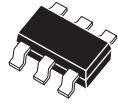


CMXT2207

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

SUPERmini™



SOT-26 CASE

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

	SYMBOL	NPN	PNP	UNITS
Collector-Base Voltage	V_{CBO}	75	60	V
Collector-Emitter Voltage	V_{CEO}	40	60	V
Emitter-Base Voltage	V_{EBO}	6.0	5.0	V
Collector Current	I_C	600		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 PER TRANSISTOR: ($T_A=25^\circ\text{C}$ unless otherwise noted)

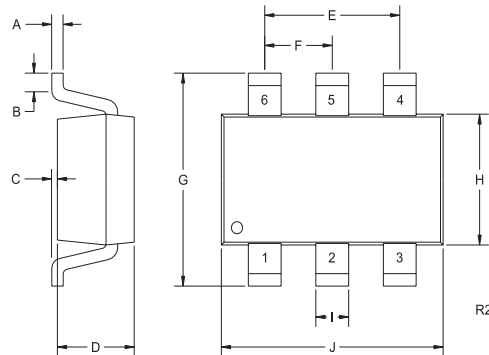
SYMBOL	TEST CONDITIONS	NPN		PNP		UNITS
		MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=60\text{V}$		10			nA
I_{CBO}	$V_{CB}=50\text{V}$				10	nA
I_{CBO}	$V_{CB}=60\text{V}, T_A=125^\circ\text{C}$		10			μA
I_{CBO}	$V_{CB}=50\text{V}, T_A=125^\circ\text{C}$				10	μA
I_{EBO}	$V_{EB}=3.0\text{V}$		10			nA
I_{CEV}	$V_{CE}=60\text{V}, V_{EB}=3.0\text{V}$		10			nA
I_{CEV}	$V_{CE}=30\text{V}, V_{BE}=0.5\text{V}$				50	nA
BV_{CBO}	$I_C=10\mu\text{A}$	75		60		V
BV_{CEO}	$I_C=10\text{mA}$	40		60		V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0		5.0		V
$V_{CE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.3		0.4	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.0		1.6	V
$V_{BE(SAT)}$	$I_C=150\text{mA}, I_B=15\text{mA}$	0.6	1.2		1.3	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		2.0		2.6	V
h_{FE}	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	35		75		
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	50		100		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	75		100		
h_{FE}	$V_{CE}=10\text{V}, I_C=150\text{mA}$	100	300	100	300	
h_{FE}	$V_{CE}=1.0\text{V}, I_C=150\text{mA}$	50				
h_{FE}	$V_{CE}=10\text{V}, I_C=500\text{mA}$	40		50		
f_T	$V_{CE}=20\text{V}, I_C=20\text{mA}, f=100\text{MHz}$	300				MHz
f_T	$V_{CE}=20\text{V}, I_C=50\text{mA}, f=100\text{MHz}$			200		MHz

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

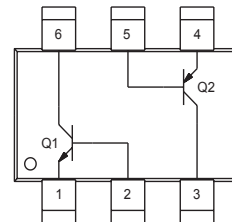
SYMBOL	TEST CONDITIONS	NPN		PNP		UNITS
		MIN	MAX	MIN	MAX	
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		8.0		8.0	pF
C_{ib}	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		25			pF
C_{ib}	$V_{EB}=2.0\text{V}, I_C=0, f=1.0\text{MHz}$				30	pF
h_{ie}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	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			μmhos
h_{oe}	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=1.0\text{kHz}$	25	200			μmhos
$r_b'C_C$	$V_{CB}=10\text{V}, I_E=20\text{mA}, f=31.8\text{MHz}$		150			ps
NF	$V_{CE}=10\text{V}, I_C=100\text{mA}, R_S=1.0k\Omega, f=1.0\text{kHz}$		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)