

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!



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#### **CMXT3906**

# SURFACE MOUNT DUAL PNP SILICON TRANSISTORS





www.centralsemi.com

# **DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMXT3906 type is a dual PNP silicon transistor manufactured by the epitaxial planar process, epoxy molded in a SUPERmini™ surface mount package, and designed for small signal general purpose amplifier and switching applications.

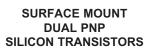
**MARKING CODE: X2A** 

MAXIMUM RATINGS: (T <sub>A</sub> =25°C)	SYMBOL		UNITS
Collector-Base Voltage	$V_{CBO}$	40	V
Collector-Emitter Voltage	$V_{CEO}$	40	V
Emitter-Base Voltage	$V_{EBO}$	5.0	V
Continuous Collector Current	l <sub>C</sub>	200	mA
Power Dissipation	$P_{D}$	350	mW
Operating and Storage Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 to +150	°C
Thermal Resistance	ΘΙΔ	357	°C/W

# **ELECTRICAL CHARACTERISTICS PER TRANSISTOR:** (T<sub>A</sub>=25°C unless otherwise noted)

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SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
ICEV	$V_{CE} = 30V, V_{EB} = 3.0V$		50	nA
BV <sub>CBO</sub>	I <sub>C</sub> =10μA	40		V
BVCEO	I <sub>C</sub> =1.0mA	40		V
BVEBO	I <sub>E</sub> =10μA	5.0		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA		0.25	V
VCE(SAT)	I <sub>C</sub> =50mA, I <sub>B</sub> =5.0mA		0.40	V
V <sub>BE</sub> (SAT)	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA	0.65	0.85	V
V <sub>BE</sub> (SAT)	I <sub>C</sub> =50mA, I <sub>B</sub> =5.0mA		0.95	V
h <sub>FE</sub>	V <sub>CE</sub> =1.0V, I <sub>C</sub> =0.1mA	60		
h <sub>FE</sub>	V <sub>CE</sub> =1.0V, I <sub>C</sub> =1.0mA	80		
h <sub>FE</sub>	V <sub>CE</sub> =1.0V, I <sub>C</sub> =10mA	100	300	
h <sub>FE</sub>	V <sub>CE</sub> =1.0V, I <sub>C</sub> =50mA	60		
h <sub>FE</sub>	V <sub>CE</sub> =1.0V, I <sub>C</sub> =100mA	30		
f <sub>T</sub>	$V_{CE}$ =20V, $I_{C}$ =10mA, f=100MHz	250		MHz
C <sub>ob</sub>	$V_{CB}$ =5.0V, $I_E$ =0, f=1.0MHz		4.5	pF
C <sub>ib</sub>	$V_{BE}$ =0.5V, $I_{C}$ =0, f=1.0MHz		10	pF
h <sub>ie</sub>	$V_{CE}$ =10V, $I_{C}$ =1.0mA, f=1.0kHz	2.0	12	kΩ

## **CMXT3906**

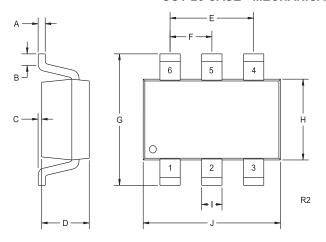




**ELECTRICAL CHARACTERISTICS PER TRANSISTOR - Continued:** (T<sub>A</sub>=25°C unless otherwise noted)

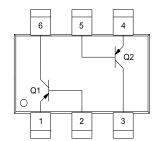
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
STWIDUL	1-01 0011-1110110			
h <sub>re</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =1.0mA, f=1.0kHz	0.1	10	x10 <sup>-4</sup>
h <sub>fe</sub>	$V_{CE}$ =10V, $I_{C}$ =1.0mA, f=1.0kHz	100	400	
h <sub>oe</sub>	$V_{CE}$ =10V, $I_{C}$ =1.0mA, f=1.0kHz	3.0	60	μS
NF	$V_{CE}$ =5.0V, $I_{C}$ =100 $\mu$ A, $R_{S}$ =1.0 $k\Omega$ ,			
	f=10Hz to 15.7kHz		4.0	dB
<sup>t</sup> d	$V_{CC}$ =3.0V, $V_{BE}$ =0.5V, $I_{C}$ =10mA, $I_{B1}$ =1.0mA		35	ns
t <sub>r</sub>	$V_{CC}$ =3.0V, $V_{BE}$ =0.5V, $I_{C}$ =10mA, $I_{B1}$ =1.0mA		35	ns
t <sub>s</sub>	$V_{CC}$ =3.0V, $I_{C}$ =10mA, $I_{B1}$ = $I_{B2}$ =1.0mA		225	ns
t <sub>f</sub>	$V_{CC}$ =3.0V, $I_{C}$ =10mA, $I_{B1}$ = $I_{B2}$ =1.0mA		75	ns

#### **SOT-26 CASE - MECHANICAL OUTLINE**



DIMENSIONS					
	INCHES		MILLIMETERS		
SYMBOL	MIN	MAX	MIN	MAX	
Α	0.004	0.007	0.11	0.19	
В	0.016	-	0.40	-	
С	-	0.004	-	0.10	
D	0.039	0.047	1.00	1.20	
E	0.074	0.075	1.88	1.92	
F	0.037	0.038	0.93	0.97	
G	0.102	0.118	2.60	3.00	
Н	0.059	0.067	1.50	1.70	
	0.016		0.41		
J	0.110	0.118	2.80	3.00	

SOT-26 (REV: R2)



# LEAD CODE:

- 1) Emitter Q1
- 2) Base Q1
- 3) Collector Q2
- 4) Emitter Q2
- 5) Base Q2
- 6) Collector Q1

**MARKING CODE: X2A** 

R3 (12-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 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).
- If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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