

LINEAR SYSTEMS

Linear Integrated Systems

IT130A IT130 IT131 IT132

MONOLITHIC DUAL PNP TRANSISTORS

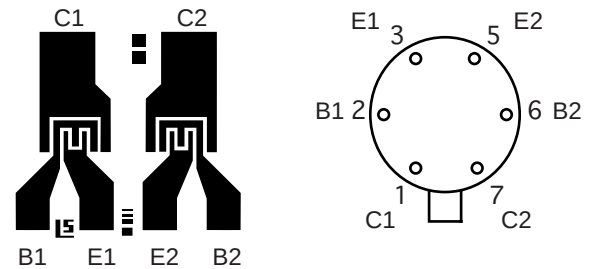
FEATURES

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 +200°C
Operating Junction Temperature		+150°C
Maximum Power Dissipation		
Device Dissipation @ Free Air		
	ONE SIDE	BOTH SIDES
	250mW	500mW
Linear Derating Factor		
	2.3mW/°C	4.3mW/°C



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

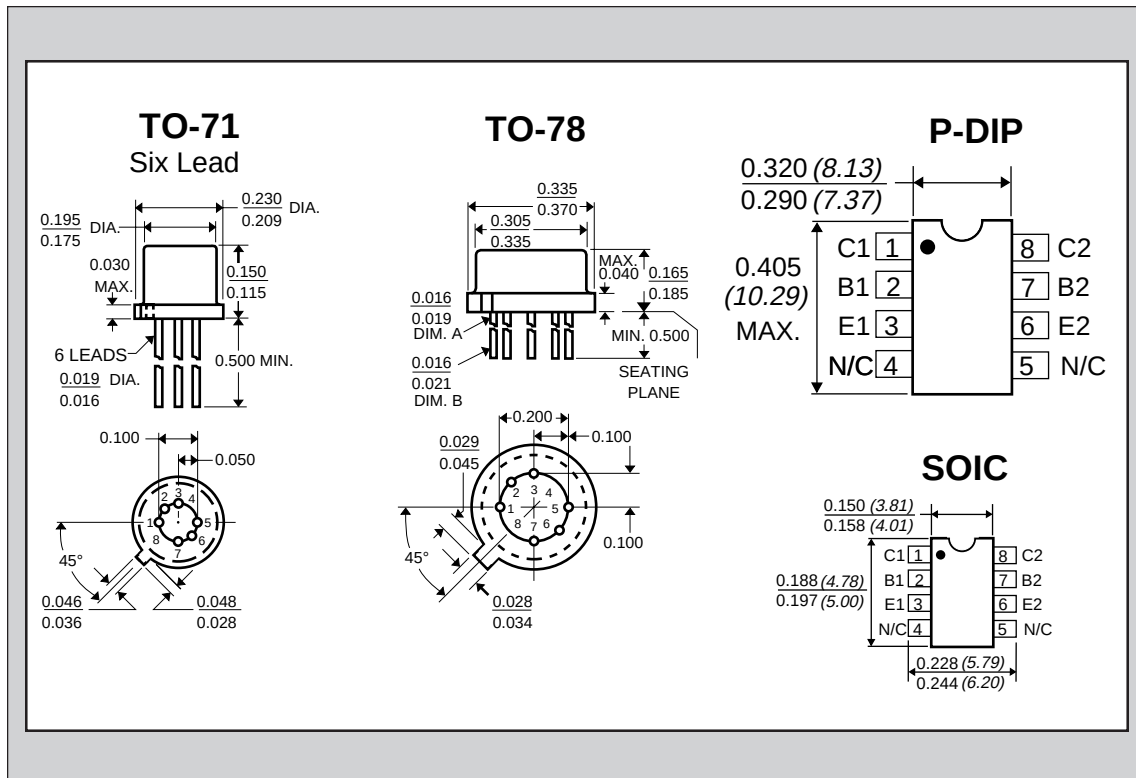
SYMBOL	CHARACTERISTICS	IT130A	IT130	IT131	IT132		UNITS	CONDITIONS
V_{CBO}	Collector to Base Voltage	45	45	45	45	MIN.	V	$I_C = 10\mu\text{A}$ $I_E = 0$
V_{CEO}	Collector to Emitter Voltage	45	45	45	45	MIN.	V	$I_C = 10\mu\text{A}$ $I_B = 0$
V_{EBO}	Emitter-Base Breakdown Voltage	6.2	6.2	6.2	6.2	MIN.	V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

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MATCHING CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTICS	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 Change with Temperature	3	5	10	20	MAX.	$\mu V/^\circ C$	$I_C = 10 \mu A$ $V_{CE} = 5V$ $T = -55^\circ C$ 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 .