LINEAR SYSTEMS

LS3250C
MONOLITHIC DUAL
NPN TRANSISTOR

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Linear Systems Log Conformance Monolithic Dual NPN

The LS3250C is a monolithic pair of NPN transistors mounted in a single SOT-23 package. The monolithic dual chip design reduces parasitics and is ideal for use in tracking applications.

The 6 Pin SOT-23 provides ease of manufacturing, and a lower cost assembly option.

(See Packaging Information).

LS3250C Features:

- Tight matching
- Low Output Capacitance

FEATURES	
TIGHT MATCHING	≤ 10mV
THERMAL TRACKING	≤ 15µV / °C
ABSOLUTE MAXIMUM RATINGS [1] @ 25°C (unless otherwise noted)	
Maximum Temperatures	
Storage Temperature	-65°C to +150°C
Operating Junction Temperature	-55°C to +150°C
Maximum Power Dissipation	
Continuous Power Dissipation	TBD
Maximum Currents	
Collector Current	50mA
Maximum Voltage	
Collector to Collector Voltage	80V

MATCHING CHARACTERISTICS @ 25°C (unless otherwise stated)

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

ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

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

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 10µA.

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Available Packages:

LS3250C in SOT-23
LS3250C available as bare die

Please contact Micross for full package and die dimensions:

Email: chipcomponents@micross.com
Web: www.micross.com/distribution.aspx

SOT-23 (Top View)