LINEAR SYSTEMS

Twenty-Five Years Of Quality Through Innovation

LS358

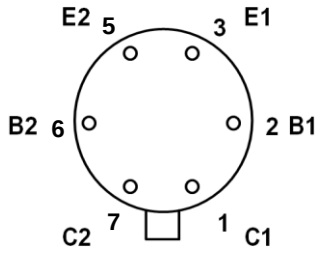
LOG CONFORMANCE MONOLITHIC DUAL PNP TRANSISTORS

FEATURES	
LOG CONFORMANCE	∆re ≤1Ω from ideal TYP.

ABSOLUTE MAXIMUM RATINGS NOTE 1 (T_A= 25°C unless otherwise noted)		
I_C	Collector-Current	-10mA

Maximum Temperatures	
Storage Temperature Range	-65°C to +150°C
Operating Junction Temperature	-55°C to +150°C

Maximum Power Dissipation	**ONE SIDE**	**BOTH SIDES**
Device Dissipation T_A=25°C	250mW	500mW
Linear Derating Factor	2.3mW/°C	4.3mW/°C



TO-71 & TO-78
TOP VIEW

ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	LS358		UNITS	CONDITIONS	
∆re	Log Conformance	1.5		Ω	I_C = -10-100-1000µA	V_{CE} = -5V
BV_{CBO}	Collector-Base Breakdown Voltage	-20	MIN.	V	I_C = -10µA	I_E = 0A
BV_{CEO}	Collector to Emitter Voltage	-20	MIN.	V	I_C = -10µA	I_B = 0A
BV_{EBO}	Emitter-Base Breakdown Voltage	-6.0	MIN.	V	I_E = -10µA	I_C = 0A **NOTE 2**
BV_{CCO}	Collector to Collector Voltage	45	MIN.	V	I_C = ±10µA, I_B=I_E = 0A	
h_{FE}	DC Current Gain	100 600	MIN. MAX.		I_C = -10µA	V_{CE} = -5V
h_{FE}	DC Current Gain	100 600	MIN. MAX.		I_C = -100µA	V_{CE} = -5V
h_{FE}	DC Current Gain	100	MIN.		I_C = -1mA	V_{CE} = -5V
V_{CE}(SAT)	Collector Saturation Voltage	-0.5	MAX.	V	I_C = -1mA	I_B = -0.1mA
I_{CBO}	Collector Cutoff Current	-0.2	MAX.	nA	I_E = 0A	V_{CB} = -15V
I_{EBO}	Emitter Cutoff Current	-0.2	MAX.	nA	I_C = 0A	V_{EB} = -3V
C_{OBO}	Output Capacitance[4]	2.0	MAX.	pF	I_E = 0A	V_{CB} = -5V
C_{C1C2}	Collector to Collector Capacitance[4]	2.0	MAX.	pF	V_{CC} = 0V	
I_{C1C2}	Collector to Collector Leakage Current	±0.5	MAX.	µA	V_{CC} = ±45V	I_B = I_E = 0A
f_T	Current Gain Bandwidth Product[4]	200	MIN.	MHz	I_C = -1mA	V_{CE} = -5V
NF	Narrow Band Noise Figure[4]	3.0	MAX.	dB	I_C = -100µA BW = 200Hz f=1KHz	V_{CE} = -5V R_G = 10 KΩ

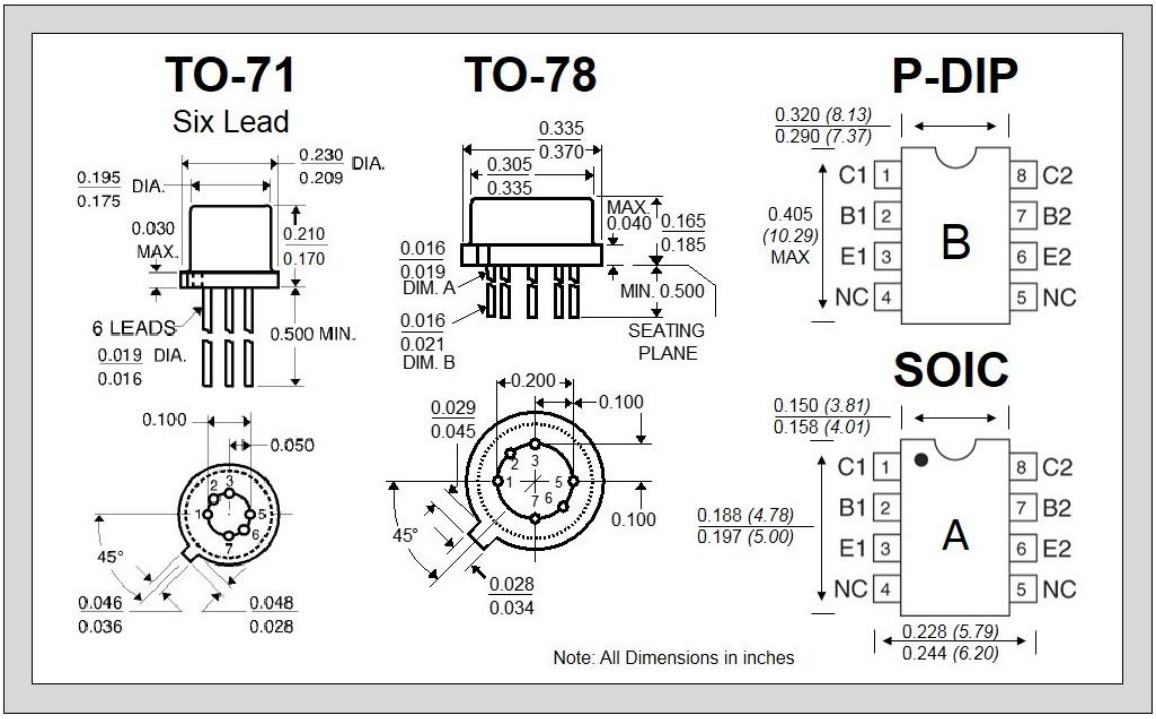
Linear Integrated Systems

• 4042 Clipper Court • Fremont, CA 94538 • Tel: 510 490-9160 • Fax: 510 353-0261

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MATCHING CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	LS358		UNITS	CONDITIONS
$\lvert V_{BE1}-V_{BE2}\rvert$	Base Emitter Voltage Differential	0.4 1	TYP. MAX.	mV mV	I_C = -10 µA V_{CE} = -5V
$\Delta\lvert (V_{BE1}-V_{BE2})\rvert$/°C	Base Emitter Voltage Differential[4] Change with Temperature	1	TYP.	µV/°C	I_C = -10 µA V_{CE} = -5V T_A = -55°C to +125°C
$\lvert I_{B1}-I_{B2}\rvert$	Base Current Differential	5	MAX.	nA	I_C = -10 µA V_{CE} = -5V
$\lvert \Delta (I_{B1}-I_{B2})\rvert$/°C	Base Current Differential[4] Change with Temperature	0.5	TYP.	nA/°C	I_C = -10 µA V_{CE} = -5V T_A = -55°C to +125°C
h_{FE1}/h_{FE2}	DC Current Gain Differential	5	TYP.	%	I_C = -10 µA V_{CE} = -5V



NOTES:

1. These ratings are limiting values above which the serviceability of any semiconductor may be impaired.
2. The reverse base-to-emitter voltage must never exceed 6.0 volts; the reverse base-to-emitter current must never exceed 10 µA.
3. All MIN/TYP/MAX Limits are absolute values. Negative signs indicate electrical polarity only.
4. Not tested; guaranteed by design.

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