

LINEAR SYSTEMS

Improved Standard Products®

IT130A IT130 IT131 IT132

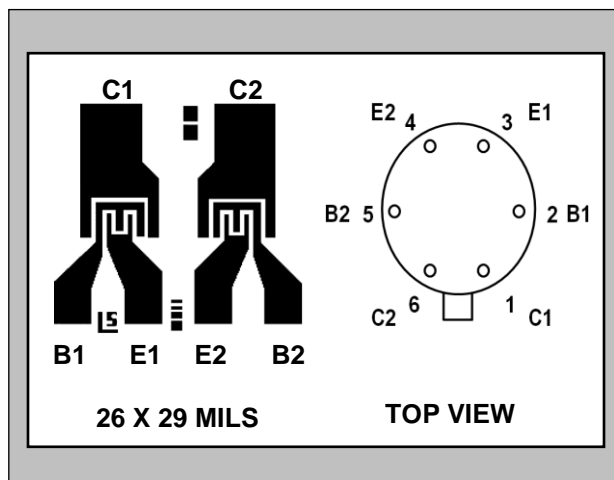
**MONOLITHIC DUAL
PNP
TRANSISTORS**

FEATURES

Direct Replacement for Intersil IT130 Series
Pin for Pin Compatible

ABSOLUTE MAXIMUM RATINGS NOTE 1
($T_A = 25^\circ\text{C}$ 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 $T_A=25^\circ\text{C}$	250mW	500mW
Linear Derating Factor	2.3mW/°C	4.3W/°C

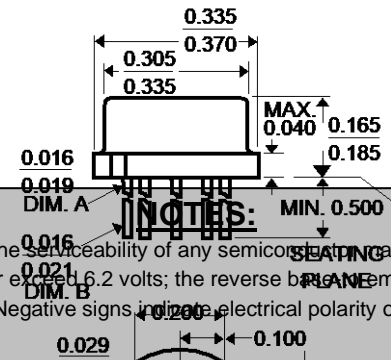
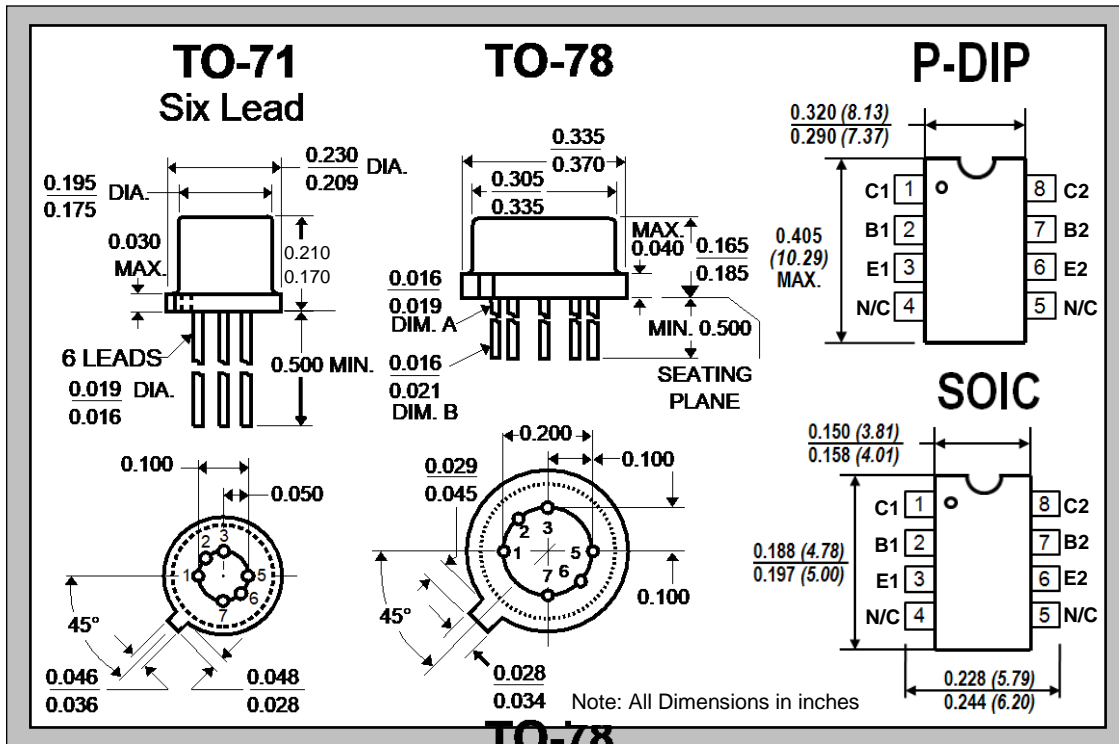


ELECTRICAL CHARACTERISTICS $T_A = 25^\circ\text{C}$ (unless otherwise noted)

SYMBOL	CHARACTERISTIC	IT130A	IT130	IT131	IT132		UNITS	CONDITIONS
BV_{CBO}	Collector to Base Voltage	-45	-45	-45	-45	MIN.	V	$I_C = -10\mu\text{A}$ $I_E = 0\text{A}$
BV_{CEO}	Collector to Emitter Voltage	-45	-45	-45	-45	MIN.	V	$I_C = -10\mu\text{A}$ $I_B = 0\text{A}$
BV_{EBO}	Emitter-Base Breakdown Voltage	-6.2	-6.2	-6.2	-6.2	MIN.	V	$I_E = -10\mu\text{A}$ $I_C = 0\text{A}$ NOTE 2
BV_{CCO}	Collector to Collector Voltage	± 60	± 60	± 60	± 60	MIN.	V	$I_{CCO} = \pm 10\mu\text{A}$ $I_B = I_E = 0\text{A}$
h_{FE}	DC Current Gain	200	200	80	80	MIN.		$I_C = -10\mu\text{A}$ $V_{CE} = -5\text{V}$
		225	225	100	100	MIN.		$I_C = -1.0\text{mA}$ $V_{CE} = -5\text{V}$
$V_{CE(SAT)}$	Collector Saturation Voltage	-0.5	-0.5	-0.5	-0.5	MAX.	V	$I_C = -0.5\text{mA}$ $I_B = -0.05\text{mA}$
I_{EBO}	Emitter Cutoff Current	-1	-1	-1	-1	MAX.	nA	$I_C = 0\text{A}$ $V_{EB} = -3\text{V}$
I_{CBO}	Collector Cutoff Current	-1	-1	-1	-1	MAX.	nA	$I_E = 0\text{A}$ $V_{CB} = -45\text{V}$
C_{OBO}	Output Capacitance ⁴	2	2	2	2	MAX.	pF	$I_E = 0\text{A}$ $V_{CB} = -5\text{V}$
C_{C1C2}	Collector to Collector Capacitance ⁴	4	4	4	4	MAX.	pF	$V_{CC} = 0\text{V}$
I_{C1C2}	Collector to Collector Leakage Current	± 500	± 500	± 500	± 500	MAX.	nA	$V_{CC} = \pm 60\text{V}$, $I_B = I_E = 0\text{A}$
f_T	Current Gain Bandwidth Product ⁴	110	110	90	90	MIN.	MHz	$I_C = -1\text{mA}$ $V_{CE} = -5\text{V}$
NF	Narrow Band Noise Figure ⁴	3	3	3	3	MAX.	dB	$I_C = -100\mu\text{A}$ $V_{CE} = -5\text{V}$ $BW = 200\text{Hz}$, $R_G = 10\text{K}\Omega$ $f = 1\text{KHz}$

MATCHING CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	IT130A	IT130	IT131	IT132		UNITS	CONDITIONS
$ V_{BE1}-V_{BE2} $	Base Emitter Voltage Differential	1	2	3	5	MAX.	mV	$I_C = -10 \mu A$ $V_{CE} = -5V$
$\Delta (V_{BE1}-V_{BE2})/\Delta T$	Base Emitter Voltage Differential	3	5	10	20	MAX.	$\mu V/^\circ C$	$I_C = 10 \mu A$ $V_{CE} = 5V$
	Change with Temperature ⁴							$T = -55^\circ C$ to $+125^\circ C$
$ I_{B1}-I_{B2} $	Base Current Differential	2.5	5	25	25	MAX.	nA	$I_C = -10 \mu A$ $V_{CE} = -5V$



- 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 6.2 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 a production test.

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 Hoern, 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.