

**MPSA18**  
**NPN SILICON TRANSISTOR**



**TO-92 CASE**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR MPSA18 is a small signal, low noise NPN silicon transistor designed for general purpose amplifier applications.

**MARKING: FULL PART NUMBER**

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$ )

|  | SYMBOL         |             | UNITS              |
|--|----------------|-------------|--------------------|
| Collector-Base Voltage                     | $V_{CB0}$      | 45          | V                  |
| Collector-Emitter Voltage                  | $V_{CEO}$      | 45          | V                  |
| Emitter-Base Voltage                       | $V_{EBO}$      | 6.5         | V                  |
| Continuous Collector Current               | $I_C$          | 200         | mA                 |
| Power Dissipation                          | $P_D$          | 625         | mW                 |
| Operating and Storage Junction Temperature | $T_J, T_{stg}$ | -65 to +150 | $^\circ\text{C}$   |
| Thermal Resistance                         | $\theta_{JA}$  | 200         | $^\circ\text{C/W}$ |

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

| SYMBOL        | TEST CONDITIONS   | MIN | MAX  | UNITS |
|---------------|---|-----|------|-------|
| $I_{CBO}$     | $V_{CB}=30\text{V}$   |     | 50   | nA    |
| $BV_{CB0}$    | $I_C=100\mu\text{A}$  | 45  |      | V     |
| $BV_{CEO}$    | $I_C=10\text{mA}$   | 45  |      | V     |
| $BV_{EBO}$    | $I_E=10\mu\text{A}$   | 6.5 |      | V     |
| $V_{CE(SAT)}$ | $I_C=10\text{mA}, I_B=0.5\text{mA}$   |     | 0.2  | V     |
| $V_{CE(SAT)}$ | $I_C=50\text{mA}, I_B=5.0\text{mA}$   |     | 0.3  | V     |
| $V_{BE(ON)}$  | $V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$  |     | 0.7  | V     |
| $h_{FE}$      | $V_{CE}=5.0\text{V}, I_C=10\mu\text{A}$   | 400 |      |       |
| $h_{FE}$      | $V_{CE}=5.0\text{V}, I_C=100\mu\text{A}$  | 500 |      |       |
| $h_{FE}$      | $V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$  | 500 |      |       |
| $h_{FE}$      | $V_{CE}=5.0\text{V}, I_C=10\text{mA}$   | 500 | 1500 |       |
| $f_T$         | $V_{CE}=5.0\text{V}, I_C=1.0\text{mA}, f=100\text{MHz}$                         | 100 |      | MHz   |
| $C_{ob}$      | $V_{CB}=5.0\text{V}, I_E=0, f=1.0\text{MHz}$                                    |     | 3.0  | pF    |
| $C_{ib}$      | $V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$                                    |     | 6.5  | pF    |
| NF            | $V_{CE}=5.0\text{V}, I_C=100\mu\text{A}, R_S=10\text{k}\Omega, f=1.0\text{kHz}$ |     | 1.5  | dB    |

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**TO-92 CASE - MECHANICAL OUTLINE**



R1

| SYMBOL  | INCHES |       | MILLIMETERS |      |
|---------|--------|-------|-------------|------|
|         | MIN    | MAX   | MIN         | MAX  |
| A (DIA) | 0.175  | 0.205 | 4.45        | 5.21 |
| B       | 0.170  | 0.210 | 4.32        | 5.33 |
| C       | 0.500  | -     | 12.70       | -    |
| D       | 0.016  | 0.022 | 0.41        | 0.56 |
| E       | 0.100  |       | 2.54        |      |
| F       | 0.050  |       | 1.27        |      |
| G       | 0.125  | 0.165 | 3.18        | 4.19 |
| H       | 0.080  | 0.105 | 2.03        | 2.67 |
| I       | 0.015  |       | 0.38        |      |

TO-92 (REV: R1)

**LEAD CODE:**

- 1) Emitter
- 2) Base
- 3) Collector

**MARKING:**  
**FULL PART NUMBER**

R0 (3-February 2012)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

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