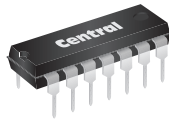


MPQ6002
MPQ6502

**SILICON QUAD
COMPLEMENTARY TRANSISTORS**



TO-116 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR MPQ6002 and MPQ6502 types are silicon complementary pair transistors, mounted in a 14 pin DIP package, designed for general purpose amplifier and switching 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 (per transistor)
Power Dissipation (total package)
Operating and Storage Junction Temperature
Thermal Resistance (total package)

| SYMBOL | | UNITS |
|----------------|-------------|--------------------|
| V_{CBO} | 60 | V |
| V_{CEO} | 30 | V |
| V_{EBO} | 5.0 | V |
| I_C | 500 | mA |
| P_D | 650 | mW |
| P_D | 1.25 | W |
| T_J, T_{stg} | -65 to +150 | $^\circ\text{C}$ |
| θ_{JA} | 100 | $^\circ\text{C/W}$ |

ELECTRICAL CHARACTERISTICS PER TRANSISTOR: ($T_A=25^\circ\text{C}$)

| SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|---------------|---|-----|-----|-----|-------|
| I_{CBO} | $V_{CB}=50\text{V}$ | | | 30 | nA |
| I_{EBO} | $V_{EB}=3.0\text{V}$ | | | 30 | nA |
| BV_{CBO} | $I_C=10\mu\text{A}$ | 60 | | | V |
| BV_{CEO} | $I_C=10\text{mA}$ | 30 | | | V |
| BV_{EBO} | $I_E=10\mu\text{A}$ | 5.0 | | | V |
| $V_{CE(SAT)}$ | $I_C=150\text{mA}, I_B=15\text{mA}$ | | | 0.4 | V |
| $V_{CE(SAT)}$ | $I_C=300\text{mA}, I_B=30\text{mA}$ | | | 1.4 | V |
| $V_{BE(SAT)}$ | $I_C=150\text{mA}, I_B=15\text{mA}$ | | | 1.3 | V |
| $V_{BE(SAT)}$ | $I_C=300\text{mA}, I_B=30\text{mA}$ | | | 2.0 | V |
| h_{FE} | $V_{CE}=10\text{V}, I_C=1.0\text{mA}$ | 50 | | | |
| h_{FE} | $V_{CE}=10\text{V}, I_C=10\text{mA}$ | 75 | | | |
| h_{FE} | $V_{CE}=10\text{V}, I_C=150\text{mA}$ | 100 | | | |
| h_{FE} | $V_{CE}=10\text{V}, I_C=300\text{mA}$ | 30 | | | |
| f_T | $V_{CE}=20\text{V}, I_C=50\text{mA}, f=100\text{MHz}$ | 200 | | | MHz |
| C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$ | | | 8.0 | pF |
| C_{ib} | $V_{EB}=2.0\text{V}, I_C=0, f=1.0\text{MHz}$ | | | 30 | pF |
| t_{on} | $V_{CC}=30\text{V}, V_{BE}=0.5\text{V}, I_C=150\text{mA}, I_{B1}=15\text{mA}$ | | 30 | | ns |
| t_{off} | $V_{CC}=30\text{V}, I_C=150\text{mA}, I_{B1}=I_{B2}=15\text{mA}$ | | 225 | | ns |

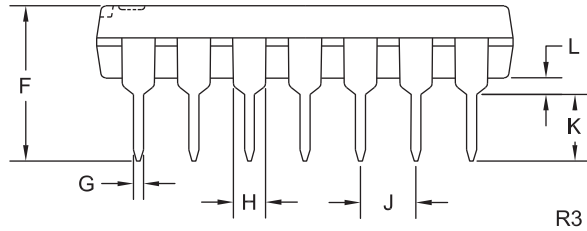
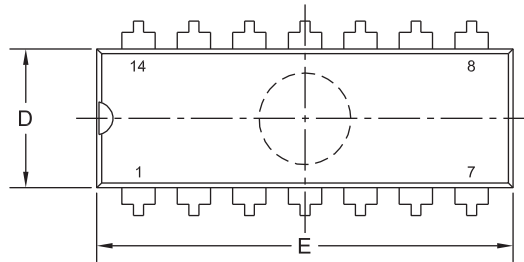
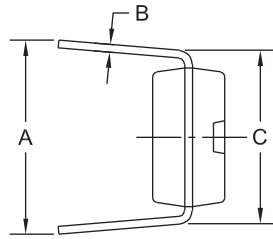
R1 (8-April 2013)

**MPQ6002
MPQ6502**

**SILICON QUAD
COMPLEMENTARY TRANSISTORS**



TO-116 CASE - MECHANICAL OUTLINE



| DIMENSIONS | | | | |
|------------|--------|-------|-------------|------|
| SYMBOL | INCHES | | MILLIMETERS | |
| | MIN | MAX | MIN | MAX |
| A | 0.310 | 0.390 | 7.9 | 9.9 |
| B | 0.008 | 0.014 | 0.2 | 0.4 |
| C | 0.310 | | 7.9 | |
| D | 0.240 | 0.260 | 6.1 | 6.6 |
| E | 0.740 | 0.760 | 18.8 | 19.3 |
| F | - | 0.300 | - | 7.6 |
| G | 0.014 | 0.022 | 0.4 | 0.6 |
| H | 0.050 | | 1.3 | |
| J | 0.100 | | 2.5 | |
| K | 0.125 | 0.150 | 3.2 | 3.8 |
| L | 0.015 | - | 0.4 | - |

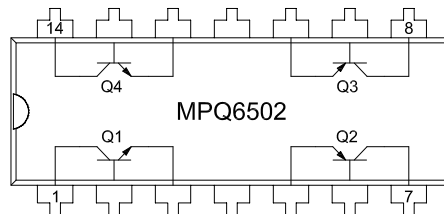
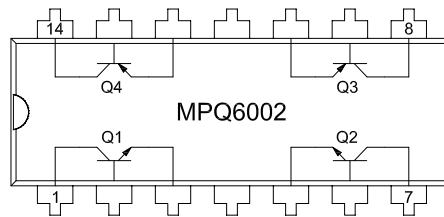
TO-116 (REV: R3)

LEAD CODE:

- | | |
|------------------|-------------------|
| 1) Collector Q1 | 8) Collector Q3 |
| 2) Base Q1 | 9) Base Q3 |
| 3) Emitter Q1 | 10) Emitter Q3 |
| 4) No Connection | 11) No Connection |
| 5) Emitter Q2 | 12) Emitter Q4 |
| 6) Base Q2 | 13) Base Q4 |
| 7) Collector Q2 | 14) Collector Q4 |

MARKING: FULL PART NUMBER

PIN CONFIGURATIONS



R1 (8-April 2013)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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

DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2nd 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

CONTACT US

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centalsemi.com

Worldwide Field Representatives:
www.centalsemi.com/wwreps

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