

CMLT5554

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



www.centrasemi.com

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	$\theta_{JA}$	357		$^\circ\text{C}/\text{W}$

	<u>SYMBOL</u>	<u>NPN (Q1)</u>	<u>PNP (Q2)</u>	<u>UNITS</u>
Collector-Base Voltage	$V_{CBO}$	180	160	V
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**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

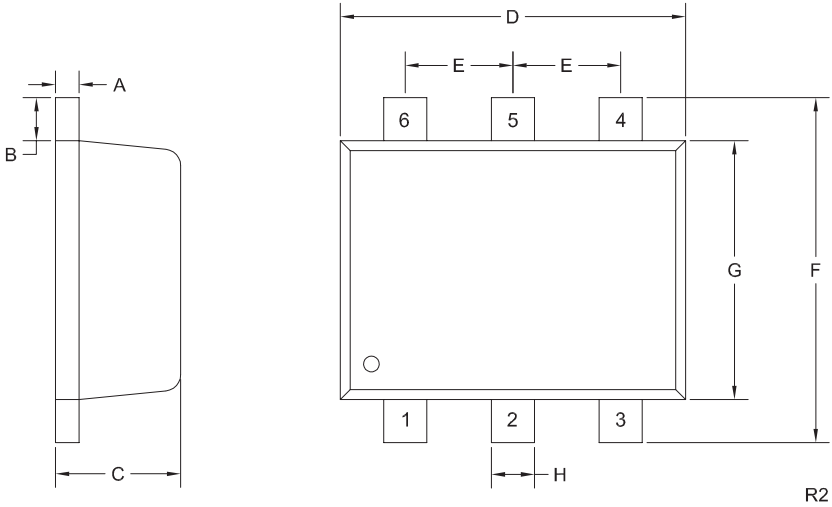
<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>NPN (Q1)</u>		<u>PNP (Q2)</u>		<u>UNITS</u>
		<u>MIN</u>	<u>MAX</u>	<u>MIN</u>	<u>MAX</u>	
$I_{CBO}$	$V_{CB}=120\text{V}$	-	50	-	-	nA
$I_{CBO}$	$V_{CB}=100\text{V}$	-	-	-	50	nA
$I_{CBO}$	$V_{CB}=120\text{V}, T_A=100^\circ\text{C}$	-	50	-	-	$\mu\text{A}$
$I_{CBO}$	$V_{CB}=100\text{V}, T_A=150^\circ\text{C}$	-	-	-	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	$V_{CE}=5.0\text{V}, I_C=200\mu\text{A}, R_S=1\text{k}\Omega,$ $f=10\text{Hz to } 15.7\text{kHz}$	-	8.0	-	8.0	dB

CMLT5554

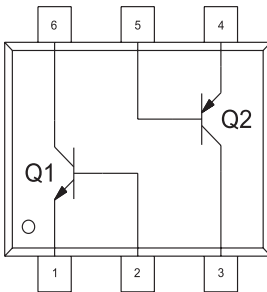
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**SOT-563 CASE - MECHANICAL OUTLINE**



**PIN CONFIGURATION**



**LEAD CODE:**

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

**MARKING CODE: 5C4**

**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)

R4 (29-April 2022)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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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](http://www.centrasemi.com)

**Worldwide Field Representatives:**  
[www.centrasemi.com/wwreps](http://www.centrasemi.com/wwreps)

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