

FEATURES

- High Gain At Low Current $h_{FE} > 200 @ 10 \mu A$
- Low Output Capacitance $C_{obo} < 0.8 \text{ pF}$
- h_{FE} Match $h_{FE1} / h_{FE2} < 10\%$
- Tight V_{BE} Tracking
 $\Delta(V_{BE1} - V_{BE2}) < 3 \text{ mV}/^\circ\text{C} -55^\circ\text{C} \text{ to } +125^\circ\text{C}$
- Dielectrically isolated matched pairs for differential amplifiers.

DUAL MONOLITHIC MATCHED NPN SILICON PLANAR TRANSISTORS

2N4044 2N4045 2N4100
2N4878 2N4879 2N4880

GENERAL DESCRIPTION

Dual monolithic matched NPN silicon planar transistors used for differential amplifier applications.

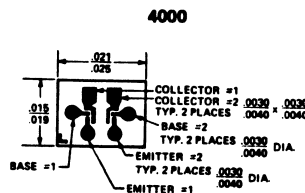
ABSOLUTE MAXIMUM RATINGS. @ 25°C (unless otherwise noted)

Maximum Temperatures
Storage Temperature $-65^\circ\text{C} \text{ to } +200^\circ\text{C}$
Operating Junction Temperature $+200^\circ\text{C}$

Maximum Power Dissipation

	TO-71		TO-78	
	ONE SIDE	BOTH SIDES	ONE SIDE	BOTH SIDES
Total Dissipation at 25°C	0.3 Watt	0.5 Watt	0.4 Watt	0.75 Watt
Derating Factor	1.7mW/°C	2.9mW/°C	2.3mW/°C	4.3mW/°C

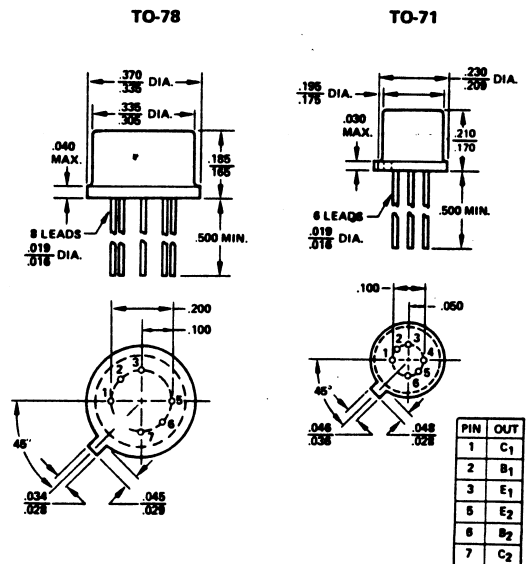
		2N4044	2N4100	2N4045
		2N4878	2N4879	2N4880
V_{CBO}	Collector to Base Voltage	60 V	55 V	45 V
V_{CEO}	Collector to Emitter Voltage	60 V	55 V	45 V
V_{EBO}	Emitter to Base Voltage (Note 2)	7 V	7 V	7 V
V_{CCO}	Collector to Collector Voltage	100 V	100 V	100 V
I_C	Collector Current	10mA	10mA	10mA



ORDERING INFORMATION

TO78	TO71	WAFER	CHIP
2N4044		2N4044/W	2N4044/D
2N4045		2N4045/W	2N4045/D
2N4100		2N4100/W	2N4100/D
	2N4878		
	2N4879		
	2N4880		

PACKAGE DIMENSIONS



ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

PARAMETER		2N4044		2N4100		2N4045		UNIT	TEST CONDITIONS
		MIN	MAX	MIN	MAX	MIN	MAX		
h_{FE}	DC Current Gain	200	600	150	600	80	800		$I_C = 10 \mu A, V_{CE} = 5V$
h_{FE}	DC Current Gain	225		175		100			$I_C = 1.0 \text{ mA}, V_{CE} = 5V$
$h_{FE}(-55^\circ\text{C})$	DC Current Gain	75		50		30			$I_C = 10 \mu A, V_{CE} = 5V$
$V_{BE(on)}$	Emitter-Base On Voltage		0.7		0.7		0.7	V	$I_C = 10 \mu A, V_{CE} = 5V$
$V_{CE(sat)}$	Collector Saturation Voltage		0.35		0.35		0.35	V	$I_C = 1.0 \text{ mA}, I_B = 0.1 \text{ mA}$
I_{CBO}	Collector Cutoff Current		0.1		0.1		0.1*	nA	$I_E = 0, V_{CB} = 45V, 30V^*$
$I_{CBO}(+150^\circ\text{C})$	Collector Cutoff Current		0.1		0.1		0.1*	μA	$I_E = 0, V_{CB} = 45V, 30V^*$
I_{EBO}	Emitter Cutoff Current		0.1		0.1		0.1	nA	$I_C = 0, V_{EB} = 5V$
C_{obo}	Output Capacitance		0.8		0.8		0.8	pF	$I_E = 0, V_{CB} = 5V$

