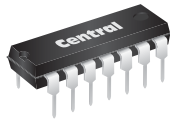


**MPQ6700**  
**SILICON**  
**COMPLEMENTARY**  
**QUAD TRANSISTOR**



**TO-116 CASE**



[www.centrasemi.com](http://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	$^\circ\text{C}$
$\theta_{JA}$	62.5	$^\circ\text{C/W}$

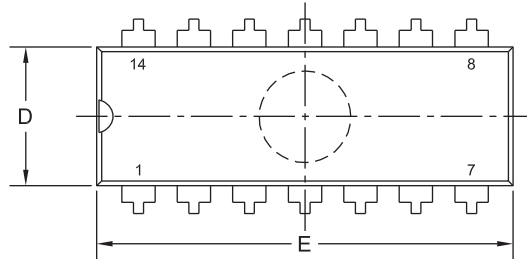
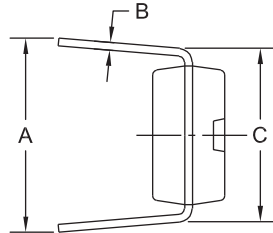
**ELECTRICAL CHARACTERISTICS PER TRANSISTOR:** ( $T_A=25^\circ\text{C}$ )

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

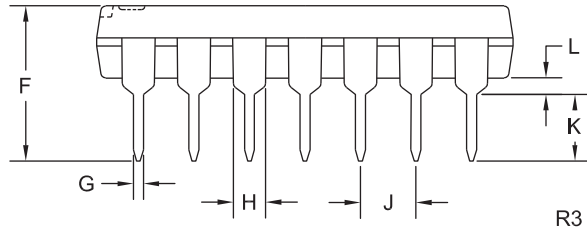
**MPQ6700**  
**SILICON**  
**COMPLEMENTARY**  
**QUAD TRANSISTOR**



**TO-116 CASE - MECHANICAL OUTLINE**

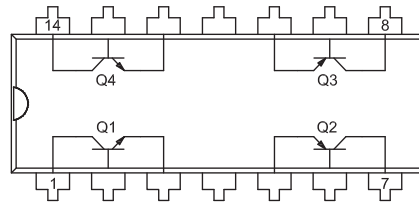


DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.310	0.390	7.9	9.9
B	0.008	0.014	0.2	0.4
C	0.310		7.9	
D	0.240	0.260	6.1	6.6
E	0.740	0.760	18.8	19.3
F	-	0.300	-	7.6
G	0.014	0.022	0.4	0.6
H	0.050		1.3	
J	0.100		2.5	
K	0.125	0.150	3.2	3.8
L	0.015	-	0.4	-



TO-116 (REV: R3)

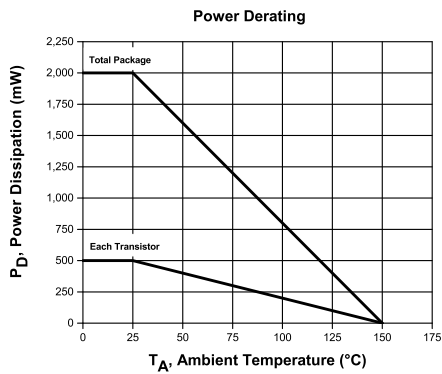
**PIN CONFIGURATION**



**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**

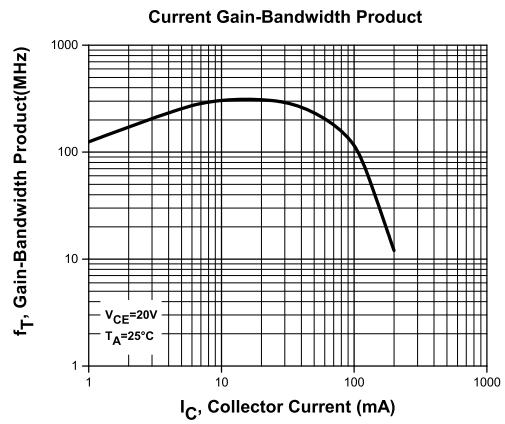
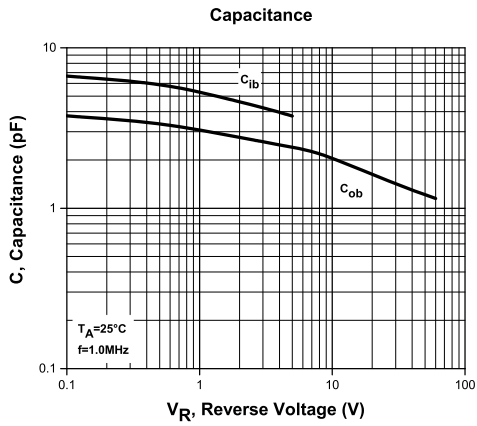
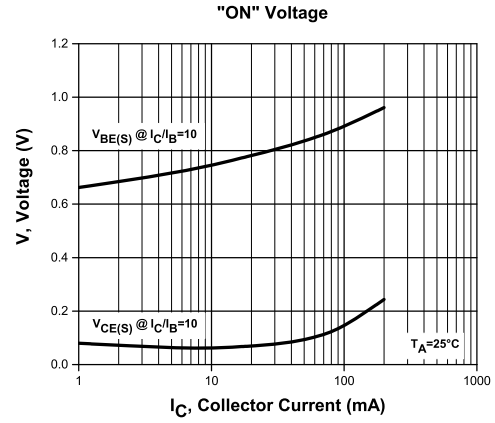
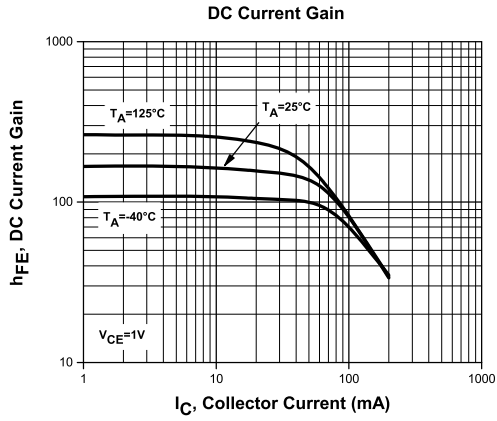


R2 (25-September 2018)

**MPQ6700**  
**SILICON**  
**COMPLEMENTARY**  
**QUAD TRANSISTOR**



**NPN TYPICAL ELECTRICAL CHARACTERISTICS**

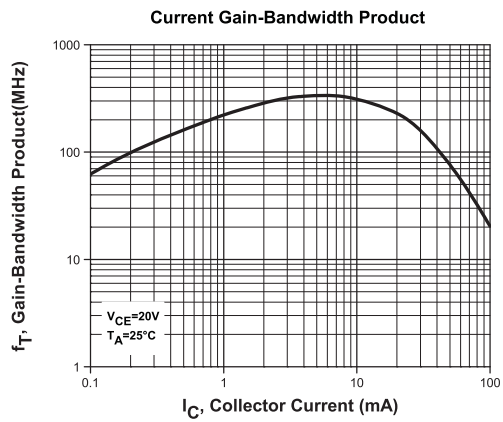
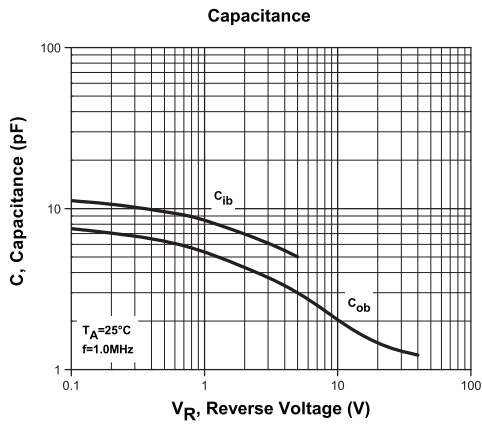
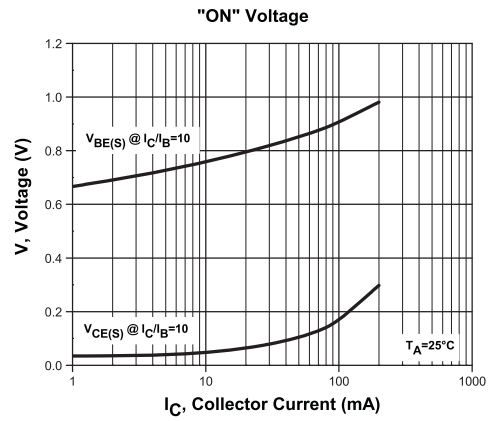
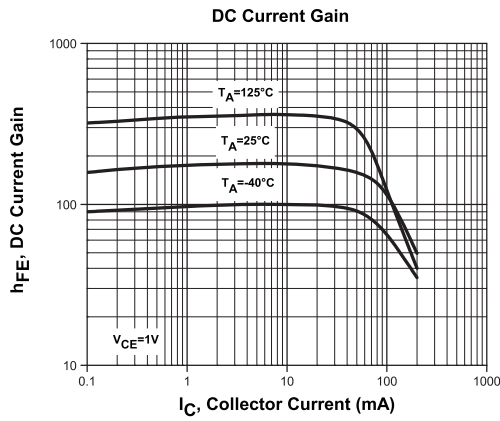


R2 (25-September 2018)

**MPQ6700**  
**SILICON**  
**COMPLEMENTARY**  
**QUAD TRANSISTOR**



**PNP TYPICAL ELECTRICAL CHARACTERISTICS**



R2 (25-September 2018)

## 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

---

### 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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[www.centrasemi.com](http://www.centrasemi.com)

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