



# THE DATASHEET OF CMPTA42



CMPTA42E NPN  
CMPTA92E PNP

**ENHANCED SPECIFICATION  
SURFACE MOUNT  
COMPLEMENTARY  
HIGH VOLTAGE  
SILICON TRANSISTORS**



**SOT-23 CASE**



www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPTA42E and CMPTA92E are Enhanced versions of the CMPTA42 and CMPTA92 complementary surface mount high voltage transistors.

**MARKING CODES: CMPTA42E: C1DE  
CMPTA92E: C2DE**

**FEATURED ENHANCED SPECIFICATIONS:**

- ◆  $BV_{CBO}$  from 300V min to 350V min.
- ◆  $BV_{CEO}$  from 300V min to 350V min.
- ◆  $h_{FE}$  from 25 min to 50 min.

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

- ◆ **Collector-Base Voltage**
- ◆ **Collector-Emitter Voltage**
- Emitter-Base Voltage
- Continuous Collector Current
- Power Dissipation
- Operating and Storage Junction Temperature
- Thermal Resistance

**SYMBOL**

$V_{CBO}$	<b>350</b>
$V_{CEO}$	<b>350</b>
$V_{EBO}$	6.0
$I_C$	500
$P_D$	350
$T_J, T_{stg}$	-65 to +150
$\theta_{JA}$	357

**UNITS**

<b>V</b>
<b>V</b>
V
mA
mW
$^\circ\text{C}$
$^\circ\text{C/W}$

**ELECTRICAL CHARACTERISTICS: ( $T_A=25^\circ\text{C}$  unless otherwise noted)**

SYMBOL	TEST CONDITIONS	TYP			MAX	UNITS
		MIN	CMPTA42E	CMPTA92E		
$I_{CBO}$	$V_{CB}=200\text{V}$				250	nA
$I_{EBO}$	$V_{EB}=3.0\text{V}$				100	nA
◆ $BV_{CBO}$	$I_C=100\mu\text{A}$	<b>350</b>	<b>590</b>	<b>500</b>		<b>V</b>
◆ $BV_{CEO}$	$I_C=1.0\text{mA}$	<b>350</b>	<b>475</b>	<b>450</b>		<b>V</b>
$BV_{EBO}$	$I_E=100\mu\text{A}$	6.0	8.7	9.6		V
◆ $V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		<b>125</b>	<b>150</b>	<b>350</b>	<b>mV</b>
$V_{BE(SAT)}$	$I_C=20\text{mA}, I_B=2.0\text{mA}$				0.9	V
◆ $h_{FE}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	<b>50</b>	<b>110</b>	<b>105</b>		
◆ $h_{FE}$	$V_{CE}=10\text{V}, I_C=10\text{mA}$	<b>50</b>	<b>110</b>	<b>105</b>		
◆ $h_{FE}$	$V_{CE}=10\text{V}, I_C=30\text{mA}$	<b>50</b>	<b>110</b>	<b>105</b>		
$f_T$	$V_{CE}=20\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	50	75	75		MHz
$C_{ob}$	$V_{CB}=20\text{V}, I_E=0, f=1.0\text{MHz}$				6.0	pF

◆ Enhanced specification

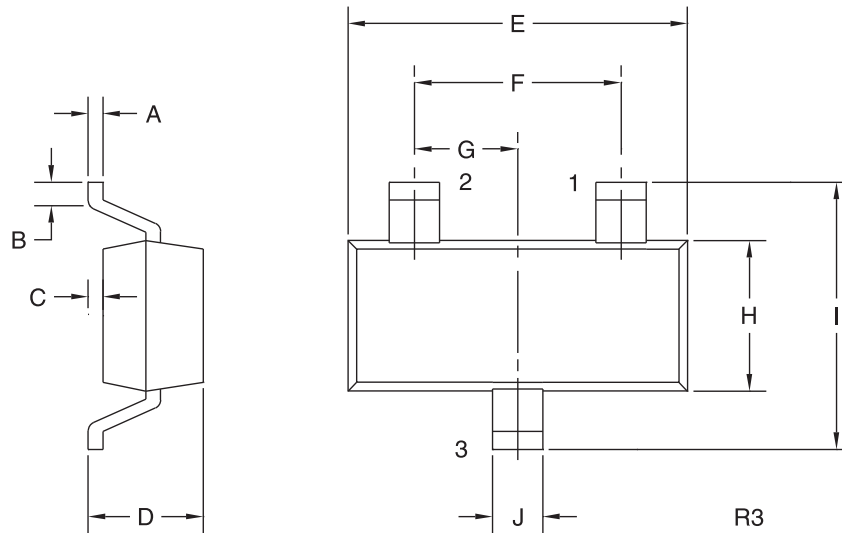
R3 (3-February 2010)

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**SOT-23 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

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

**MARKING CODES:**

CMPTA42E: C1DE  
 CMPTA92E: C2DE

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

R3 (3-February 2010)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### 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

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### 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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### CONTACT US

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- ✓ Global Sourcing Solution
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- ✓ Cost Control Management
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