



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



**TO-116 CASE**



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

**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.

**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:** ( $T_A=25^\circ\text{C}$ )

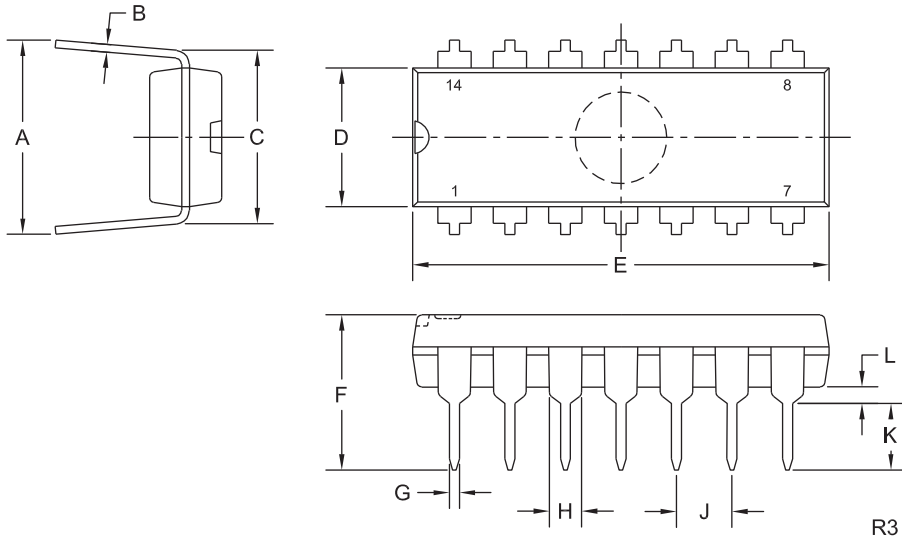
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{CBO}$	$V_{CB}=40\text{V}$			50	nA
$I_{EBO}$	$V_{EB}=4.0\text{V}$			50	nA
$BV_{CBO}$	$I_C=10\mu\text{A}$	60			V
$BV_{CEO}$	$I_C=1.0\text{mA}$	40			V
$BV_{EBO}$	$I_E=10\mu\text{A}$	6.0			V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$			0.20	V
$V_{BE(SAT)}$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

R2 (25-September 2018)

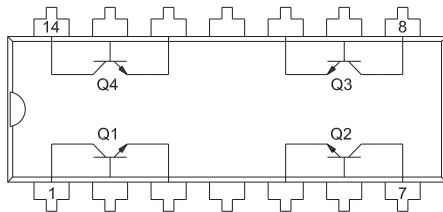
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TO-116 CASE - MECHANICAL OUTLINE



PIN CONFIGURATION



LEAD CODE:

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

R2 (25-September 2018)

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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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