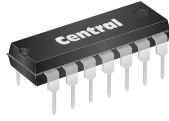


MPQ2222  
MPQ2222A

NPN SILICON QUAD TRANSISTOR



TO-116 CASE

**Central**  
Semiconductor Corp.

www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR MPQ2222 and MPQ2222A types are comprised of four independent NPN silicon 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  
Thermal Resistance (total package)

SYMBOL	MPQ2222	MPQ2222A	UNITS
$V_{CBO}$	60	75	V
$V_{CEO}$	40	40	V
$V_{EBO}$	5.0	6.0	V
$I_C$		500	mA
$P_D$		650	mW
$P_D$		1.9	W
$T_J, T_{stg}$		-65 to +150	$^\circ\text{C}$
$\Theta_{JA}$		66	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MPQ2222		MPQ2222A		UNITS
		MIN	MAX	MIN	MAX	
$I_{CBO}$	$V_{CB}=50\text{V}$	-	50	-	-	nA
$I_{CBO}$	$V_{CB}=60\text{V}$	-	-	-	10	nA
$I_{EBO}$	$V_{EB}=3.0\text{V}$	-	100	-	100	nA
$BV_{CBO}$	$I_C=10\mu\text{A}$	60	-	75	-	V
$BV_{CEO}$	$I_C=10\text{mA}$	40	-	40	-	V
$BV_{EBO}$	$I_E=10\mu\text{A}$	5.0	-	6.0	-	V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$	-	0.4	-	0.3	V
$V_{CE(SAT)}$	$I_C=300\text{mA}, I_B=30\text{mA}$	-	1.6	-	-	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$	-	-	-	1.0	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$	-	1.3	0.6	1.2	V
$V_{BE(SAT)}$	$I_C=300\text{mA}, I_B=30\text{mA}$	-	2.6	-	-	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$	-	-	-	2.0	V
$h_{FE}$	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	-	-	35	-	
$h_{FE}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	-	-	50	-	
$h_{FE}$	$V_{CE}=10\text{V}, I_C=10\text{mA}$	75	-	75	-	
$h_{FE}$	$V_{CE}=10\text{V}, I_C=150\text{mA}$	100	300	100	300	
$h_{FE}$	$V_{CE}=10\text{V}, I_C=300\text{mA}$	30	-	-	-	
$h_{FE}$	$V_{CE}=10\text{V}, I_C=500\text{mA}$	-	-	40	-	
$f_T$	$V_{CE}=20\text{V}, I_C=20\text{mA}, f=100\text{MHz}$	200	-	200	-	MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$	-	8.0	-	8.0	pF
$C_{ib}$	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$	-	30	-	30	pF
$t_r$	$V_{CC}=30\text{V}, V_{BE}=0.5\text{V}, I_C=150\text{mA}, I_{B1}=15\text{mA}$	-	-	-	35	ns
$t_s$	$V_{CC}=30\text{V}, I_C=150\text{mA}, I_{B1}=I_{B2}=15\text{mA}$	-	-	-	285	ns

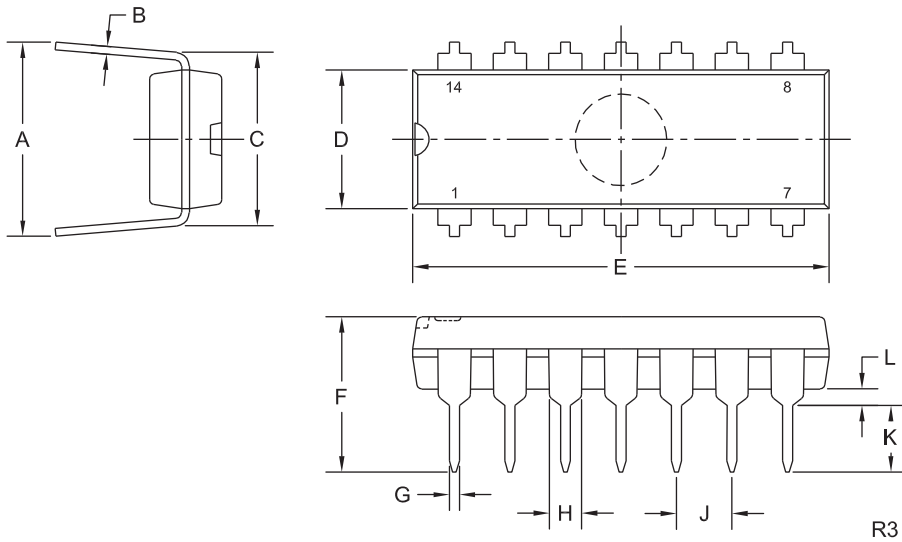
R2 (30-January 2012)

MPQ2222  
MPQ2222A

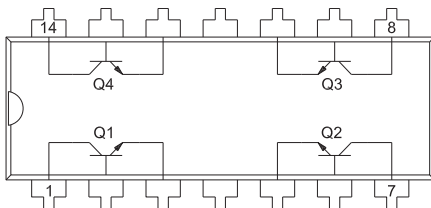
**NPN SILICON QUAD TRANSISTOR**



**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		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 (30-January 2012)

## 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

---

### 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

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

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

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