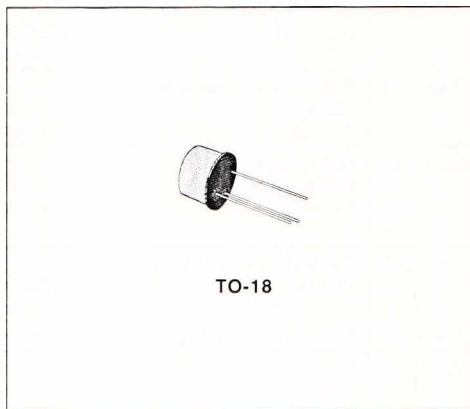
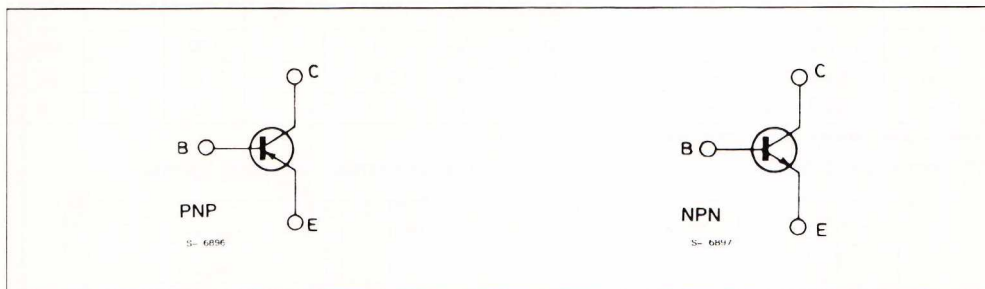


**AUDIO DRIVERS**
**DESCRIPTION**

The BC377 and BC378 are silicon planar epitaxial NPN transistors in TO-18 metal case. They are particularly intended for use in high current, high gain applications, in driver stages of hi-fi equipments or in output stages of low power class B amplifiers. The complementary PNP types are the BC297 and BC298 respectively.


**INTERNAL SCHEMATIC DIAGRAM**

**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value		Unit
		BC377	BC378	
$V_{CES}$	Collector-emitter Voltage ( $V_{EB} = 0$ )	50	30	V
$V_{CEO}$	Collector-emitter Voltage ( $I_B = 0$ )	40	25	V
$V_{EB0}$	Emitter-base Voltage ( $I_C = 0$ )	6		V
$I_C$	Collector Current	1		A
$I_B$	Base Current	0.2		A
$P_{tot}$	Total Power Dissipation at $T_{amb} \leq 25^\circ\text{C}$ at $T_{case} \leq 75^\circ\text{C}$	375		W
		1		W
$T_{stg}$	Storage Temperature	- 65 to 175		$^\circ\text{C}$
$T_j$	Junction Temperature	175		$^\circ\text{C}$

**THERMAL DATA**

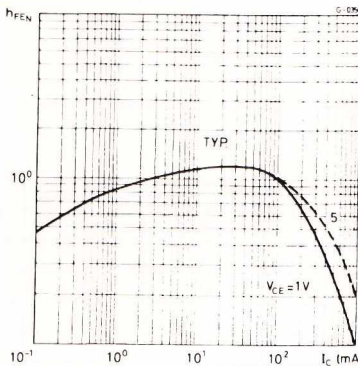
$R_{th\ j-case}$	Thermal Resistance Junction-case	Max	100	°C/W
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient	Max	400	°C/W

**ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25\text{ °C}$  unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CES}$	Collector Cutoff Current ( $V_{BE} = 0$ )	For <b>BC377</b> $V_{CE} = 50\text{ V}$ For <b>BC378</b> $V_{CE} = 30\text{ V}$			15 15	nA nA
$V_{(BR) EBO}$	Emitter-base Breakdown Voltage ( $I_C = 0$ )	$I_E = 10\text{ }\mu\text{A}$	6			V
$V_{(BR) CEO}^*$	Collector-emitter Breakdown Voltage ( $I_B = 0$ )	$I_C = 2\text{ mA}$ For <b>BC377</b> For <b>BC378</b>	40 25			V V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 500\text{ mA}$ $I_B = 50\text{ mA}$			0.7	V
$V_{BE}^*$	Base-emitter Voltage	$I_C = 100\text{ mA}$ $V_{CE} = 1\text{ V}$		740		mV
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = 500\text{ mA}$ $I_B = 50\text{ mA}$			1.2	V
$h_{FE}^*$	DC Current Gain Gr.7	$I_C = 100\text{ mA}$ $V_{CE} = 1\text{ V}$ $I_C = 100\text{ mA}$ $V_{CE} = 1\text{ V}$ $I_C = 300\text{ mA}$ $V_{CE} = 1\text{ V}$	75 125 35		260 260	
$f_T$	Transition Frequency	$I_C = 50\text{ mA}$ $V_{CE} = 10\text{ V}$		100		MHz
$C_{CBO}$	Collector-base Capacitance	$I_E = 0$ $V_{CB} = 10\text{ V}$		10		pF
$C_{EBO}$	Emitter-base Capacitance	$I_C = 0$ $V_{EB} = 0.5\text{ V}$		30		pF

\* Pulsed : pulse duration = 300  $\mu\text{s}$ , duty cycle = 1 %.

DC Normalized Current Gain.



Collector-emitter Saturation Voltage.

