### 2N3866 2N3866A

## NPN SILICON HIGH FREQUENCY TRANSISTOR



www.centralsemi.com

## **DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N3866 and 2N3866A are Silicon NPN RF Transistors, mounted in a hermetically sealed package, designed for high frequency amplifier and oscillator applications.

**MARKING: FULL PART NUMBER** 



MAXIMUM RATINGS: (T<sub>A</sub>=25°C unless otherwise noted)

	SYMBOL		UNITS
Collector-Base Voltage	$V_{CBO}$	55	V
Collector-Emitter Voltage	$V_{CEO}$	30	V
Emitter-Base Voltage	$V_{EBO}$	3.5	V
Continuous Collector Current	$I_{\mathbb{C}}$	0.4	Α
Continuous Base Current	ΙΒ	2.0	Α
Power Dissipation (T <sub>C</sub> =25°C)	$P_{D}$	5.0	W
Operating and Storage Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 to +200	°C
Thermal Resistance	ΘJC	35	°C/W

ELECTRICAL CHARACTERISTICS: (TA	=25°C unless otherwise noted)
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TEST CONDITIONS	MIN	MAX	UNITS
V <sub>CE</sub> =28V		20	μΑ
$V_{CE}$ =55V, $V_{BE(OFF)}$ =1.5V		0.1	mA
$V_{CE}=30V, V_{BE(OFF)}=1.5V, T_{C}=200^{\circ}C$		5.0	mA
V <sub>EB</sub> =3.5V		0.1	mA
$I_C$ =5.0mA, $R_{BE}$ =10 $\Omega$	55		V
I <sub>C</sub> =500μA	55		V
I <sub>C</sub> =5.0mA	30		V
I <sub>E</sub> =100μA	3.5		V
I <sub>C</sub> =100mA, I <sub>B</sub> =20mA		1.0	V
V <sub>CE</sub> =5.0V, I <sub>C</sub> =50mA (2N3866)	10	200	
V <sub>CE</sub> =5.0V, I <sub>C</sub> =50mA (2N3866A)	25	200	
$V_{CE}$ =5.0V, $I_{C}$ =360mA	5.0		
V <sub>CE</sub> =15V, I <sub>C</sub> =50mA, f=200MHz (2N3866)	500		MHz
V <sub>CE</sub> =15V, I <sub>C</sub> =50mA, f=200MHz (2N3866A)	800		MHz
$V_{CB}$ =28V, $I_E$ =0, f=1.0MHz		3.0	pF
V <sub>CC</sub> =28V, P <sub>out</sub> =1.0W, f=400MHz (Figure 1)		10	dB
$V_{CC}$ =28V, $P_{out}$ =1.0W, f=400MHz (Figure 1)		45	%
	TEST CONDITIONS  V <sub>CE</sub> =28V  V <sub>CE</sub> =55V, V <sub>BE</sub> (OFF)=1.5V  V <sub>CE</sub> =30V, V <sub>BE</sub> (OFF)=1.5V, T <sub>C</sub> =200°C  V <sub>EB</sub> =3.5V  I <sub>C</sub> =5.0mA, R <sub>BE</sub> =10Ω  I <sub>C</sub> =500μA  I <sub>C</sub> =5.0mA  I <sub>E</sub> =100μA  I <sub>C</sub> =100mA, I <sub>B</sub> =20mA  V <sub>CE</sub> =5.0V, I <sub>C</sub> =50mA (2N3866)  V <sub>CE</sub> =5.0V, I <sub>C</sub> =50mA (2N3866A)  V <sub>CE</sub> =5.0V, I <sub>C</sub> =360mA  V <sub>CE</sub> =15V, I <sub>C</sub> =50mA, f=200MHz (2N3866)  V <sub>CE</sub> =15V, I <sub>C</sub> =50mA, f=200MHz (2N3866A)  V <sub>CB</sub> =28V, I <sub>E</sub> =0, f=1.0MHz  V <sub>CC</sub> =28V, P <sub>out</sub> =1.0W, f=400MHz (Figure 1)	$\begin{array}{llllllllllllllllllllllllllllllllllll$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

R2 (15-September 2010)

### 2N3866 2N3866A

### NPN SILICON HIGH FREQUENCY TRANSISTOR



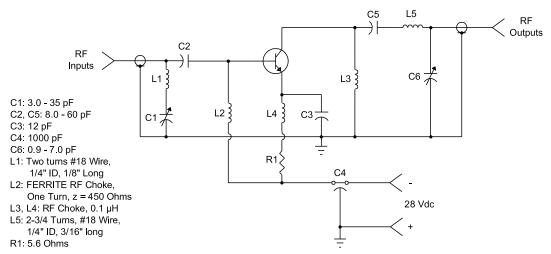
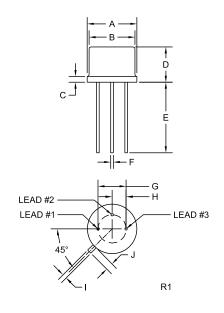


Figure 1. 400MHz Test Circuit

## **TO-39 CASE - MECHANICAL OUTLINE**



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A (DIA)	0.335	0.370	8.51	9.40
B (DIA)	0.315	0.335	8.00	8.51
С	-	0.040	-	1.02
D	0.240	0.260	6.10	6.60
E	0.500	-	12.70	-
F (DIA)	0.016	0.021	0.41	0.53
G (DIA)	0.200		5.	08
Н	0.100		2.	54
	0.028	0.034	0.71	0.86
J	0.029	0.045	0.74	1.14

TO-39 (REV: R1)

### **LEAD CODE:**

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

MARKING: FULL PART NUMBER

R2 (15-September 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 guick 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

#### 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.centralsemi.com

Worldwide Field Representatives: www.centralsemi.com/wwreps

**Worldwide Distributors:** 

www.centralsemi.com/wwdistributors

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# Product End of Life Notification

PDN ID:	PDN01114
Notification Date:	9/06/19
Last Buy Date:	
Last Shipment Date	Stock Only

Please be advised that Central Semiconductor must immediately discontinue the product(s) listed in the attached PDN notice. We are unable to accept any further orders for these products <u>unless</u> we have available inventory on hand.

You may have purchased one or more of the products listed. Please do not hesitate to contact your local Central Semiconductor sales representative with any questions or needs you may have. Central regrets any inconvenience this may cause.

Sincerely,

Central Semiconductor Corp.

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.



# Product End of Life Notification

PDN ID:	PDN01114
Notification Date:	9/06/19
Last Buy Date:	
Last Shipment Date	Stock Only

Summary: The CP616, CP617, CP618, CP223, CP229 and CP243 RF transistor die processes are discontinued and now classified and End of Life (EOL).

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.

Central Part Number	Replacement
BFW16A	N/A, Stock Only
CEN1179	N/A, Stock Only
CEN5503	N/A, Stock Only
CM4957	N/A, Stock Only
CM5160	N/A, Stock Only
CM5583	N/A, Stock Only
CM5943	N/A, Stock Only
CP223-2N3866-CT	N/A, Stock Only
CP223-2N3866-WN	N/A, Stock Only
CP229-2N5109-CM	N/A, Stock Only
CP229-2N5109-CT	N/A, Stock Only
CP229-2N5109-CT20	N/A, Stock Only
CP229-2N5109-WN	N/A, Stock Only
CP243-CM5943-WN	N/A, Stock Only
CP616-CM5160-CT	N/A, Stock Only
CP616-CM5160-CT20	N/A, Stock Only
CP616-CM5160-WN	N/A, Stock Only
CP616-2N5160-CM	N/A, Stock Only
CP616-2N5160-CT	N/A, Stock Only
CP616-2N5160-WN	N/A, Stock Only
CP617-CEN1271-CM	N/A, Stock Only
CP617-CEN1271-CT	N/A, Stock Only
CP617-CEN1271-WN	N/A, Stock Only
CP617-CM4957-CM	N/A, Stock Only
CP617-CM4957-CT	N/A, Stock Only
CP617-CM4957-CT20	N/A, Stock Only
CP617-CM4957-WN	N/A, Stock Only
CP618-CM5583-CT	N/A, Stock Only
CP618-CM5583-WN	N/A, Stock Only
CP618-2N5583-WN	N/A, Stock Only
2N3866	N/A, Stock Only
2N3866 TRAY	N/A, Stock Only
2N3866A	N/A, Stock Only
2N4427	N/A, Stock Only
2N5109	N/A, Stock Only
2N5109UB BK	N/A, Stock Only

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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.



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Central Part Number

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Renlacement

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. Pleas	se email your requests to engineering@centralsemi.com.

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# **ПОСТАВКА** ЭЛЕКТРОННЫХ КОМПОНЕНТОВ

многоканальный

Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001 Адрес: 105318, г.Москва, ул.Щербаковская д.3, офис 1107

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# http://moschip.ru/get-element

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Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

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# Офис по работе с юридическими лицами:

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