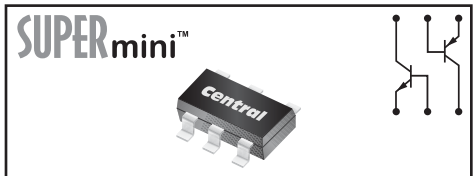
CMXT2207

SURFACE MOUNT
DUAL COMPLEMENTARY
SILICON TRANSISTORS



SOT-26 CASE

Central Semiconductor Corp.

www.centralsemi.com

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_A=25°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
Continuous Collector Current	I_C	600		mA
Power Dissipation	P_D	350		mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150		°C
Thermal Resistance	Θ_{JA}	357		°C/W

ELECTRICAL CHARACTERISTICS PER TRANSISTOR: (T_A=25°C unless otherwise noted)

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

R3 (12-February 2010)

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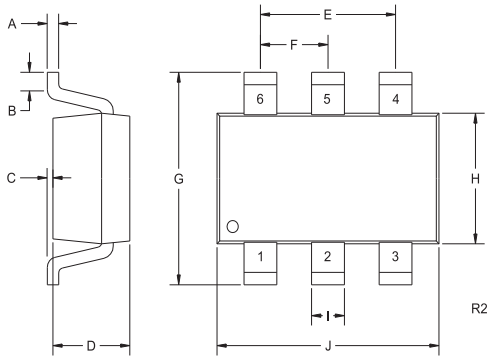
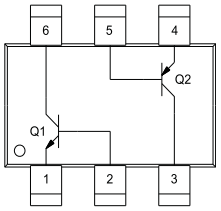
ELECTRICAL CHARACTERISTICS PER TRANSISTOR - Continued: (T_A=25°C unless otherwise noted)

		NPN		PNP		
SYMBOL	**TEST CONDITIONS**	**MIN**	**MAX**	**MIN**	**MAX**	**UNITS**
C_{ob}	V_{CB}=10V, I_E=0, f=1.0MHz	-	8.0	-	8.0	pF
C_{ib}	V_{EB}=0.5V, I_C=0, f=1.0MHz	-	25	-	-	pF
C_{ib}	V_{EB}=2.0V, I_C=0, f=1.0MHz	-	-	-	30	pF
h_{ie}	V_{CE}=10V, I_C=1.0mA, f=1.0kHz	2.0	8.0	-	-	kΩ
h_{ie}	V_{CE}=10V, I_C=10mA, f=1.0kHz	0.25	1.25	-	-	kΩ
h_{re}	V_{CE}=10V, I_C=1.0mA, f=1.0kHz	-	8.0	-	-	$x10^{-4}$
h_{re}	V_{CE}=10V, I_C=10mA, f=1.0kHz	-	4.0	-	-	$x10^{-4}$
h_{fe}	V_{CE}=10V, I_C=1.0mA, f=1.0kHz	50	300	-	-	
h_{fe}	V_{CE}=10V, I_C=10mA, f=1.0kHz	75	375	-	-	
h_{oe}	V_{CE}=10V, I_C=1.0mA, f=1.0kHz	5.0	35	-	-	µS
h_{oe}	V_{CE}=10V, I_C=10mA, f=1.0kHz	25	200	-	-	µS
$rb'C_c$	V_{CB}=10V, I_E=20mA, f=31.8MHz	-	150	-	-	ps
NF	V_{CE}=10V, I_C=100mA, R_S=1.0kΩ, f=1.0kHz	-	4.0	-	-	dB
t_{on}	V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA	-	-	-	45	ns
t_d	V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA	-	10	-	10	ns
t_r	V_{CC}=30V, V_{BE}=0.5V, I_C=150mA, I_{B1}=15mA	-	25	-	40	ns
t_{off}	V_{CC}=6.0V, I_C=150mA, I_{B1}=I_{B2}=15mA	-	-	-	100	ns
t_s	V_{CC}=30V, I_C=150mA, I_{B1}=I_{B2}=15mA	-	225	-	-	ns
t_s	V_{CC}=6.0V, I_C=150mA, I_{B1}=I_{B2}=15mA	-	-	-	80	ns
t_f	V_{CC}=30V, I_C=150mA, I_{B1}=I_{B2}=15mA	-	60	-	-	ns
t_f	V_{CC}=6.0V, I_C=150mA, I_{B1}=I_{B2}=15mA	-	-	-	30	ns

SOT-26 CASE - MECHANICAL OUTLINE





DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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

R3 (12-February 2010)