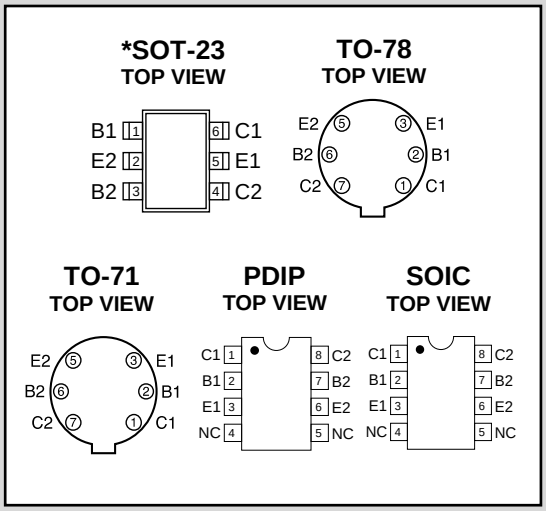
LINEAR SYSTEMS

Twenty-Five Years Of Quality Through Innovation

LS3250 SERIES

MONOLITHIC DUAL NPN TRANSISTORS

*FEATURES	
6 LEAD SOT-23 SURFACE MOUNT PACKAGE*	
TIGHT MATCHING[1]	2mV
EXCELLENT THERMAL TRACKING[1]	3µV/°C
ABSOLUTE MAXIMUM RATINGS[2] @ 25 °C (unless otherwise stated)	
Maximum Temperatures	
Storage Temperature	-55 to +150 °C
Operating Junction Temperature	-55 to +150 °C
Maximum Power Dissipation	
Continuous Power Dissipation	TBD
Maximum Currents	
Collector Current	50mA
Maximum Voltages	
Collector to Collector Voltage	50V



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

SYMBOL	CHARACTERISTIC	LS3250A		LS3250B		LS3250C		UNIT	CONDITIONS
		MIN	MAX	MIN	MAX	MIN	MAX		
$\lvert V_{BE1} - V_{BE2} \rvert$	Base to Emitter Voltage Differential		2		5		10	mV	I_C = 10µA , V_{CE} = 5V
$\frac{\lvert V_{BE1} - V_{BE2} \rvert}{\Delta T}$	Base to Emitter Voltage Differential Change with Temperature		3		5		15	µV/°C	I_C = 10µA , V_{CE} = 5V T_A = -40°C to +85°C
$\lvert I_{B1} - I_{B2} \rvert$	Base Current Differential		10		10		10	nA	I_C = 10µA, V_{CE} = 5V
$\frac{\lvert I_{B1} - I_{B2} \rvert}{\Delta T}$	Base Current Differential Change with Temperature		0.5		0.5		1.0	nA/°C	I_C = 10µA, V_{CE} = 5V T_A = -40°C to +85°C
h_{FE1}/h_{FE2}	Current Gain Differential		10		10		15	%	I_C = 1mA, V_{CE} = 5V

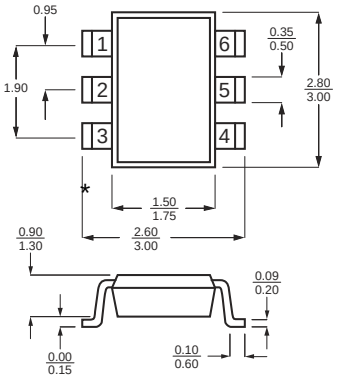
ELECTRICAL CHARACTERISTICS @25 °C (unless otherwise stated)

SYMBOL	CHARACTERISTIC	LS3250A		LS3250B		LS3250C		UNIT	CONDITIONS
		MIN	MAX	MIN	MAX	MIN	MAX		
BV_{CBO}	Collector to Base Breakdown Voltage	45		40		20		V	I_C = 10µA , I_E = 0A
BV_{CEO}	Collector to Emitter Breakdown Voltage	45		40		20			I_C = 10mA, I_B = 0
BV_{CCO}	Collector to Collector Breakdown Voltage	±50		±50		±50			I_C = ±1µA, I_E = I_B= 0A
BV_{EBO}	Emitter to Base Breakdown Voltage[3]	6.0		6.0		6.0			I_E = 10µA, I_C = 0A
$V_{CE(SAT)}$	Collector to Emitter Saturation Voltage		0.35		0.35		1.2		I_C = 10mA, I_B = 1mA

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

SYMBOL	CHARACTERISTIC	LS3250A		LS3250B		LS3250C		UNIT	CONDITIONS
		MIN	MAX	MIN	MAX	MIN	MAX		
h_{FE}	DC Current Gain	150		100		50			I_C = 1mA, V_{CE} = 5V
		150	650	80		40			I_C = 10mA, V_{CE} = 5V
		125		60		30			I_C = 35mA, V_{CE} = 5V
I_{CBO}	Collector Cutoff Current		0.35		0.35			nA	I_E = 0A, V_{CB} = 30V
							0.2		I_E = 0A, V_{CB} = 20V
I_{EBO}	Emitter Cutoff Current		0.35		0.35		0.35		I_E = 0A, V_{CB} = 3V
I_{C1C2}	Collector to Collector Leakage Current		±1		±1		±1	µA	V_{CC} = ±50V, I_E = I_B= 0A
C_{OBO}	Output Capacitance		2		2		2	pF	I_E = 0A, V_{CB} = 10V
f_T	Gain Bandwidth Product (Current)		600		600		600	MHz	I_C = 1mA, V_{CE} = 5V
NF	Noise Figure (Narrow Band)		3		3		3	dB	I_C = 100µA, V_{CE} = 5V BW = 200Hz R_B = 10Ω, *f* = 1kHz

SOT-23



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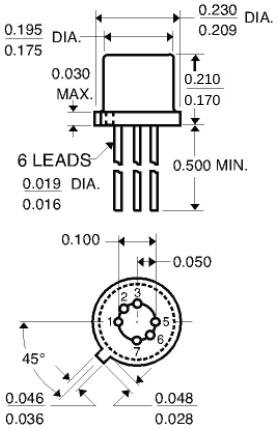

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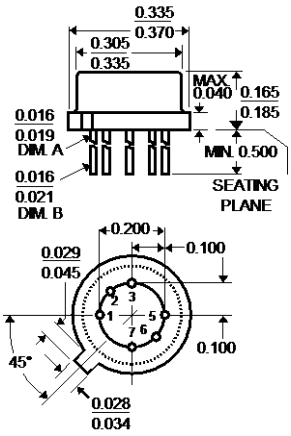

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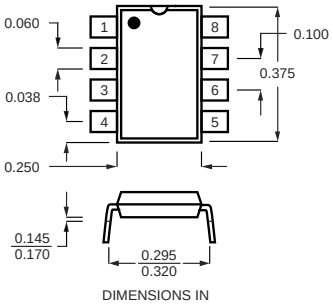

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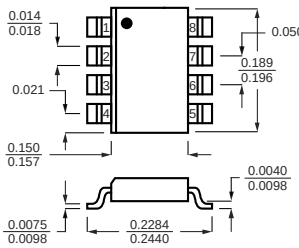

*Standard package is SOT-23 6 lead. Other packages listed are optional. Contact factory regarding availability of optional packages.

NOTES

1. Maximum rating for LS3250A, 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.

Linear Integrated Systems (LIS) is a 25-year-old, third-generation precision semiconductor company providing high-quality discrete components. Expertise brought to LIS is based on processes and products developed at Amelco, Union Carbide, Intersil and Micro Power Systems by company President John H. Hall. Hall, a protégé of Silicon Valley legend Dr. Jean Hoerni, was the director of IC Development at Union Carbide, Co-Founder and Vice President of R&D at Intersil, and Founder/President of Micro Power Systems.