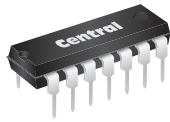


MPQ6700
SILICON
COMPLEMENTARY
QUAD TRANSISTOR



TO-116 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR MPQ6700 is comprised of two 2N3904 (NPN) chips and two 2N3906 (PNP) chips to be used as dual complementary pairs 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} | 40 | V |
| V_{CEO} | 40 | V |
| V_{EBO} | 5.0 | V |
| I_C | 200 | mA |
| P_D | 500 | mW |
| P_D | 2.0 | W |
| T_J, T_{stg} | -65 to +150 | $^\circ\text{C}$ |
| θ_{JA} | 62.5 | $^\circ\text{C/W}$ |

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

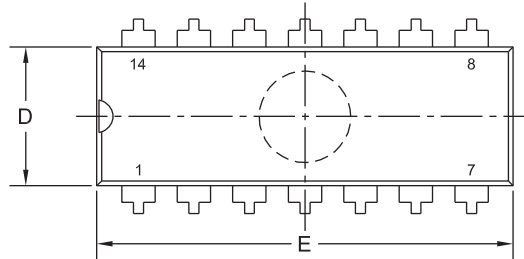
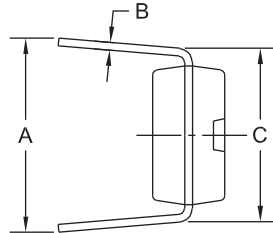
| SYMBOL | TEST CONDITIONS | MIN | MAX | UNITS |
|---------------|-------------------------------------------------------|-----|------|-------|
| I_{CBO} | $V_{CB}=30\text{V}$ | | 50 | nA |
| I_{EBO} | $V_{EB}=4.0\text{V}$ | | 50 | nA |
| BV_{CBO} | $I_C=10\mu\text{A}$ | 40 | | V |
| BV_{CEO} | $I_C=10\text{mA}$ | 40 | | V |
| BV_{EBO} | $I_E=10\mu\text{A}$ | 5.0 | | V |
| $V_{CE(SAT)}$ | $I_C=10\text{mA}, I_B=1.0\text{mA}$ | | 0.25 | V |
| $V_{BE(SAT)}$ | $I_C=10\text{mA}, I_B=1.0\text{mA}$ | | 0.90 | V |
| h_{FE} | $V_{CE}=1.0\text{V}, I_C=0.1\text{mA}$ | 30 | | |
| h_{FE} | $V_{CE}=1.0\text{V}, I_C=1.0\text{mA}$ | 50 | | |
| h_{FE} | $V_{CE}=1.0\text{V}, I_C=10\text{mA}$ | 70 | | |
| f_T | $V_{CE}=20\text{V}, I_C=10\text{mA}, f=100\text{MHz}$ | 200 | | MHz |
| C_{ob} | $V_{CB}=5.0\text{V}, I_E=0, f=100\text{kHz}$ | | 4.5 | pF |
| C_{ib} | $V_{EB}=0.5\text{V}, I_C=0, f=100\text{kHz}$ (NPN) | | 12 | pF |
| C_{ib} | $V_{EB}=0.5\text{V}, I_C=0, f=100\text{kHz}$ (PNP) | | 10 | pF |

R2 (25-September 2018)

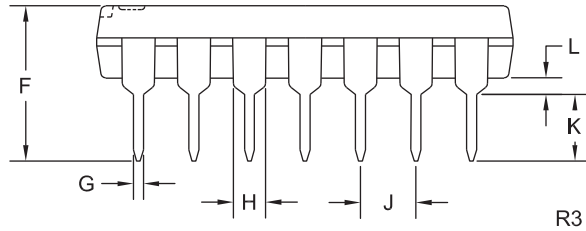
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TO-116 CASE - MECHANICAL OUTLINE

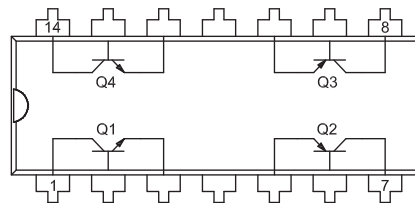


| DIMENSIONS | | | | |
|------------|--------|-------|-------------|------|
| SYMBOL | INCHES | | MILLIMETERS | |
| | MIN | MAX | MIN | MAX |
| A | 0.310 | 0.390 | 7.9 | 9.9 |
| B | 0.008 | 0.014 | 0.2 | 0.4 |
| C | 0.310 | | 7.9 | |
| D | 0.240 | 0.260 | 6.1 | 6.6 |
| E | 0.740 | 0.760 | 18.8 | 19.3 |
| 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)

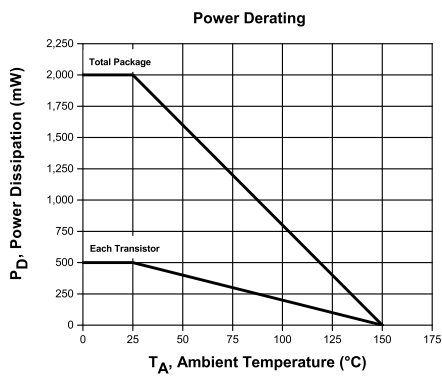
PIN CONFIGURATION



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

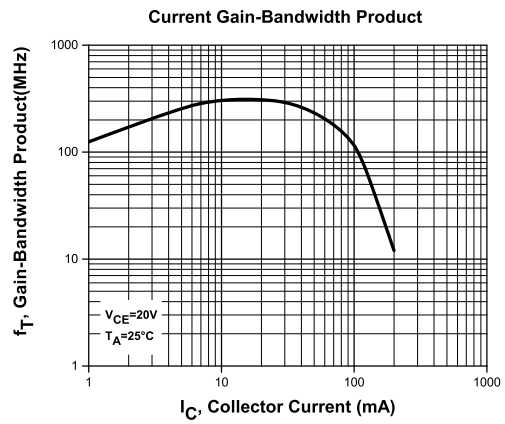
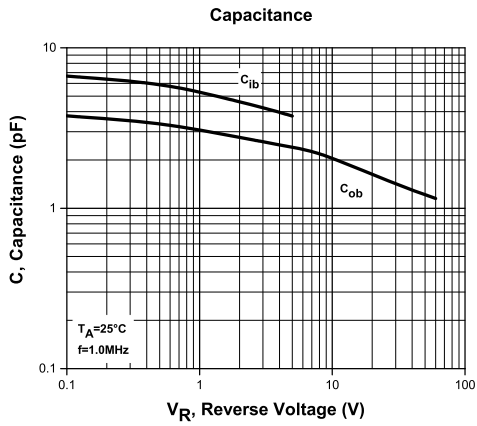
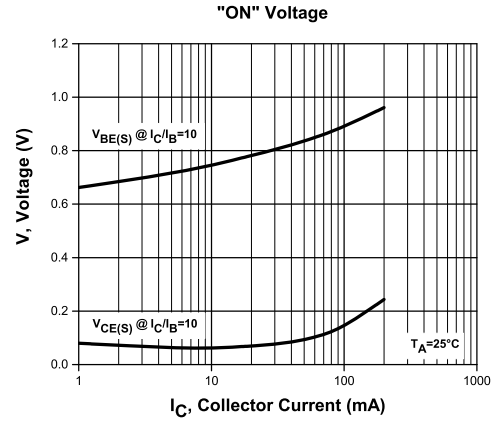
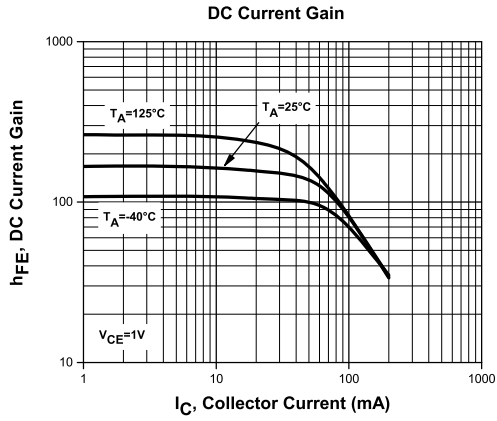


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NPN TYPICAL ELECTRICAL CHARACTERISTICS

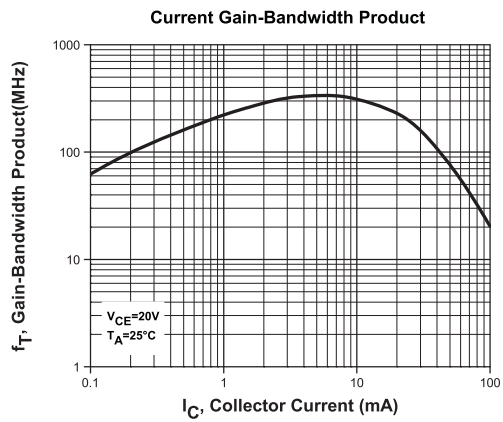
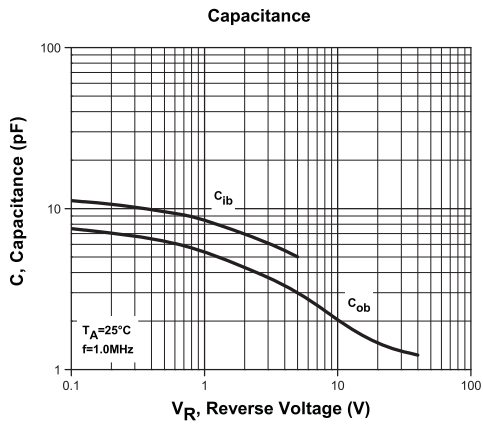
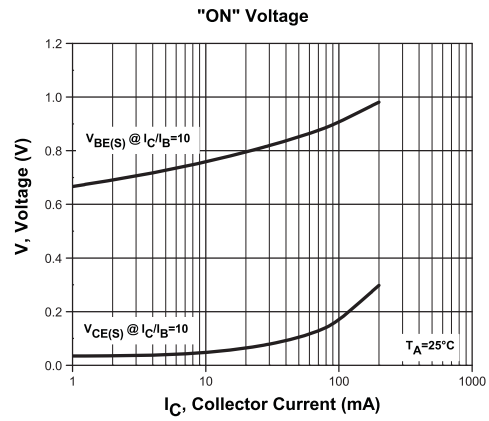
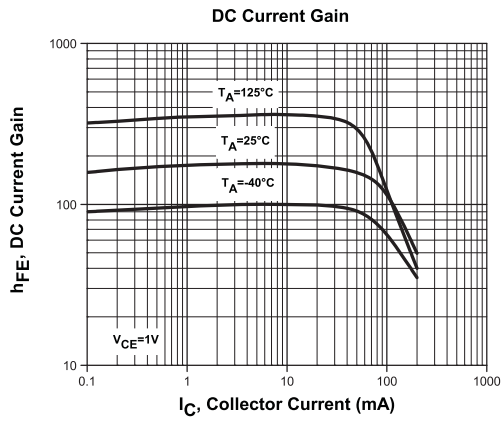


R2 (25-September 2018)

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PNP TYPICAL ELECTRICAL CHARACTERISTICS



R2 (25-September 2018)

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

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).

CONTACT US

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