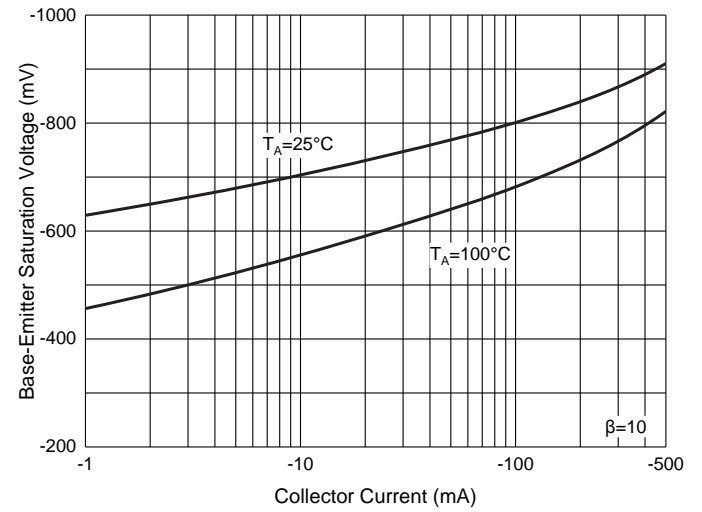


Fig. 5 - Base-Emitter Voltage Characteristics

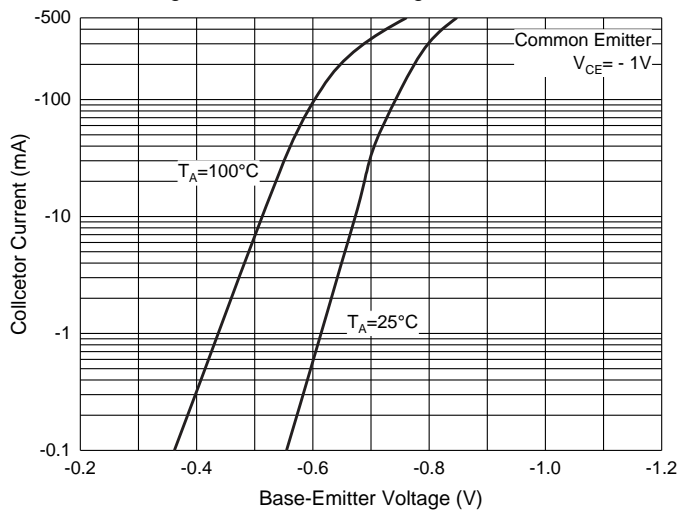
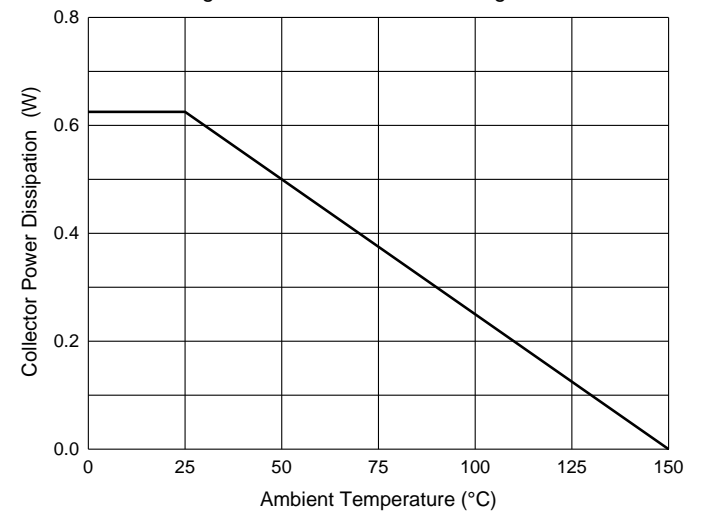


Fig. 6 - Collector Power Derating Curve



Ordering Information

| Device | Packing |
|----------------|-----------------------------|
| Part Number-AP | Ammo Packing: 20Kpcs/Carton |
| Part Number-BP | Bulk: 1k/Bag, 100K/Ctn; |

Note : Adding "-HF" Suffix for Halogen Free, eg. Part Number-TP-HF

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