

# LINEAR SYSTEMS

Twenty-Five Years Of Quality Through Innovation

## FEATURES

6 LEAD SOT-23 SURFACE MOUNT PACKAGE\*

TIGHT MATCHING<sup>1</sup> 2mV

EXCELLENT THERMAL TRACKING<sup>1</sup> 3 $\mu$ V/ $^{\circ}$ C

## ABSOLUTE MAXIMUM RATINGS<sup>2</sup>

@ 25  $^{\circ}$ C (unless otherwise stated)

### Maximum Temperatures

Storage Temperature -55 to +150  $^{\circ}$ C

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

### Maximum Power Dissipation

Continuous Power Dissipation TBD

### Maximum Currents

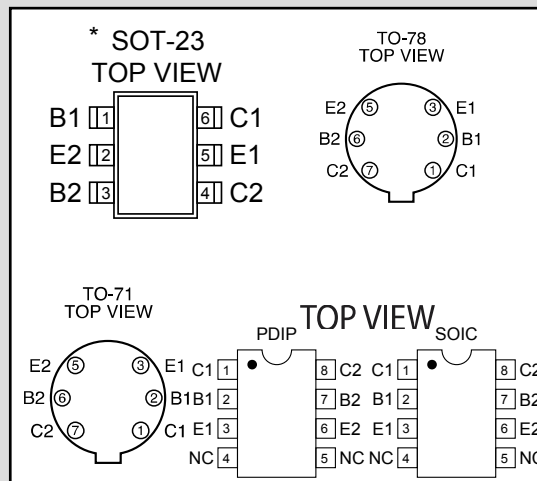
Collector Current 50mA

### Maximum Voltages

Collector to Collector Voltage 60V

# LS3550 SERIES

## MONOLITHIC DUAL PNP TRANSISTORS



### MATCHING ELECTRICAL CHARACTERISTICS @25 $^{\circ}$ C (unless otherwise stated)

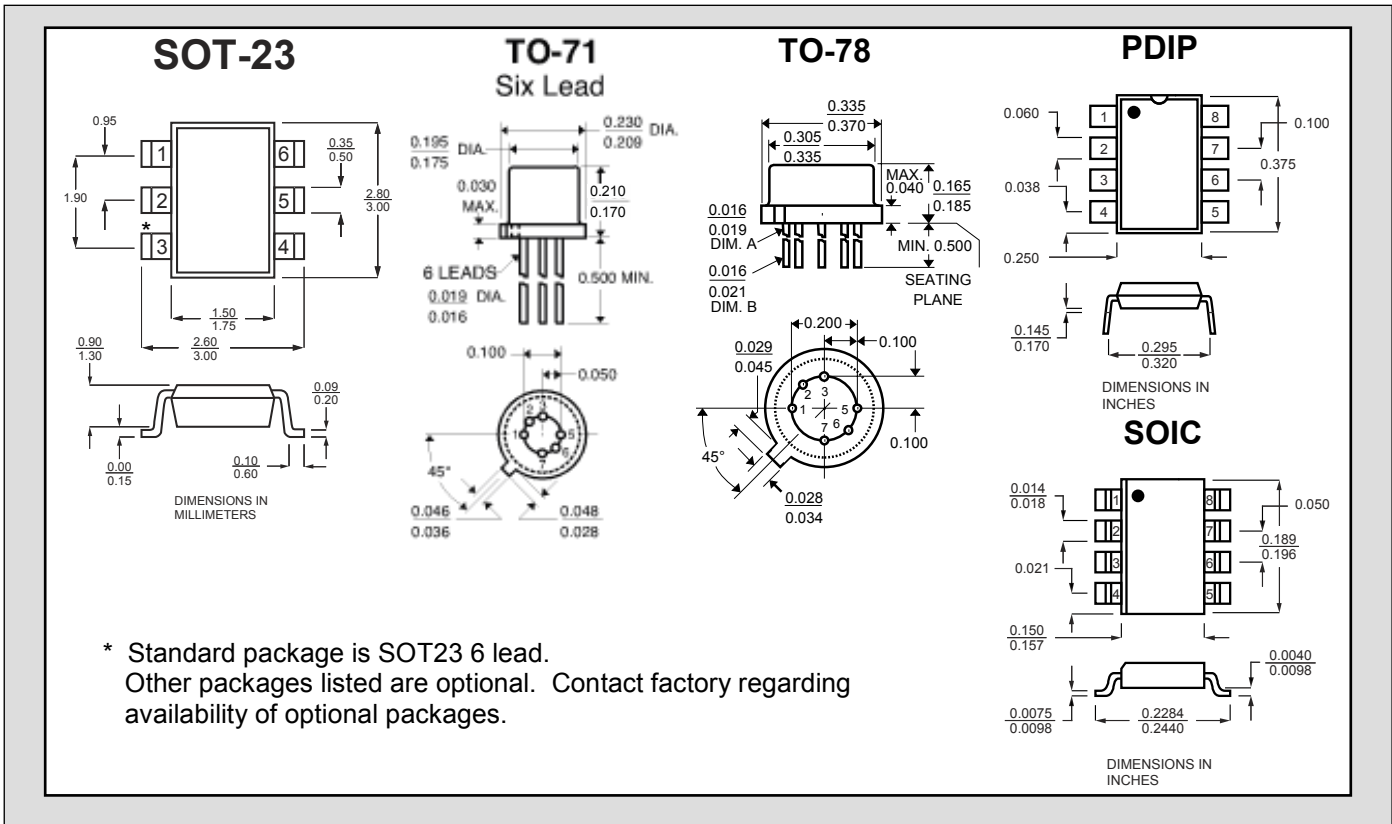
SYMBOL	CHARACTERISTIC	LS3550A		LS3550B		LS3550C		UNIT	CONDITIONS
		MIN	MAX	MIN	MAX	MIN	MAX		
$ V_{BE1} - V_{BE2} $	Base to Emitter Voltage Differential		2		5		10	mV	$I_C = -100\mu A, V_{CE} = -5V$
$\frac{ V_{BE1} - V_{BE2} }{\Delta T}$	Base to Emitter Voltage Differential Change with Temperature		3		5		15	$\mu V/^{\circ}C$	$I_C = -100\mu A, V_{CE} = -5V$ $T_A = -40^{\circ}C$ to $+85^{\circ}C$
$ I_{B1} - I_{B2} $	Base Current Differential		10		10		10	nA	$I_C = -500\mu A, V_{CE} = -5V$
$\frac{ I_{B1} - I_{B2} }{\Delta T}$	Base Current Differential Change with Temperature		0.5		0.5		1.0	nA/ $^{\circ}C$	$I_C = -500\mu A, V_{CE} = -5V$ $T_A = -40^{\circ}C$ to $+85^{\circ}C$
$\frac{h_{FE1}}{h_{FE2}}$	Current Gain Differential		10		10		15	%	$I_C = -1mA, V_{CE} = -5V$

### ELECTRICAL CHARACTERISTICS @25 $^{\circ}$ C (unless otherwise stated)

SYMBOL	CHARACTERISTIC	LS3550A		LS3550B		LS3550C		UNIT	CONDITIONS
		MIN	MAX	MIN	MAX	MIN	MAX		
$BV_{CBO}$	Collector to Base Breakdown Voltage	-45		-40		-20		15	$I_C = -10\mu A, I_E = 0A$
$BV_{CEO}$	Collector to Emitter Breakdown Voltage	-45		-40		-20		16	$I_C = -5mA, I_B = 0A$
$BV_{CCO}$	Collector to Collector Breakdown Voltage	$\pm 60$		$\pm 60$		$\pm 60$		V	$I_{CC} = \pm 1\mu A, I_B = I_C = 0A$
$BV_{EBO}$	Emitter to Base Breakdown Voltage <sup>3</sup>	-6.0		-6.0		-6.0			$I_E = -10\mu A, I_C = 0A$
$V_{CE(SAT)}$	Collector to Emitter Saturation Voltage		-0.50		-0.50		-1.2		$I_C = -10mA$ $I_B = -1mA$

**ELECTRICAL CHARACTERISTICS CONT. @25 °C (unless otherwise stated)**

SYMBOL	CHARACTERISTIC	LS3550A		LS3550B		LS3550C		UNIT	CONDITIONS
		MIN	MAX	MIN	MAX	MIN	MAX		
h <sub>FE</sub>	DC Current Gain	150		100		50			I <sub>C</sub> = -1mA, V <sub>CE</sub> = -5V
		120		80		40			I <sub>C</sub> = -10mA, V <sub>CE</sub> = -5V
		100		60		30			I <sub>C</sub> = -50mA, V <sub>CE</sub> = -5V
I <sub>CBO</sub>	Collector Cutoff Current		-0.35		-0.35			nA	I <sub>E</sub> = 0A, V <sub>CB</sub> = -30V
							-0.35		I <sub>E</sub> = 0A, V <sub>CB</sub> = -20V
I <sub>EBO</sub>	Emitter Cutoff Current		-0.35		-0.35		-0.35		I <sub>E</sub> = 0A, V <sub>CB</sub> = -3V
I <sub>C1C2</sub>	Collector to Collector Leakage Current		±1		±1		±1	µA	V <sub>CC</sub> = ±60V, I <sub>B</sub> =I <sub>C</sub> =0A
C <sub>OBO</sub>	Output Capacitance		2		2		2	pF	I <sub>E</sub> = 0A, V <sub>CB</sub> = -10V
f <sub>T</sub>	Gain Bandwidth Product (Current)		600		600		600	MHZ	I <sub>C</sub> = -1mA, V <sub>CE</sub> = -5V
NF	Noise Figure (Narrow Band)		3		3		3	dB	I <sub>C</sub> = -100µA, V <sub>CE</sub> = -5V BW = 200Hz R <sub>B</sub> = 10Ω, f = 1kHz



**NOTES:**

1. Maximum rating for LS3550A, SOT23-6.
2. Absolute maximum ratings are limiting values above which serviceability may be impaired.
3. The reverse Base-to-Emitter voltage must never exceed -6.0 Volts. The reverse Base-to-Emitter current must never exceed -10µA.

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