SGS-THOMSON MICROELECTRONICS

S G S-THOMSON

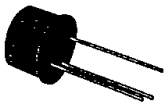
BC297
BC298

AUDIO DRIVERS

DESCRIPTION

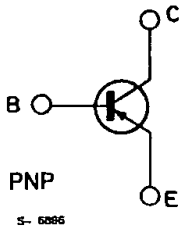
The BC297 and BC298 are silicon planar epitaxial PNP transistors in TO-18 metal case. They are particularly intended for use in high current high gain applications, in driver stages of hi-fi equipments or in output stages of low power class B amplifiers.

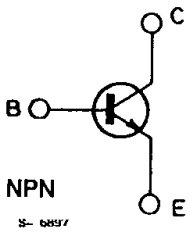
The complementary NPN types are the BC377 and BC378, respectively.



TO-18

INTERNAL SCHEMATIC DIAGRAM





ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		BC297	BC298	
V_{CES}	Collector-emitter Voltage (V_{EB} = 0)	– 50	– 30	V
V_{CEO}	Collector-emitter Voltage (I_B = 0)	– 45	– 25	V
V_{EBO}	Emitter-base Voltage (I_C = 0)	– 5		V
I_C	Collector Current	– 1		A
I_B	Base Current	– 0.2		A
P_{tot}	Total Power Dissipation at $T_{amb} \leq 25$ °C at $T_{case} \leq 75$ °C	375 1		mW W
T_{stg}	Storage Temperature	– 65 to 175		°C
T_j	Junction Temperature	175		°C

THERMAL DATA

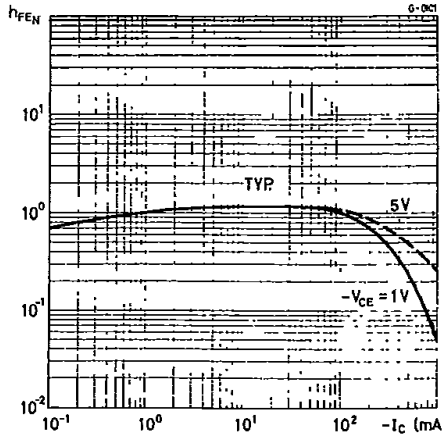
$R_{th\ j\text{-}case}$	Thermal Resistance Junction-case	Max	100	°C/W
$R_{th\ j\text{-}amb}$	Thermal Resistance Junction-ambient	Max	400	°C/W

ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

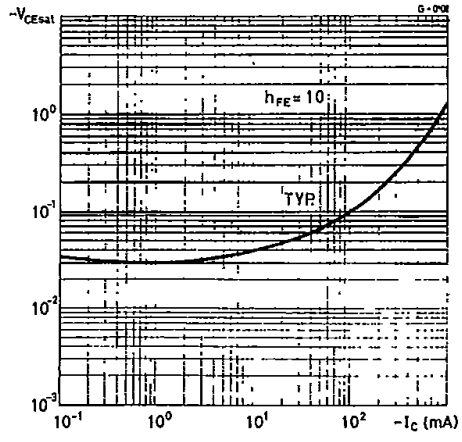
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CES}	Collector Cutoff Curent (V_{BE} = 0)	For **BC297** V_{CE} = – 50 V For **BC298** V_{CE} = – 30 V			– 100 – 100	nA nA
$V_{(BR)\ CEO}$*	Collector-emitter Breakdown Voltage (I_B = 0)	I_C = – 10 mA For **BC297** For **BC298**	– 45 – 25			V V
$V_{(BR)\ EBO}$	Emitter-base Breakdown Voltage (I_C = 0)	I_E = – 10 µA	– 5			V
$V_{CE\ (sat)}$*	Collector-emitter Saturation Voltage	I_C = – 500 mA I_B = – 50 mA			– 0.7	V
V_{BE} *	Base-emitter Voltage	I_C = – 100 mA V_{CE} = – 1 V		– 770		mV
$V_{BE\ (sat)}$ *	Base-emitter Saturation Voltage	I_C = – 500 mA I_B = – 50 mA			– 1.2	V
h_{FE} *	DC Current Gain Gr.7	I_C = – 100 mA V_{CE} = – 1 V I_C = – 100 mA V_{CE} = – 1 V I_C = – 300 mA V_{CE} = – 1 V	75 100 30		260 260	
f_T	Transition Frequency	I_C = – 50 mA V_{CE} = – 10 V		250		MHz
C_{CBO}	Collector-base Capacitance	I_E = 0 V_{CB} = – 10 V		8		pF
C_{EBO}	Emitter-base Capaciatnce	I_C = 0 V_{EB} = – 0.5 V		30		pF

* Pulsed : pulse duration = 300 µs, duty cycle = 1 %.

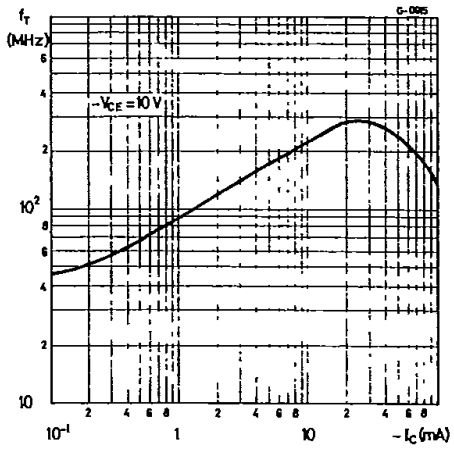
DC Normalized Current Gain.



Collector-emitter Saturation Voltage.



Transition Frequency.



Power Rating Chart.