

**MPSH81**  
**PNP SILICON**  
**RF TRANSISTOR**



**TO-92 CASE**

**Central<sup>TM</sup>**  
**Semiconductor Corp.**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR MPSH81 is a PNP Silicon Transistor designed for general purpose RF amplifier applications.

**MARKING: FULL PART NUMBER**

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

|                                            |
|--------------------------------------------|
| Collector-Base Voltage                     |
| Collector-Emitter Voltage                  |
| Emitter-Base Voltage                       |
| Continuous Collector Current               |
| Power Dissipation                          |
| Operating and Storage Junction Temperature |
| Thermal Resistance                         |

**SYMBOL**

|                |             |
|----------------|-------------|
| $V_{CBO}$      | 20          |
| $V_{CEO}$      | 20          |
| $V_{EBO}$      | 3.0         |
| $I_C$          | 50          |
| $P_D$          | 350         |
| $T_J, T_{stg}$ | -65 to +150 |
| $\Theta_{JC}$  | 357         |

**UNITS**

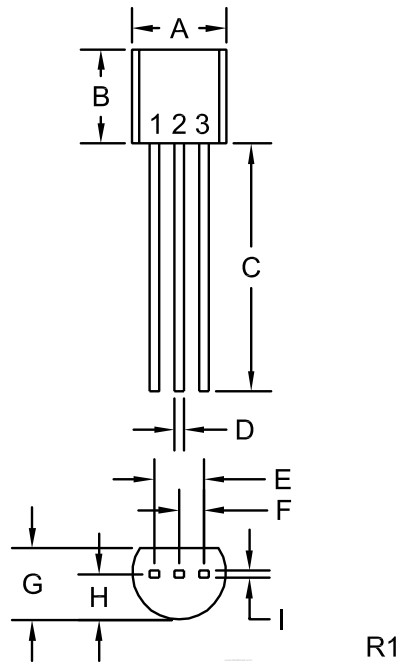
|                      |
|----------------------|
| V                    |
| V                    |
| V                    |
| mA                   |
| mW                   |
| $^{\circ}\text{C}$   |
| $^{\circ}\text{C/W}$ |

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

| SYMBOL        | TEST CONDITIONS                                        | MIN  | MAX  | UNITS |
|---------------|--------------------------------------------------------|------|------|-------|
| $I_{CBO}$     | $V_{CB}=10\text{V}$                                    |      | 100  | nA    |
| $I_{EBO}$     | $V_{EB}=2.0\text{V}$                                   |      | 100  | nA    |
| $BV_{CBO}$    | $I_C=10\mu\text{A}$                                    | — 20 |      | V     |
| $BV_{CEO}$    | $I_C=1.0\text{mA}$                                     | 20   |      | V     |
| $BV_{EBO}$    | $I_E=10\mu\text{A}$                                    | 3.0  |      | V     |
| $V_{CE(SAT)}$ | $I_C=5.0\text{mA}, I_B=0.5\text{mA}$                   |      | 0.5  | V     |
| $V_{BE(ON)}$  | $V_{CE}=10\text{V}, I_C=5.0\text{mA}$                  |      | 0.9  | V     |
| $h_{FE}$      | $V_{CE}=10\text{V}, I_C=5.0\text{mA}$                  | 60   |      |       |
| $f_T$         | $V_{CE}=10\text{V}, I_C=5.0\text{mA}, f=100\text{MHz}$ | 600  |      | MHz   |
| $C_{ob}$      | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$            |      | 0.85 | pF    |
| $C_{ib}$      | $V_{CB}=10\text{V}, I_B=0, f=1.0\text{MHz}$            |      | 0.65 | pF    |

R0 (25-April 2008)

TO-92 CASE - MECHANICAL OUTLINE



R1

| DIMENSIONS |        |       |             |      |
|------------|--------|-------|-------------|------|
| 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) BASE
- 2) EMITTER
- 3) COLLECTOR

**MARKING: FULL PART NUMBER**

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