

CMLT5554

**SURFACE MOUNT SILICON
DUAL, COMPLEMENTARY
HIGH VOLTAGE TRANSISTOR**



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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 device has been designed for high voltage amplifier applications.



SOT-563 CASE

MARKING CODE: 5C4

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

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
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		$^\circ\text{C}$
Thermal Resistance	θ_{JA}	357		$^\circ\text{C/W}$

SYMBOL	NPN (Q1)		PNP (Q2)		UNITS
	MIN	MAX	MIN	MAX	
V_{CBO}	-	50	-	-	nA
V_{CEO}	-	-	-	50	nA
V_{EBO}	-	50	-	-	μA
V_{CBO}	-	-	-	50	μA
BV_{CBO}	180	-	160	-	V
BV_{CEO}	160	-	150	-	V
BV_{EBO}	6.0	-	5.0	-	V
$V_{CE(SAT)}$	-	0.15	-	0.2	V
$V_{CE(SAT)}$	-	0.2	-	0.5	V
$V_{BE(SAT)}$	-	1.0	-	1.0	V
$V_{BE(SAT)}$	-	1.0	-	1.0	V
h_{FE}	80	-	50	-	
h_{FE}	80	250	60	240	
h_{FE}	30	-	50	-	
f_T	100	300	100	300	MHz
C_{ob}	-	6.0	-	6.0	pF
h_{fe}	50	200	40	200	
NF	-	8.0	-	8.0	dB

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

SYMBOL	TEST CONDITIONS	NPN (Q1)		PNP (Q2)		UNITS
		MIN	MAX	MIN	MAX	
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

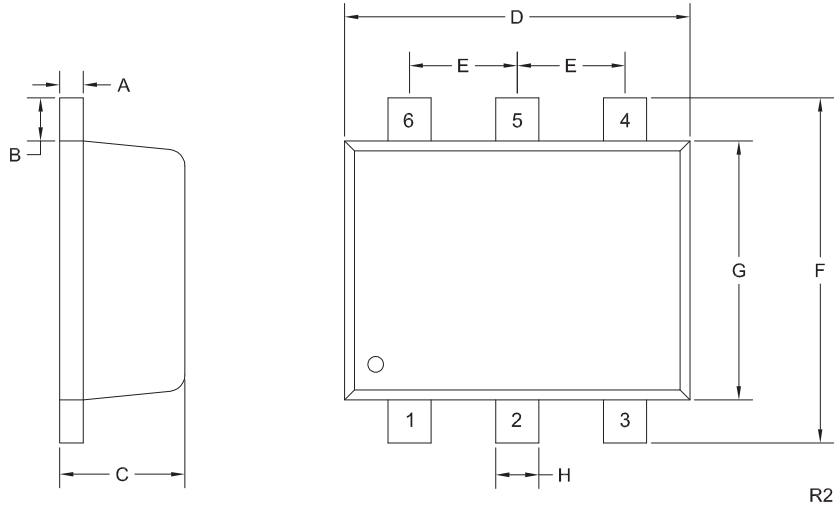
R3 (29-June 2015)

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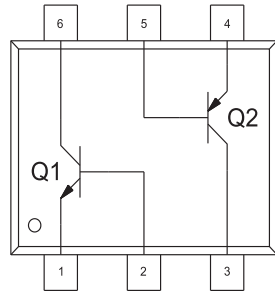


SOT-563 CASE - MECHANICAL OUTLINE



R2

PIN CONFIGURATION



DIMENSIONS

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.0027	0.007	0.07	0.18
B	0.008		0.20	
C	0.017	0.024	0.45	0.60
D	0.059	0.067	1.50	1.70
E	0.020		0.50	
F	0.059	0.067	1.50	1.70
G	0.043	0.051	1.10	1.30
H	0.006	0.012	0.15	0.30

SOT-563 (REV: R2)

LEAD CODE:

- 1) Emitter Q1
- 2) Base Q1
- 3) Collector Q2
- 4) Emitter Q2
- 5) Base Q2
- 6) Collector Q1

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R3 (29-June 2015)

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CONTACT US

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centrasemi.com

Worldwide Field Representatives:
www.centrasemi.com/wwreps

Worldwide Distributors:
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