

MPQ3904

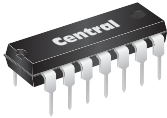
SILICON  
NPN QUAD TRANSISTOR



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**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR MPQ3904 is comprised of four independent silicon NPN transistors mounted in a 14-pin DIP, designed for general purpose amplifier and switching applications.



TO-116 CASE

**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**

$V_{CBO}$  60  
 $V_{CEO}$  40  
 $V_{EBO}$  6.0  
 $I_C$  200  
 $P_D$  500  
 $P_D$  2.0  
 $T_J, T_{stg}$  -65 to +150

**UNITS**

V  
V  
V  
mA  
mW  
W  
 $^\circ\text{C}$

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

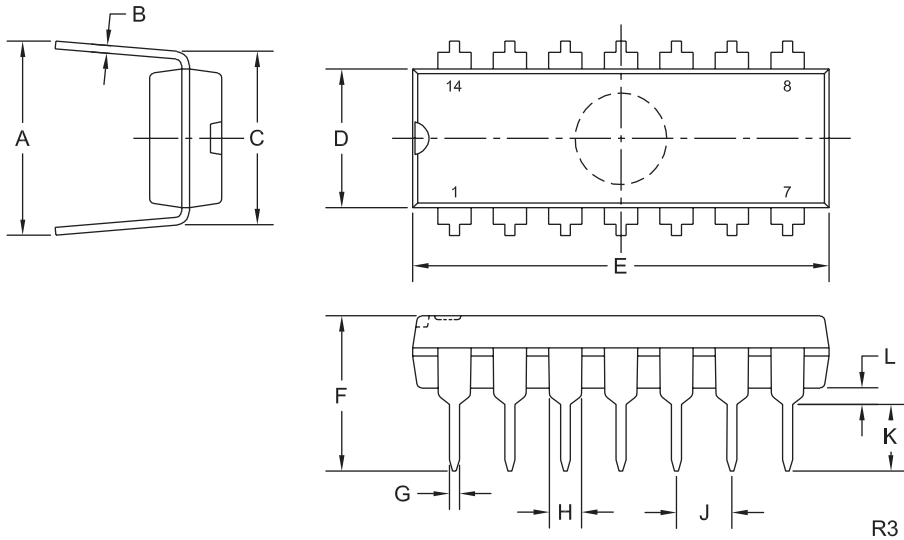
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{CBO}$	$V_{CB}=40\text{V}$			50	nA
$I_{EBO}$	$V_{EB}=4.0\text{V}$			50	nA
$BV_{CBO}$	$I_C=10\mu\text{A}$	60			V
$BV_{CEO}$	$I_C=1.0\text{mA}$	40			V
$BV_{EBO}$	$I_E=10\mu\text{A}$	6.0			V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$			0.20	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$			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
$C_{ib}$	$V_{EB}=0.5\text{V}, I_C=0, f=140\text{kHz}$			12	pF
$t_{on}$	$V_{BE}=0.5\text{V}, V_{CC}=3.0\text{V}, I_C=10\text{mA}, I_{B1}=1.0\text{mA}$		37		ns
$t_{off}$	$V_{CC}=3.0\text{V}, I_C=10\text{mA}, I_{B1}=I_{B2}=1.0\text{mA}$		136		ns

MPQ3904

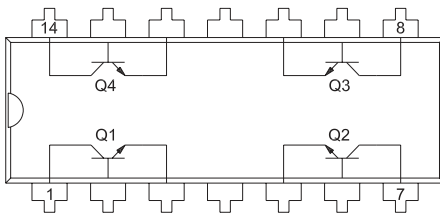
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TO-116 CASE - MECHANICAL OUTLINE



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  |

SYMBOL	DIMENSIONS		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)

MARKING: FULL PART NUMBER

R3 (09-January 2023)

## 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
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- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

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- 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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