

CMLT5554

SURFACE MOUNT
PICOmini™
DUAL, COMPLEMENTARY
HIGH VOLTAGE
SILICON TRANSISTORS

PICOmini™



SOT-563 CASE

Central™
Semiconductor Corp.

DESCRIPTION:

The Central Semiconductor CMLT5554 consists of one 2N5551 NPN silicon transistor and one individual isolated complementary 2N5401 PNP silicon transistor, manufactured by the epitaxial planar process and epoxy molded in an SOT-563 surface mount package. This PICOmini™ device has been designed for high voltage amplifier applications.

MARKING CODE: 5C4

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

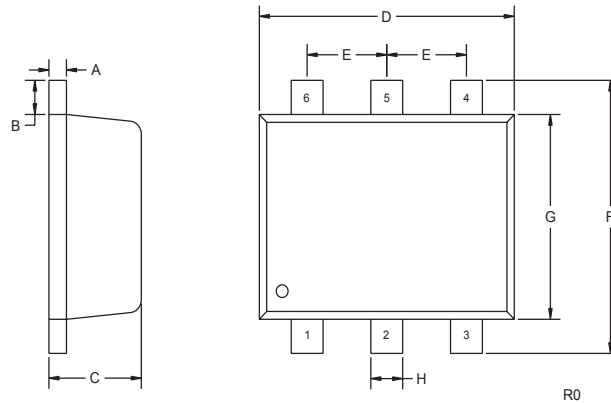
	<u>SYMBOL</u>	<u>NPN (Q1)</u>	<u>PNP (Q2)</u>	<u>UNITS</u>
Collector-Base Voltage	V_{CBO}	180	160	V
Collector-Emitter Voltage	V_{CEO}	160	150	V
Emitter-Base Voltage	V_{EBO}	6.0	5.0	V
Collector Current	I_C	600		mA
Power Dissipation	P_D	350		mW
Operating and Storage				
Junction Temperature	T_J, T_{stg}	-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)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>NPN (Q1)</u>		<u>PNP (Q2)</u>		<u>UNITS</u>
		<u>MIN</u>	<u>MAX</u>	<u>MIN</u>	<u>MAX</u>	
I_{CBO}	$V_{CB}=120\text{V}$	-	50	-	-	nA
I_{CBO}	$V_{CB}=100\text{V}$	-	-	-	50	nA
I_{CBO}	$V_{CB}=120\text{V}, T_A=100^\circ\text{C}$	-	50	-	-	μA
I_{CBO}	$V_{CB}=100\text{V}, T_A=150^\circ\text{C}$	-	-	-	50	μA
BV_{CBO}	$I_C=100\mu\text{A}$	180	-	160	-	V
BV_{CEO}	$I_C=1.0\text{mA}$	160	-	150	-	V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0	-	5.0	-	V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	-	0.15	-	0.2	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$	-	0.2	-	0.5	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	-	1.0	-	1.0	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$	-	1.0	-	1.0	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	80	-	50	-	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	80	250	60	240	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=50\text{mA}$	30	-	50	-	
f_T	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100	300	100	300	MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$	-	6.0	-	6.0	pF
h_{fe}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	50	200	40	200	
NF	$V_{CE}=5.0\text{V}, I_C=200\mu\text{A}, R_S=10\Omega, f=10\text{Hz to } 15.7\text{kHz}$	-	8.0		8.0	dB

R0 (26-October 2004)

SOT-563 CASE - MECHANICAL OUTLINE



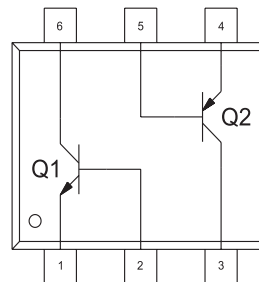
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.007	0.10	0.18
B	0.008		0.20	
C	0.022	0.024	0.56	0.60
D	0.059	0.067	1.50	1.70
E	0.020		0.50	
F	0.061	0.067	1.55	1.70
G	0.047		1.20	
H	0.006	0.012	0.15	0.30

SOT-563 (REV: R0)

LEAD CODE:

- 1) EMITTER Q1
- 2) BASE Q1
- 3) COLLECTOR Q2
- 4) EMITTER Q2
- 5) BASE Q2
- 6) COLLECTOR Q1

MARKING CODE: 5C4



R0 (26-October 2004)