



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!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



2N4402
2N4403

SILICON
PNP TRANSISTORS



TO-92 CASE

Central
Semiconductor Corp.

www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N4402 and 2N4403 are PNP silicon transistors designed for general purpose amplifier and switching applications. NPN complementary types are 2N4400 and 2N4401.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: (T_A=25°C)

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Power Dissipation
Operating and Storage Junction Temperature

SYMBOL		UNITS
V _{CBO}	40	V
V _{CEO}	40	V
V _{EBO}	5.0	V
I _C	600	mA
P _D	625	mW
T _J , T _{stg}	-65 to +150	°C

ELECTRICAL CHARACTERISTICS: (T_A=25°C)

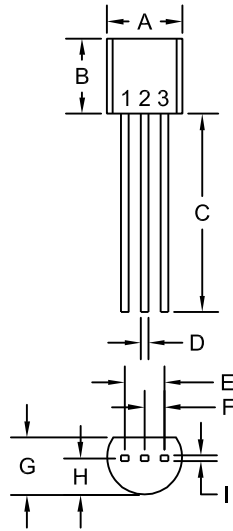
SYMBOL	TEST CONDITIONS	2N4402		2N4403		UNITS
		MIN	MAX	MIN	MAX	
I _{CEV}	V _{CE} =35V, V _{EB} =0.4V	-	0.1	-	0.1	μA
BV _{CBO}	I _C =0.1mA	40	-	40	-	V
BV _{CEO}	I _C =1.0mA	40	-	40	-	V
BV _{EBO}	I _E =0.1mA	5.0	-	5.0	-	V
V _{CE(SAT)}	I _C =150mA, I _B =15mA	-	0.4	-	0.4	V
V _{CE(SAT)}	I _C =500mA, I _B =50mA	-	0.75	-	0.75	V
V _{BE(SAT)}	I _C =150mA, I _B =15mA	0.75	0.95	0.75	0.95	V
V _{BE(SAT)}	I _C =500mA, I _B =50mA	-	1.3	-	1.3	V
h _{FE}	V _{CE} =1.0V, I _C =0.1mA	-	-	30	-	
h _{FE}	V _{CE} =1.0V, I _C =1.0mA	30	-	60	-	
h _{FE}	V _{CE} =1.0V, I _C =10mA	50	-	100	-	
h _{FE}	V _{CE} =2.0V, I _C =150mA	50	150	100	300	
h _{FE}	V _{CE} =2.0V, I _C =500mA	20	-	20	-	
h _{fe}	V _{CE} =10V, I _C =1.0mA, f=1.0kHz	30	250	60	500	
f _T	V _{CE} =10V, I _C =20mA, f=100MHz	150	-	200	-	MHz
C _{ob}	V _{CB} =10V, I _E =0, f=140kHz	-	8.5	-	8.5	pF
C _{ib}	V _{BE} =0.5V, I _C =0, f=140kHz	-	30	-	30	pF
t _{on}	V _{CC} =30V, V _{EB(OFF)} =2.0V, I _C =150mA, I _{B1} =15mA	-	35	-	35	ns
t _{off}	V _{CC} =30V, I _C =150mA, I _{B1} =I _{B2} =15mA	-	255	-	255	ns

R2 (2-December 2014)

2N4402
 2N4403
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TO-92 CASE - MECHANICAL OUTLINE



R1

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.175	0.205	4.45	5.21
B	0.170	0.210	4.32	5.33
C	0.500	-	12.70	-
D	0.016	0.022	0.41	0.56
E	0.100		2.54	
F	0.050		1.27	
G	0.125	0.165	3.18	4.19
H	0.080	0.105	2.03	2.67
I	0.015		0.38	

TO-92 (REV: R1)

LEAD CODE:

- 1) Emitter
- 2) Base
- 3) Collector

MARKING:
 FULL PART NUMBER

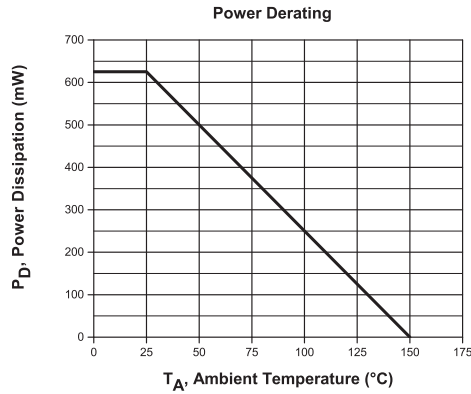
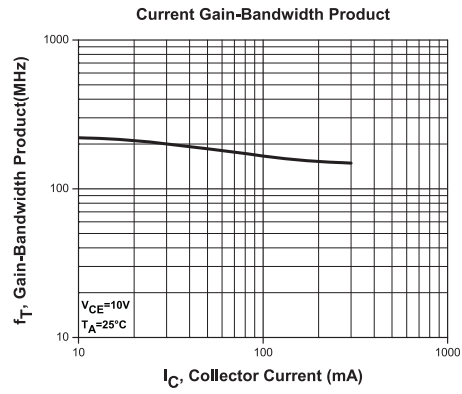
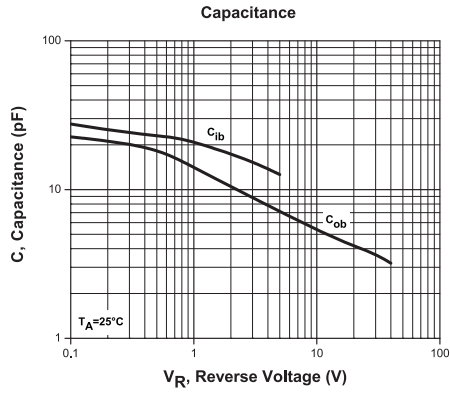
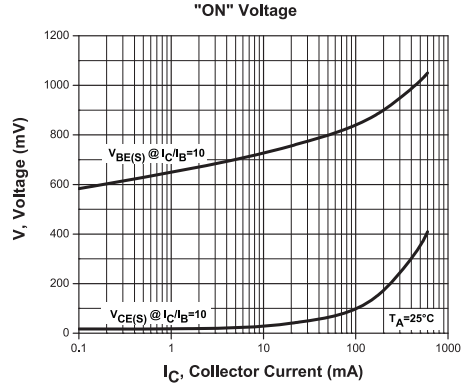
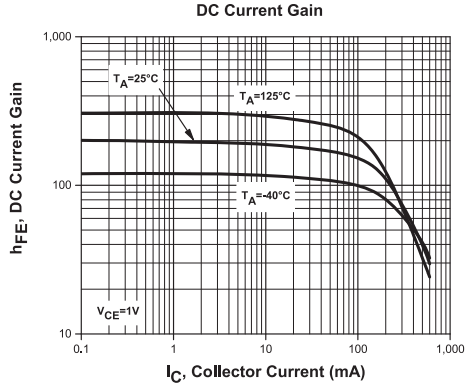
R2 (2-December 2014)

2N4402
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TYPICAL ELECTRICAL CHARACTERISTICS



R2 (2-December 2014)

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:
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