

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

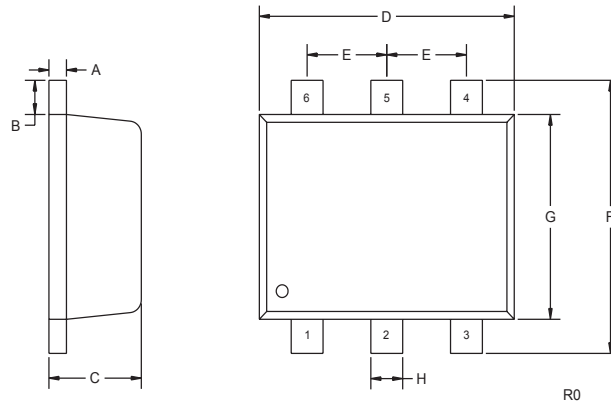
	<u>SYMBOL</u>	<u>NPN (Q1)</u>	<u>PNP (Q2)</u>	<u>UNITS</u>
Collector-Base Voltage	$V_{CB0}$	180	160	V
Collector-Emitter Voltage	$V_{CE0}$	160	150	V
Emitter-Base Voltage	$V_{EBO}$	6.0	5.0	V
Collector Current	$I_C$		600	mA
Power Dissipation	$P_D$		350	mW
Operating and Storage				
Junction Temperature	$T_J, T_{stg}$	-65 to +150		$^\circ\text{C}$
Thermal Resistance	$\Theta_{JA}$	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	-	-	$\mu\text{A}$
$I_{CBO}$	$V_{CB}=100\text{V}, T_A=150^\circ\text{C}$	-	-	-	50	$\mu\text{A}$
$BV_{CBO}$	$I_C=100\mu\text{A}$	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**



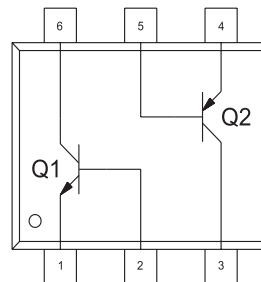
SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.007	0.10	0.18
B	0.008		0.20	
C	0.022	0.024	0.56	0.60
D	0.059	0.067	1.50	1.70
E	0.020		0.50	
F	0.061	0.067	1.55	1.70
G	0.047		1.20	
H	0.006	0.012	0.15	0.30

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)