

## Linear Systems Monolithic Dual PNP Transistor

The LS3550C is a monolithic pair of PNP transistors mounted in a single TO-71 package. The monolithic dual chip design reduces parasitics and gives better performance while ensuring extremely tight matching.

The hermetically sealed TO-71 is well suited for hi-rel and harsh environment applications.

(See Packaging Information).

### LS3550C Features:

- Tight matching
- Low Output Capacitance

### FEATURES

EXCELLENT THERMAL TRACKING  $\leq 15\mu\text{V}/^\circ\text{C}$

TIGHT  $V_{BE}$  MATCHING  $|V_{BE1} - V_{BE2}| \leq 10\text{mV}$

**ABSOLUTE MAXIMUM RATINGS**<sup>1</sup>  
@ 25°C (unless otherwise noted)

#### Maximum Temperatures

Storage Temperature  $-65^\circ\text{C}$  to  $+150^\circ\text{C}$

Operating Junction Temperature  $-55^\circ\text{C}$  to  $+150^\circ\text{C}$

#### Maximum Power Dissipation

Continuous Power Dissipation TBD

#### Maximum Currents

Collector Current 10mA

#### Maximum Voltages

Collector to Collector Voltage 80V

### MATCHING CHARACTERISTICS @ 25°C (unless otherwise stated)

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
$ V_{BE1} - V_{BE2} $	Base Emitter Voltage Differential	--	--	10	mV	$I_C = -10\mu\text{A}, V_{CE} = -5\text{V}$
$ \Delta(V_{BE1} - V_{BE2})  / \Delta T$	Base Emitter Voltage Differential Change with Temperature	--	--	15	$\mu\text{V}/^\circ\text{C}$	$I_C = -10\mu\text{A}, V_{CE} = -5\text{V}$ $T_A = -40^\circ\text{C}$ to $+85^\circ\text{C}$
$ I_{B1} - I_{B2} $	Base Current Differential	--	--	10	nA	$I_C = -10\mu\text{A}, V_{CE} = -5\text{V}$
$ \Delta(I_{B1} - I_{B2})  / \Delta T$	Base Current Differential Change with Temperature	--	--	1.0	$\text{nA}/^\circ\text{C}$	$I_C = -10\mu\text{A}, V_{CE} = -5\text{V}$ $T_A = -40^\circ\text{C}$ to $+85^\circ\text{C}$
$h_{FE1} / h_{FE2}$	DC Current Gain Differential	--	--	15	%	$I_C = 10\mu\text{A}, V_{CE} = 5\text{V}$

### ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTICS	MIN.	TYP.	MAX.	UNITS	CONDITIONS
$V_{CBO}$	Collector to Base Voltage	-20	--	--	V	$I_C = 10\mu\text{A}, I_E = 0$
$V_{CEO}$	Collector to Emitter Voltage	-20	--	--	V	$I_C = 10\mu\text{A}, I_B = 0$
$V_{EBO}$	Emitter-Base Breakdown Voltage	-6.2	--	--	V	$I_E = 10\mu\text{A}, I_C = 0^2$
$V_{CCO}$	Collector to Collector Voltage	-80	--	--	V	$I_C = 10\mu\text{A}, I_E = 0$
$h_{FE}$	DC Current Gain	50	--	--		$I_C = -1\text{mA}, V_{CE} = -5\text{V}$
		40	--	--		$I_C = -10\text{mA}, V_{CE} = -5\text{V}$
		40	--	--		$I_C = -100\text{mA}, V_{CE} = -5\text{V}$
$V_{CE(SAT)}$	Collector Saturation Voltage	--	--	-1.2	V	$I_C = -100\text{mA}, I_B = -10\text{mA}$
$I_{EBO}$	Emitter Cutoff Current	--	--	-0.2	nA	$I_E = 0, V_{CB} = -3\text{V}$
$I_{CBO}$	Collector Cutoff Current	--	--	-0.2	nA	$I_E = 0, V_{CB} = -20\text{V}$
$C_{OBO}$	Output Capacitance	--	--	2	pF	$I_E = 0, V_{CB} = -10\text{V}$
$C_{C1C2}$	Collector to Collector Capacitance	--	--	2	pF	$V_{CC} = 0\text{V}$
$I_{C1C2}$	Collector to Collector Leakage Current	--	--	-1	nA	$V_{CC} = \pm 80\text{V}$
$f_T$	Current Gain Bandwidth Product(Current)	--	--	600	MHz	$I_C = -1\text{mA}, V_{CE} = -5\text{V}$
NF	Narrow Band Noise Figure	--	--	3	dB	$I_C = -100\mu\text{A}, V_{CE} = -5\text{V}, \text{BW} = 200\text{Hz}, R_G = 10\Omega, f = 1\text{KHz}$

#### Notes:

1. Absolute Maximum ratings are limiting values above which serviceability may be impaired
2. The reverse base-to-emitter voltage must never exceed 6.2 volts; the reverse base-to-emitter current must never exceed  $10\mu\text{A}$ .

Available Packages:

LS3550C in TO-71  
LS3550C available as bare die

Please contact Micross for full package and die dimensions:

Email: [chipcomponents@micross.com](mailto:chipcomponents@micross.com)  
Web: [www.micross.com/distribution.aspx](http://www.micross.com/distribution.aspx)

TO-71 (Bottom View)

