



UNISONIC TECHNOLOGIES CO., LTD

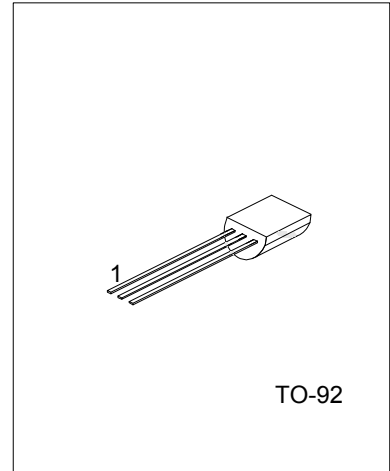
MPSA56

PNP SILICON TRANSISTOR

PNP MPSA56

■ FEATURES

- * Collector-Emitter Voltage: $V_{CE0}=80V$
- * Collector Dissipation: $P_D=625mW$



■ ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|-----------------|---------------|---------|----------------|---|---|----------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| MPSA56L-T92-B | MPSA56G-T92-B | TO-92 | E | B | C | Tape Box |
| MPSA56L-T92-K | MPSA56G-T92-K | TO-92 | E | B | C | Bulk |

| | |
|---|--|
| <p>MPSA56L-T92-B</p> <ul style="list-style-type: none"> (1)Packing Type (2)Package Type (3)Lead Free | <ul style="list-style-type: none"> (1) B: Tape Box, K: Bulk (2) T92: TO-92 (3) L: Lead Free, G:Halogen Free |
|---|--|

■ ABSOLUTE MAXIMUM RATING ($T_A=25^\circ\text{C}$, unless otherwise specified)

| PARAMETER | SYMBOL | RATINGS | UNIT | |
|--------------------------------|------------------------|------------|------------------|----------------------|
| Collector-Base Voltage | V_{CBO} | -80 | V | |
| Collector-Emitter Voltage | V_{CEO} | -80 | V | |
| Emitter-Base Voltage | V_{EBO} | -4 | V | |
| Collector Current - Continuous | I_C | -500 | mA | |
| Total device Dissipation | $T_A=25^\circ\text{C}$ | P_D | 625 | mW |
| Linear Derating Factor above | | | 5 | mW/ $^\circ\text{C}$ |
| Total device Dissipation | $T_C=25^\circ\text{C}$ | P_D | 1500 | mW |
| Linear Derating Factor above | | | 12 | mW/ $^\circ\text{C}$ |
| Junction Temperature | T_J | +125 | $^\circ\text{C}$ | |
| Storage Temperature | T_{STG} | -55 ~ +150 | $^\circ\text{C}$ | |

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL CHARACTERISTICS

| PARAMETER | SYMBOL | RATINGS | UNIT |
|---------------------|---------------|---------|---------------------------|
| Junction to Ambient | θ_{JA} | 200 | $^\circ\text{C}/\text{W}$ |
| Junction to Case | θ_{JC} | 83.3 | |

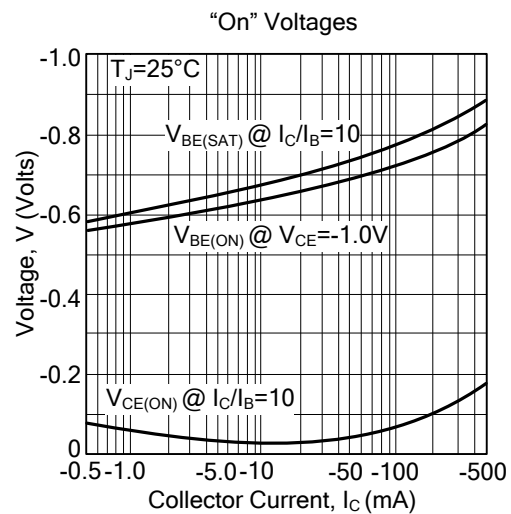
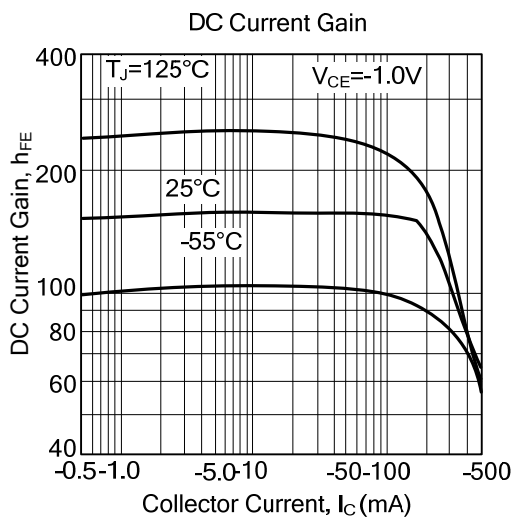
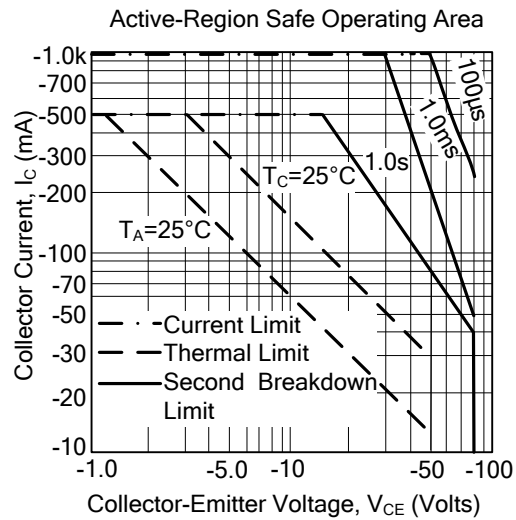
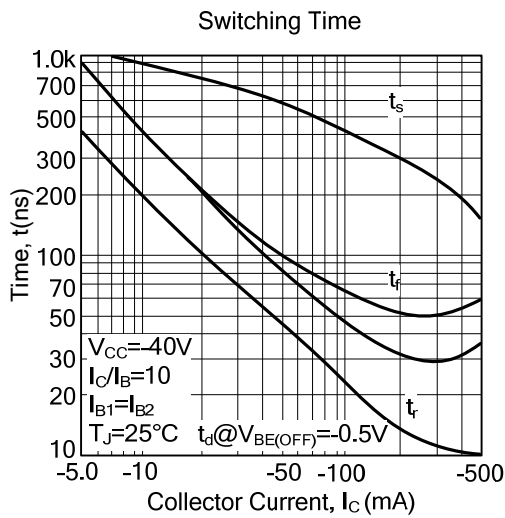
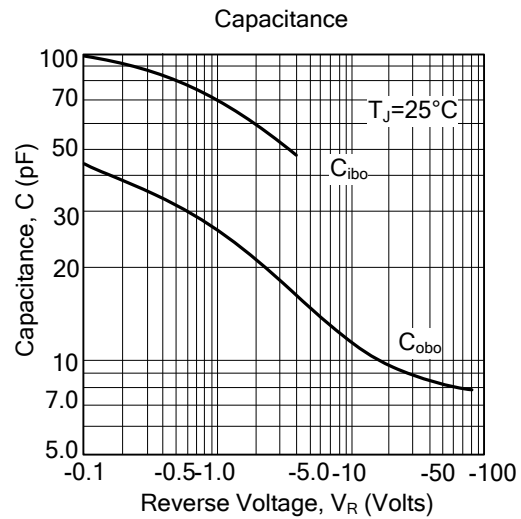
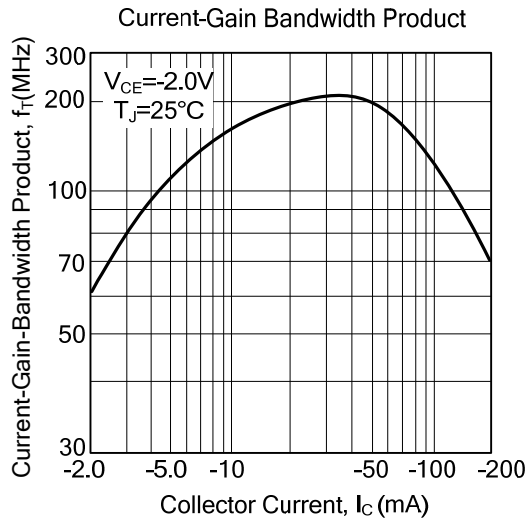
■ ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$, unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--|---------------|---|-----|-----|-------|---------------|
| OFF CHARACTERISTICS | | | | | | |
| Collector-Emitter Breakdown Voltage (Note 1) | BV_{CEO} | $I_C=-1.0\text{mA}, I_B=0$ | -80 | | | V |
| Emitter-Base Breakdown Voltage | BV_{EBO} | $I_E=-100\mu\text{A}, I_C=0$ | -4 | | | V |
| Collector Cutoff Current | I_{CEO} | $V_{CE}=-60\text{V}, I_B=0$ | | | -0.1 | μA |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=-80\text{V}, I_E=0$ | | | -0.1 | μA |
| ON CHARACTERISTICS | | | | | | |
| Dc Current Gain | h_{FE} | $I_C=-10\text{mA}, V_{CE}=-1\text{V}$ | 100 | | | |
| | | $I_C=-100\text{mA}, V_{CE}=-1\text{V}$ | 100 | | | |
| Collector-Emitter Saturation Voltage | $V_{CE(SAT)}$ | $I_C=-100\text{mA}, I_B=-10\text{mA}$ | | | -0.25 | V |
| Base-Emitter On Voltage | $V_{BE(ON)}$ | $I_C=-100\text{mA}, V_{CE}=-1\text{V}$ | | | -1.2 | V |
| SMALL-SIGNAL CHARACTERISTICS | | | | | | |
| Current Gain Bandwidth Product (Note 2) | f_T | $I_C=-100\text{mA}, V_{CE}=-1\text{V}, f=100\text{MHz}$ | 50 | | | MHz |

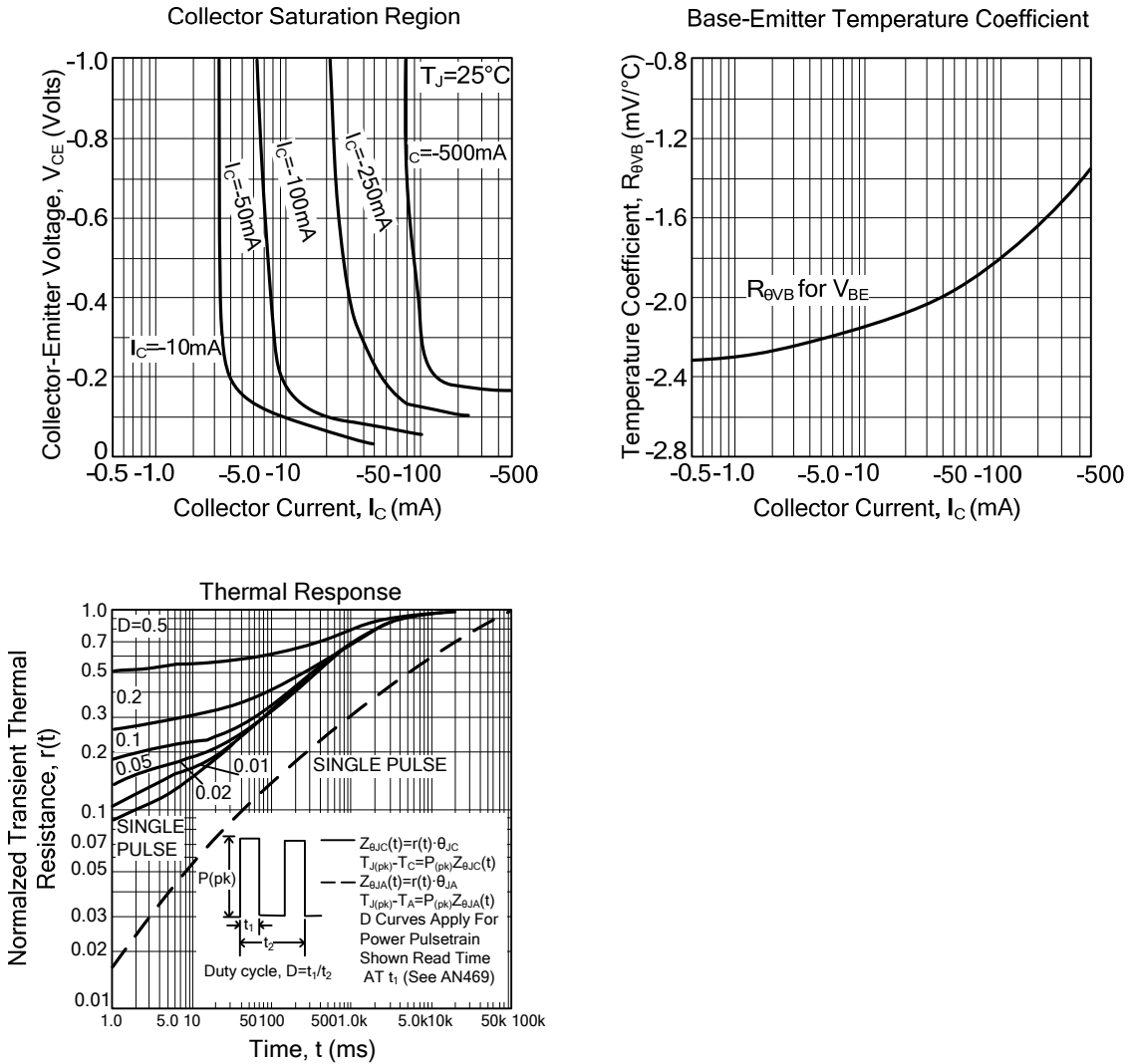
Note 1. Pulse test: $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

2. f_T is defined as the frequency at which I_{hfe} extrapolates to unity.

TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)



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