CMLT2207
CMLT2207G

SURFACE MOUNT
PICOmini™
DUAL, COMPLEMENTARY
SILICON TRANSISTORS

PICOmini™

SOT-563 CASE

Central™
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMLT2207 and CMLT2207G each consist of one isolated 2N2222A NPN transistor and one complementary isolated 2N2907A PNP transistor, manufactured by the epitaxial planar process and epoxy molded in an SOT-563 surface mount package. This PICOmini™ device has been designed for small signal general purpose amplifier and switching applications.

• The CMLT2207G is ***Halogen Free*** by design.

MARKING CODES:
CMLT2207: L70 **CMLT2207G: L7G**

MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**	**NPN (Q1)**	**PNP (Q2)**	**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		°C
Thermal Resistance	Θ_{JA}	357		°C/W

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

		NPN (Q1)		**PNP (Q2)**		
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	-	-	nA
I_{CBO}	V_{CB}=50V, T_A=125°C	-	-	-	10	nA
I_{EBO}	V_{EB}=3.0V	-	10	-	-	nA
I_{CEV}	V_{CE}=60V, $V_{EB(OFF)}$=3.0V	-	10	-	-	nA
I_{CEV}	V_{CE}=30V, $V_{EB(OFF)}$=500mV	-	-	-	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	-	

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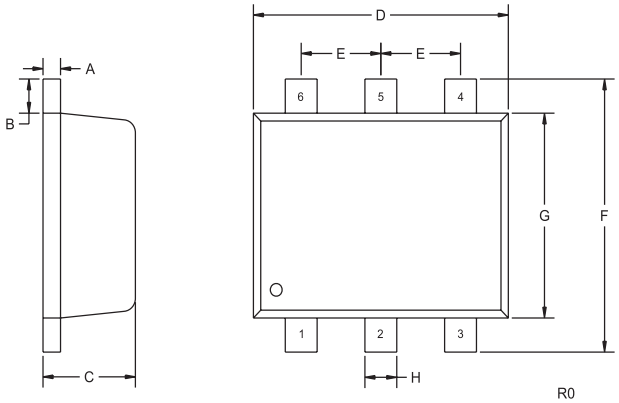
ELECTRICAL CHARACTERISTICS - Continued:

		NPN (Q1)		PNP (Q2)		
SYMBOL	**TEST CONDITIONS**	**MIN**	**MAX**	**MIN**	**MAX**	**UNITS**
f_T	V_{CE}=20V, I_C=20mA, f=100MHz	300	-	-	-	MHz
f_T	V_{CE}=20V, I_C=50mA, f=100MHz	-	-	200	-	MHz
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=100µA, 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}	VCC=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-563 CASE - MECHANICAL OUTLINE

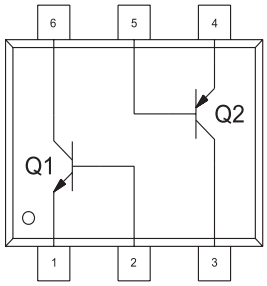


DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.004	0.007	0.10	0.18
B	0.008		0.20	
C	0.022	0.024	0.56	0.60
D	0.059	0.067	1.50	1.70
E	0.020		0.50	
F	0.061	0.067	1.55	1.70
G	0.047		1.20	
H	0.006	0.012	0.15	0.30

SOT-563 (REV: R0)

MARKING CODES:
CMLT2207: L70
CMLT2207G: L7G

LEAD CODE:
1) EMITTER Q1
2) BASE Q1
3) COLLECTOR Q2
4) EMITTER Q2
5) BASE Q2
6) COLLECTOR Q1



R2 (6-June 2008)