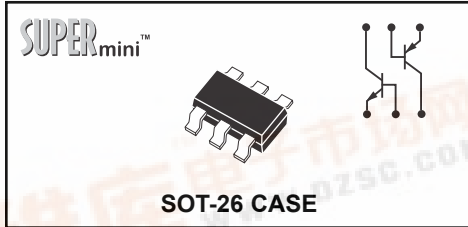


**CMXT2207**  
**SURFACE MOUNT**  
**SUPERmini™**  
**DUAL COMPLEMENTARY**  
**SILICON TRANSISTOR**



**Central™**  
**Semiconductor Corp.**

**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, designed for small signal general purpose and switching applications.

**MARKING CODE: X07**

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

	SYMBOL	NPN	PNP	UNITS
Collector-Base Voltage	V <sub>CB0</sub>	75	60	V
Collector-Emitter Voltage	V <sub>CEO</sub>	40	60	V
Emitter-Base Voltage	V <sub>EBO</sub>	6.0	5.0	V
Collector Current	I <sub>C</sub>	600		mA
Power Dissipation	P <sub>D</sub>	350		mW
Operating and Storage				
Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 to +150		°C
Thermal Resistance	θ <sub>JA</sub>	357		°C/W

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

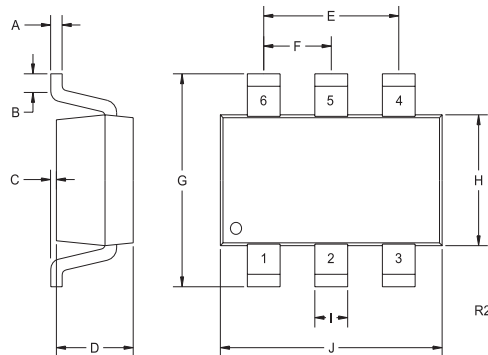
SYMBOL	TEST CONDITIONS	NPN		PNP		UNITS
		MIN	MAX	MIN	MAX	
I <sub>CB0</sub>	V <sub>CB</sub> =60V		10			nA
I <sub>CB0</sub>	V <sub>CB</sub> =50V				10	nA
I <sub>CB0</sub>	V <sub>CB</sub> =60V, T <sub>A</sub> =125°C		10			μA
I <sub>CB0</sub>	V <sub>CB</sub> =50V, T <sub>A</sub> =125°C				10	μA
I <sub>EBO</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>CB0</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

R2 (06-August 2003)

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

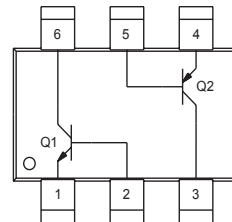
SYMBOL	TEST CONDITIONS	NPN		PNP		UNITS
		MIN	MAX	MIN	MAX	
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		8.0		8.0	pF
$C_{ib}$	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		25			pF
$C_{ib}$	$V_{EB}=2.0\text{V}, I_C=0, f=1.0\text{MHz}$				30	pF
$h_{ie}$	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	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			$\mu\text{mhos}$
$h_{oe}$	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=1.0\text{kHz}$	25	200			$\mu\text{mhos}$
$rb^{C_C}$	$V_{CB}=10\text{V}, I_E=20\text{mA}, f=31.8\text{MHz}$		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**

R2 (06-August 2003)