

CMPTA46

**SURFACE MOUNT
EXTREMELY HIGH VOLTAGE
NPN SILICON TRANSISTOR**



SOT-23 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPTA46 type is a surface mount epoxy molded NPN silicon planar epitaxial transistor designed for extremely high voltage applications.

MARKING CODE: C46

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

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	450	V
Collector-Emitter Voltage	V_{CEO}	450	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Continuous Collector Current	I_C	500	mA
Power Dissipation	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	357	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=400\text{V}$			100	nA
I_{EBO}	$V_{BE}=4.0\text{V}$			100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	450	610		V
BV_{CEO}	$I_C=1.0\text{mA}$	450	490		V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0	8.7		V
$V_{CE(SAT)}$	$I_C=1.0\text{mA}, I_B=0.1\text{mA}$			0.20	V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$			0.30	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.15	0.50	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$			1.0	V
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	40	108		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	50	110	200	
h_{FE}	$V_{CE}=10\text{V}, I_C=50\text{mA}$	45	95		
h_{FE}	$V_{CE}=10\text{V}, I_C=100\text{mA}$	25	35		
f_T	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=10\text{MHz}$	20			MHz
C_{ob}	$V_{CB}=20\text{V}, I_E=0, f=1.0\text{MHz}$			7.0	pF
C_{ib}	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$			130	pF

R5 (3-February 2010)

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SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODE: C46

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)

R5 (3-February 2010)

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

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.centalsemi.com

Worldwide Field Representatives:
www.centalsemi.com/wwreps

Worldwide Distributors:
www.centalsemi.com/wwdistributors

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