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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



CMXT2207

**SURFACE MOUNT  
DUAL COMPLEMENTARY  
SILICON TRANSISTORS**



www.centrasemi.com

**SUPERmini™**



**SOT-26 CASE**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMXT2207 type is a dual complementary silicon transistor manufactured by the epitaxial planar process, epoxy molded in a SUPERmini™ surface mount package, and designed for small signal general purpose and switching applications.

**MARKING CODE: X07**

**MAXIMUM RATINGS:** (T<sub>A</sub>=25°C)

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

	<b>NPN</b>	<b>PNP</b>	<b>UNITS</b>
<b>SYMBOL</b>			
V <sub>CBO</sub>	75	60	V
V <sub>CEO</sub>	40	60	V
V <sub>EBO</sub>	6.0	5.0	V
I <sub>C</sub>		600	mA
P <sub>D</sub>		350	mW
T <sub>J</sub> , T <sub>stg</sub>		-65 to +150	°C
θ <sub>JA</sub>		357	°C/W

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

<b>SYMBOL</b>	<b>TEST CONDITIONS</b>	<b>NPN</b>		<b>PNP</b>		<b>UNITS</b>
		<b>MIN</b>	<b>MAX</b>	<b>MIN</b>	<b>MAX</b>	
I <sub>CBO</sub>	V <sub>CB</sub> =60V	-	10	-	-	nA
I <sub>CBO</sub>	V <sub>CB</sub> =50V	-	-	-	10	nA
I <sub>CBO</sub>	V <sub>CB</sub> =60V, T <sub>A</sub> =125°C	-	10	-	-	µA
I <sub>CBO</sub>	V <sub>CB</sub> =50V, T <sub>A</sub> =125°C	-	-	-	10	µA
I <sub>EBO</sub>	V <sub>EB</sub> =3.0V	-	10	-	-	nA
I <sub>CEV</sub>	V <sub>CE</sub> =60V, V <sub>EB</sub> =3.0V	-	10	-	-	nA
I <sub>CEV</sub>	V <sub>CE</sub> =30V, V <sub>BE</sub> =0.5V	-	-	-	50	nA
BV <sub>CBO</sub>	I <sub>C</sub> =10µA	75	-	60	-	V
BV <sub>CEO</sub>	I <sub>C</sub> =10mA	40	-	60	-	V
BV <sub>EBO</sub>	I <sub>E</sub> =10µA	6.0	-	5.0	-	V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =150mA, I <sub>B</sub> =15mA	-	0.3	-	0.4	V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA	-	1.0	-	1.6	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =150mA, I <sub>B</sub> =15mA	0.6	1.2	-	1.3	V
V <sub>BE(SAT)</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA	-	2.0	-	2.6	V
h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =0.1mA	35	-	75	-	
h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =1.0mA	50	-	100	-	
h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =10mA	75	-	100	-	
h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =150mA	100	300	100	300	
h <sub>FE</sub>	V <sub>CE</sub> =1.0V, I <sub>C</sub> =150mA	50	-	-	-	
h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =500mA	40	-	50	-	
f <sub>T</sub>	V <sub>CE</sub> =20V, I <sub>C</sub> =20mA, f=100MHz	300	-	-	-	MHz
f <sub>T</sub>	V <sub>CE</sub> =20V, I <sub>C</sub> =50mA, f=100MHz	-	-	200	-	MHz

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CMXT2207

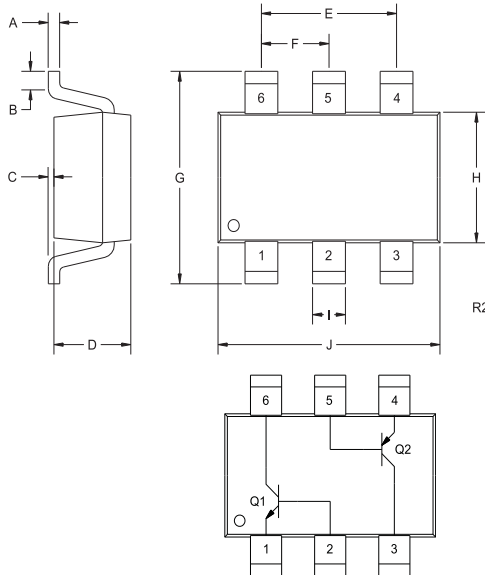
**SURFACE MOUNT  
DUAL COMPLEMENTARY  
SILICON TRANSISTORS**



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

SYMBOL	TEST CONDITIONS	NPN		PNP		UNITS
		MIN	MAX	MIN	MAX	
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$	-	8.0	-	8.0	pF
$C_{ib}$	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$	-	25	-	-	pF
$C_{ib}$	$V_{EB}=2.0\text{V}, I_C=0, f=1.0\text{MHz}$	-	-	-	30	pF
$h_{ie}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	2.0	8.0	-	-	k $\Omega$
$h_{ie}$	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=1.0\text{kHz}$	0.25	1.25	-	-	k $\Omega$
$h_{re}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	-	8.0	-	-	$\times 10^{-4}$
$h_{re}$	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=1.0\text{kHz}$	-	4.0	-	-	$\times 10^{-4}$
$h_{fe}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	50	300	-	-	
$h_{fe}$	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=1.0\text{kHz}$	75	375	-	-	
$h_{oe}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	5.0	35	-	-	$\mu\text{S}$
$h_{oe}$	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=1.0\text{kHz}$	25	200	-	-	$\mu\text{S}$
$rb'C_c$	$V_{CB}=10\text{V}, I_E=20\text{mA}, f=31.8\text{MHz}$	-	150	-	-	ps
NF	$V_{CE}=10\text{V}, I_C=100\text{mA}, R_S=1.0\text{k}\Omega, f=1.0\text{kHz}$	-	4.0	-	-	dB
$t_{on}$	$V_{CC}=30\text{V}, V_{BE}=0.5\text{V}, I_C=150\text{mA}, I_{B1}=15\text{mA}$	-	-	-	45	ns
$t_d$	$V_{CC}=30\text{V}, V_{BE}=0.5\text{V}, I_C=150\text{mA}, I_{B1}=15\text{mA}$	-	10	-	10	ns
$t_r$	$V_{CC}=30\text{V}, V_{BE}=0.5\text{V}, I_C=150\text{mA}, I_{B1}=15\text{mA}$	-	25	-	40	ns
$t_{off}$	$V_{CC}=6.0\text{V}, I_C=150\text{mA}, I_{B1}=I_{B2}=15\text{mA}$	-	-	-	100	ns
$t_s$	$V_{CC}=30\text{V}, I_C=150\text{mA}, I_{B1}=I_{B2}=15\text{mA}$	-	225	-	-	ns
$t_s$	$V_{CC}=6.0\text{V}, I_C=150\text{mA}, I_{B1}=I_{B2}=15\text{mA}$	-	-	-	80	ns
$t_f$	$V_{CC}=30\text{V}, I_C=150\text{mA}, I_{B1}=I_{B2}=15\text{mA}$	-	60	-	-	ns
$t_f$	$V_{CC}=6.0\text{V}, I_C=150\text{mA}, I_{B1}=I_{B2}=15\text{mA}$	-	-	-	30	ns

**SOT-26 CASE - MECHANICAL OUTLINE**



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.007	0.11	0.19
B	0.016	-	0.40	-
C	-	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
H	0.059	0.067	1.50	1.70
I	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: X07**

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## 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

#### 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](http://www.centrasemi.com)

**Worldwide Field Representatives:**  
[www.centrasemi.com/wwreps](http://www.centrasemi.com/wwreps)

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