

MPQ6002
MPQ6502

**SILICON QUAD
COMPLEMENTARY TRANSISTORS**



TO-116 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR MPQ6002 and MPQ6502 types are silicon complementary pair transistors, mounted in a 14 pin DIP package, 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		UNITS
V_{CBO}	60	V
V_{CEO}	30	V
V_{EBO}	5.0	V
I_C	500	mA
P_D	650	mW
P_D	1.25	W
T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
θ_{JA}	100	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=50\text{V}$			30	nA
I_{EBO}	$V_{EB}=3.0\text{V}$			30	nA
BV_{CBO}	$I_C=10\mu\text{A}$	60			V
BV_{CEO}	$I_C=10\text{mA}$	30			V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0			V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$			0.4	V
$V_{CE(SAT)}$	$I_C=300\text{mA}, I_B=30\text{mA}$			1.4	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$			1.3	V
$V_{BE(SAT)}$	$I_C=300\text{mA}, I_B=30\text{mA}$			2.0	V
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			
h_{FE}	$V_{CE}=10\text{V}, I_C=150\text{mA}$	100			
h_{FE}	$V_{CE}=10\text{V}, I_C=300\text{mA}$	30			
f_T	$V_{CE}=20\text{V}, I_C=50\text{mA}, f=100\text{MHz}$	200			MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$			8.0	pF
C_{ib}	$V_{EB}=2.0\text{V}, I_C=0, f=1.0\text{MHz}$			30	pF
t_{on}	$V_{CC}=30\text{V}, V_{BE}=0.5\text{V}, I_C=150\text{mA}, I_{B1}=15\text{mA}$		30		ns
t_{off}	$V_{CC}=30\text{V}, I_C=150\text{mA}, I_{B1}=I_{B2}=15\text{mA}$		225		ns

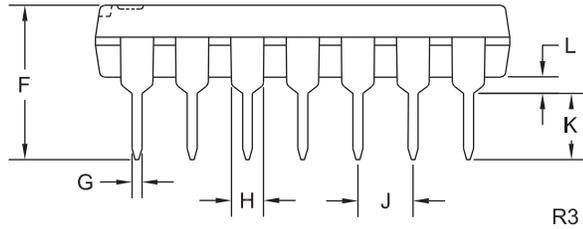
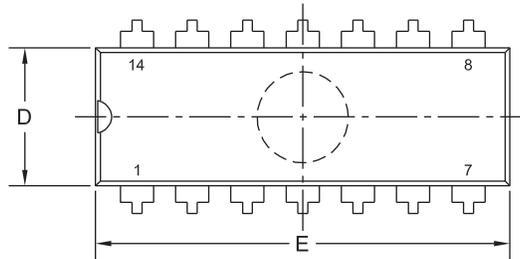
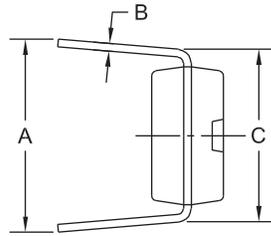
R1 (8-April 2013)

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TO-116 CASE - MECHANICAL OUTLINE



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	-

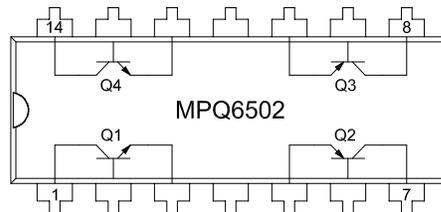
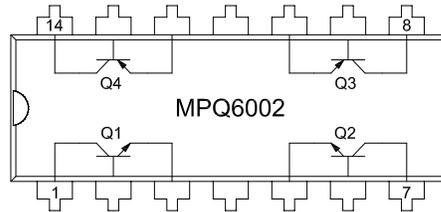
TO-116 (REV: R3)

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

PIN CONFIGURATIONS



R1 (8-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 (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).

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

Worldwide Field Representatives:
www.centrasemi.com/wwreps

Worldwide Distributors:
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

Product End of Life Notification

PDN ID:	PDN01169
Notification Date:	3/26/21
Last Buy Date:	9/26/21
Last Shipment Date	3/26/22

Summary: The devices below manufactured in the TO-116 case are discontinued and now classified as End of Life (EOL); last time buy orders will be NCNR. Note: MPQ2222, MPQ222A, and MPQ3904 are NOT being discontinued and remain active devices.

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by other manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's ongoing Product Management Process. Any replacement products are noted below. The effective date for placing last purchase orders will be six (6) months from the date of this notice and twelve (12) months from the notice date for final shipments, and minimum order quantities may apply. The last purchase and shipment dates may be extended if inventory is available.

*** All Plating types (PBFREE, TIN/LEAD) for each item listed are included in this notice.**

Central Part Number	Replacement
MPQ2369	N/A
MPQ2483	N/A
MPQ2484	N/A
MPQ2907	N/A
MPQ2907A	N/A
MPQ3467	N/A
MPQ3762	N/A
MPQ3798	N/A
MPQ3799	N/A
MPQ3906	N/A
MPQ6002	N/A
MPQ6100A	N/A
MPQ6502	N/A
MPQ6700	N/A
MPQ7043	N/A
MPQ7053	N/A
MPQ7093	N/A

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. Please email your requests to engineering@centralsemi.com.

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.