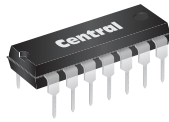


**MPQ3904**  
**SILICON**  
**NPN QUAD TRANSISTOR**



**TO-116 CASE**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR MPQ3904 type is comprised of four independent silicon NPN transistors mounted in a 14-pin DIP, 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	

SYMBOL		UNITS
$V_{CBO}$	60	V
$V_{CEO}$	40	V
$V_{EBO}$	6.0	V
$I_C$	200	mA
$P_D$	500	mW
$P_D$	2.0	W
$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$

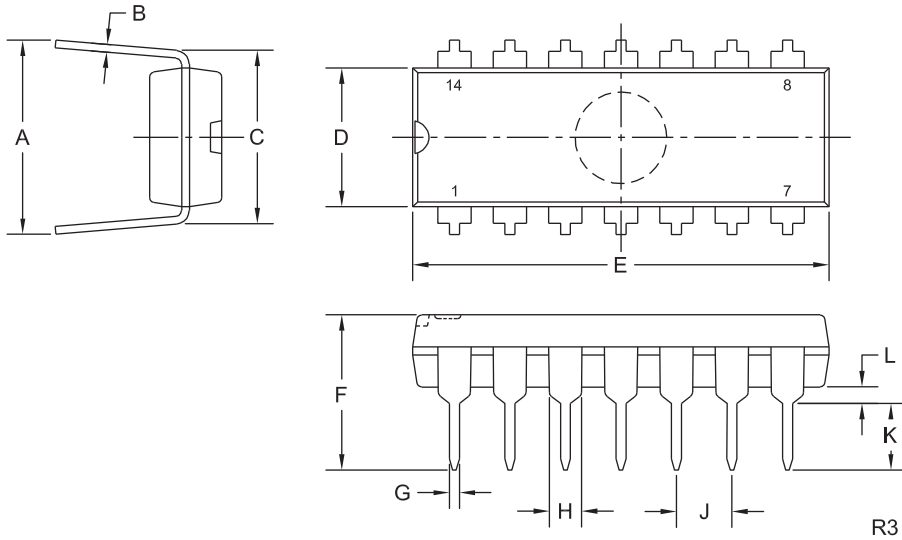
**ELECTRICAL CHARACTERISTICS PER TRANSISTOR:** ( $T_A=25^\circ\text{C}$ )

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{CBO}$	$V_{CB}=40\text{V}$			50	nA
$I_{EBO}$	$V_{EB}=4.0\text{V}$			50	nA
$BV_{CBO}$	$I_C=10\mu\text{A}$	60			V
$BV_{CEO}$	$I_C=1.0\text{mA}$	40			V
$BV_{EBO}$	$I_E=10\mu\text{A}$	6.0			V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$			0.20	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$			0.85	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			
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=10\text{mA}$	75			
$f_T$	$V_{CE}=20\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	250			MHz
$C_{ob}$	$V_{CB}=5.0\text{V}, I_E=0, f=140\text{kHz}$			4.0	pF
$C_{ib}$	$V_{EB}=0.5\text{V}, I_C=0, f=140\text{kHz}$			8.0	pF
$t_{on}$	$V_{BE}=0.5\text{V}, I_C=10\text{mA}, I_{B1}=1.0\text{mA}$		37		ns
$t_{off}$	$I_C=10\text{mA}, I_{B1}=I_{B2}=1.0\text{mA}$		136		ns

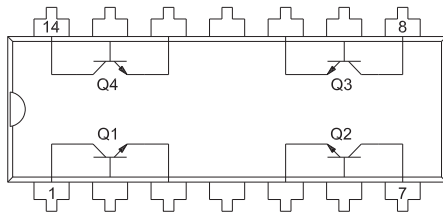
MPQ3904  
SILICON  
NPN QUAD TRANSISTOR



TO-116 CASE - MECHANICAL OUTLINE



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

SYMBOL	DIMENSIONS			
	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)

R1 (24-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 (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

---

### 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](http://www.centalsemi.com)

**Worldwide Field Representatives:**  
[www.centalsemi.com/wwreps](http://www.centalsemi.com/wwreps)

**Worldwide Distributors:**  
[www.centalsemi.com/wwdistributors](http://www.centalsemi.com/wwdistributors)

---

For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: [www.centalsemi.com/terms](http://www.centalsemi.com/terms)