



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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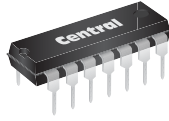
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MPQ2222
MPQ2222A

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	$^\circ\text{C}$
Θ_{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

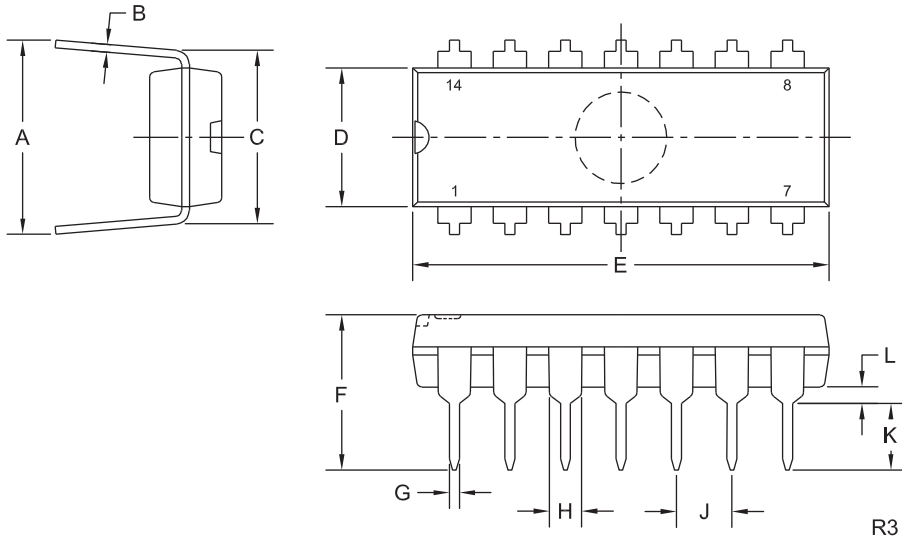
R2 (30-January 2012)

MPQ2222
MPQ2222A

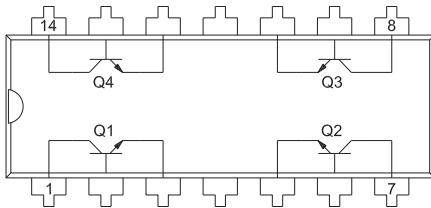
NPN SILICON QUAD TRANSISTOR



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 (2nd 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).

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