

**MPS6520
MPS6521**

**SILICON
NPN TRANSISTORS**



TO-92 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR MPS6520 and MPS6521 are silicon NPN epitaxial transistors designed for complementary amplifier applications requiring low noise and high DC current gains. The PNP complementary devices are MPS6522 and MPS6523 respectively.

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

| SYMBOL | | UNITS |
|----------------|-------------|------------------|
| V_{CBO} | 40 | V |
| V_{CEO} | 25 | V |
| V_{EBO} | 4.0 | V |
| I_C | 100 | mA |
| P_D | 625 | mW |
| T_J, T_{stg} | -65 to +150 | $^\circ\text{C}$ |

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

| SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|---------------|---|-----|-----|-----|---------------|
| I_{CBO} | $V_{CB}=30\text{V}$ | | | 50 | nA |
| I_{CBO} | $V_{CB}=30\text{V}, T_A=60^\circ\text{C}$ | | | 1.0 | μA |
| BV_{CEO} | $I_C=500\mu\text{A}$ | 25 | | | V |
| BV_{EBO} | $I_E=10\mu\text{A}$ | 4.0 | | | V |
| $V_{CE(SAT)}$ | $I_C=50\text{mA}, I_B=5.0\text{mA}$ | | | 0.5 | V |
| f_T | $V_{CE}=10\text{V}, I_C=2.0\text{mA}$ | | 300 | | MHz |
| f_T | $V_{CE}=10\text{V}, I_C=10\text{mA}$ | | 400 | | MHz |
| C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=100\text{kHz}$ | | | 3.5 | pF |
| NF | $V_{CE}=5.0\text{V}, I_C=10\mu\text{A},$ $R_S=10\text{K}\Omega, BW=15.7\text{kHz},$ 3.0dB points @ 10Hz and 10kHz | | | 3.0 | dB |

| SYMBOL | TEST CONDITIONS | MPS6520 | | MPS6521 | |
|----------|---|---------|-----|---------|-----|
| | | MIN | MAX | MIN | MAX |
| h_{FE} | $V_{CE}=10\text{V}, I_C=100\mu\text{A}$ | 100 | - | 150 | - |
| h_{FE} | $V_{CE}=10\text{V}, I_C=2.0\text{mA}$ | 200 | 400 | 300 | 600 |

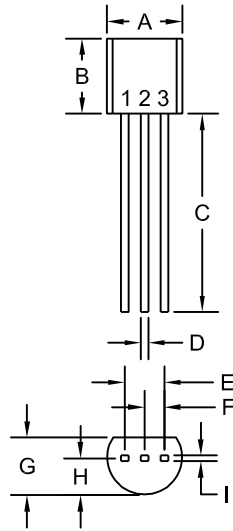
R1 (11-November 2014)

MPS6520
MPS6521

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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) Emitter
- 2) Base
- 3) Collector

MARKING:

FULL PART NUMBER

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