



# MPS-A55 · MPS-A56

COMPLEMENTARY SILICON AF MEDIUM POWER TRANSISTORS

## MICRO ELECTRONICS

THE MPS-A05, MPS-A06, MPS-A55, MPS-A56 ARE SILICON PLANAR EPITAXIAL TRANSISTORS FOR AF DRIVERS AND OUTPUTS, AS WELL AS FOR UNIVERSAL APPLICATIONS. THE MPS-A05, MPS-A06 ARE NPN AND ARE COMPLEMENTARY TO THE PNP MPS-A55 AND MPS-A56 RESPECTIVELY.

CASE TO-92A



### ABSOLUTE MAXIMUM RATINGS

For p-n-p devices, voltage and current values are negative.

|                                                         |                | MPS-A05(NPN)<br>MPS-A55(PNP) | MPS-A06(NPN)<br>MPS-A56(PNP) |
|---------------------------------------------------------|----------------|------------------------------|------------------------------|
| Collector-Base Voltage                                  | $V_{CBO}$      | 60V                          | 80V                          |
| Collector-Emitter Voltage                               | $V_{CEO}$      | 60V                          | 80V                          |
| Emitter-Base Voltage                                    | $V_{EBO}$      | 4V                           |                              |
| Collector Current                                       | $I_C$          | 0.5A                         |                              |
| Collector Peak Current ( $t \leq 10\text{ms}$ )         | $I_{CM}$       | 1.5A                         |                              |
| Total Power Dissipation ( $T_C \leq 25^\circ\text{C}$ ) | $P_{tot}$      | 1.5W                         |                              |
|                                                         |                | 625mW                        |                              |
| Operating Junction & Storage Temperature                | $T_j, T_{stg}$ | -55 to $150^\circ\text{C}$   |                              |

### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

| PARAMETER                            | SYMBOL          | MPS-A05(NPN)<br>MPS-A55(PNP) |      | MPS-A06(NPN)<br>MPS-A56(PNP) |      | UNIT | TEST CONDITIONS                                      |
|--------------------------------------|-----------------|------------------------------|------|------------------------------|------|------|------------------------------------------------------|
|                                      |                 | MIN                          | MAX  | MIN                          | MAX  |      |                                                      |
| Collector-Emitter Breakdown Voltage  | $V_{CEO} *$     | 60                           |      | 80                           |      | V    | $I_C = 1\text{mA}$ $I_B = 0$                         |
| Emitter-Base Breakdown Voltage       | $V_{EBO}$       | 4                            |      | 4                            |      | V    | $I_E = 0.1\text{mA}$ $I_C = 0$                       |
| Collector Cutoff Current             | $I_{CBO}$       |                              | 100  |                              | 100  | nA   | $V_{CB} = V_{CBO}$ $I_E = 0$                         |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)} *$ |                              | 0.25 |                              | 0.25 | V    | $I_C = 100\text{mA}$<br>$I_B = 10\text{mA}$          |
| Base-Emitter Saturation Voltage      | $V_{BE} *$      |                              | 1.2  |                              | 1.2  | V    | $I_C = 100\text{mA}$ $V_{CE} = 1\text{V}$            |
| D.C. Current Gain                    | $H_{FE} *$      | 50                           |      | 50                           |      |      | $I_C = 10\text{mA}$ $V_{CE} = 1\text{V}$             |
|                                      |                 | 50                           |      | 50                           |      |      | $I_C = 100\text{mA}$ $V_{CE} = 1\text{V}$            |
| Current Gain-Bandwidth Product       | $f_T$           | 50                           |      | 50                           |      | MHz  | $I_C = 100\text{mA}$ $V_{CE} = 1\text{V}$            |
|                                      |                 | 100                          |      | 100                          |      | MHz  | $I_C = 100\text{mA}$ $V_{CE} = 2\text{V}$            |
| Collector-Base Capacitance           | $C_{ob}$        |                              | 20   |                              | 20   | pF   | $V_{CB} = 10\text{V}$ $I_E = 0$<br>$f = 1\text{MHz}$ |

\* Pulse Test : Pulse Width=0.3ms, Duty Cycle=1%

## MICRO ELECTRONICS LTD.

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**TYPICAL CHARACTERISTICS**  
( $T_A=25^\circ\text{C}$  unless otherwise noted)

