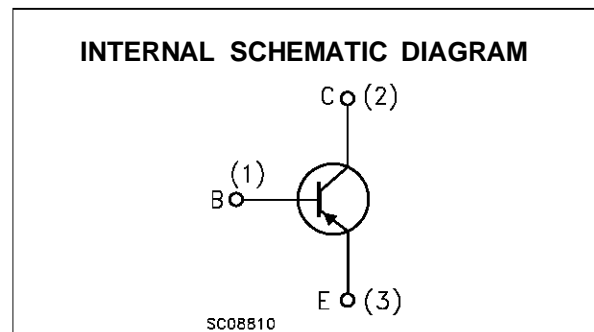
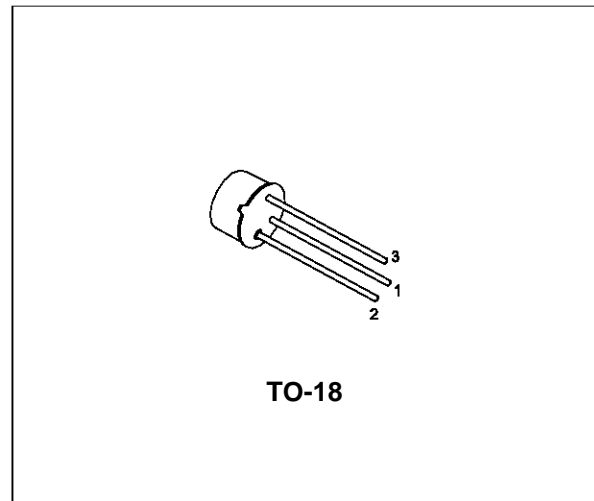


LOW NOISE GENERAL PURPOSE AUDIO AMPLIFIERS

DESCRIPTION

The BC177 is a silicon planar epitaxial PNP transistors in TO-18 metal case. It is suitable for use in driver stages, low noise input stages and signal processing circuits of television receivers. The NPN complement is BC107.


ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CES}	Collector-Emitter Voltage ($V_{BE} = 0$)	-50	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	-45	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	-5	V
I_C	Collector Current	-100	mA
I_{CM}	Collector Peak Current	-200	mA
P_{tot}	Total Dissipation at $T_{amb} \leq 25\text{ }^\circ\text{C}$	0.3	W
T_{stg}	Storage Temperature	-65 to 175	$^\circ\text{C}$
T_j	Max. Operating Junction Temperature	175	$^\circ\text{C}$

BC177

THERMAL DATA

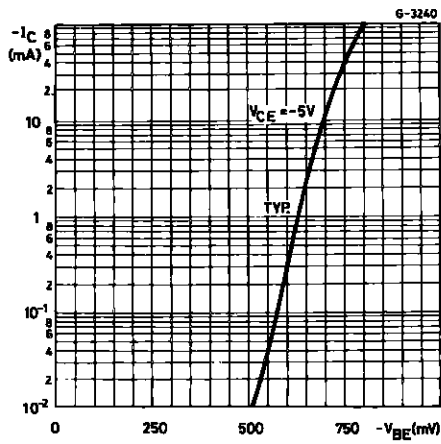
$R_{thj-case}$	Thermal Resistance Junction-Case	Max	200	$^{\circ}C/W$
$R_{thj-amb}$	Thermal Resistance Junction-Ambient	Max	500	$^{\circ}C/W$

ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

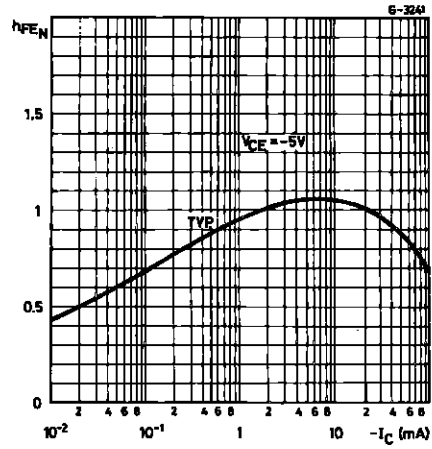
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CES}	Collector Cut-off Current ($V_{BE} = 0$)	$V_{CE} = -20 V$ $V_{CE} = -20 V$ $T_{amb} = 150^{\circ}C$		-1	-100 -10	nA μA
$V_{(BR)CES}$	Collector-Emitter Breakdown Voltage ($V_{BE} = 0$)	$I_C = -10 \mu A$	-50			V
$V_{(BR)CEO}^*$	Collector-Emitter Breakdown Voltage ($I_B = 0$)	$I_C = -2 mA$	-45			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_C = 0$)	$I_E = -10 \mu A$	-5			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = -10 mA$ $I_B = -0.5 mA$ $I_C = -100 mA$ $I_B = -5 mA$		-75 -200	-250	mV mV
$V_{BE(sat)}^*$	Base-Emitter Saturation Voltage	$I_C = -10 mA$ $I_B = -0.5 mA$ $I_C = -100 mA$ $I_B = -5 mA$		-720 -860		mV mV
$V_{BE(on)}^*$	Base-Emitter On Voltage	$I_C = -2 mA$ $V_{CE} = -5 V$	-550	-640	-750	mV
h_{fe}^*	Small Signal Current Gain	$I_C = -2 mA$ $V_{CE} = -5 V$ $f = 1 KHz$ Gr. A Gr. B		125 240	260 500	
f_T	Transition Frequency	$I_C = -10 mA$ $V_{CE} = -5 V$ $f = 100 MHz$		200		MHz
C_{CBO}	Collector Base Capacitance	$I_E = 0$ $V_{CB} = -10 V$		5		pF
NF	Noise Figure	$I_C = -0.2 mA$ $V_{CE} = -5 V$ $f = 1 KHz$ $R_g = 2 K\Omega$ $B = 200 Hz$		2	10	dB
h_{ie}	Input Impedance	$I_C = -2 mA$ $V_{CE} = -5 V$ $f = 1 KHz$ Gr. A Gr. B		2.7 5.2		$K\Omega$ $K\Omega$
h_{re}	Reverse Voltage Ratio	$I_C = -2 mA$ $V_{CE} = -5 V$ $f = 1 KHz$ Gr. A Gr. B		2.7 4.5		10^{-4} 10^{-4}
h_{oe}	Output Admittance	$I_C = -2 mA$ $V_{CE} = -5 V$ $f = 1 KHz$ Gr. A Gr. B		25 35		μS μS

* Pulsed: Pulse duration = 300 μs , duty cycle $\leq 1\%$

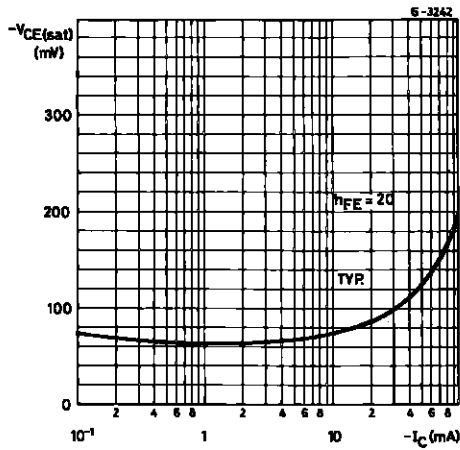
DC Transconductance.



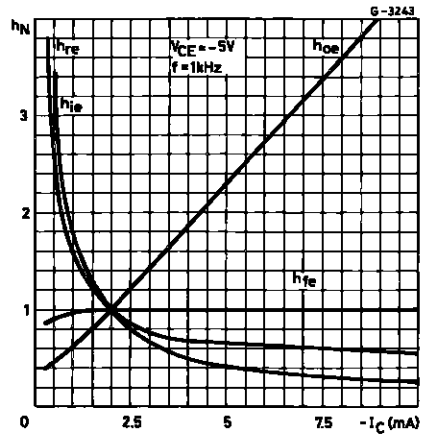
DC Normalized Current Gain.



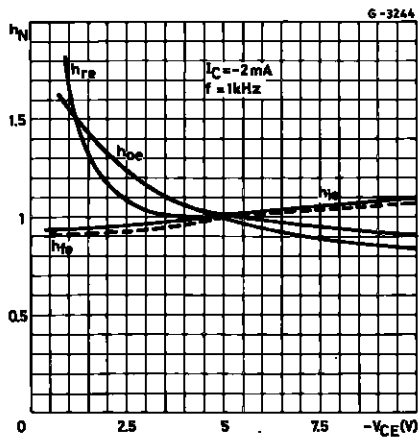
Collector-emitter Saturation Voltage.



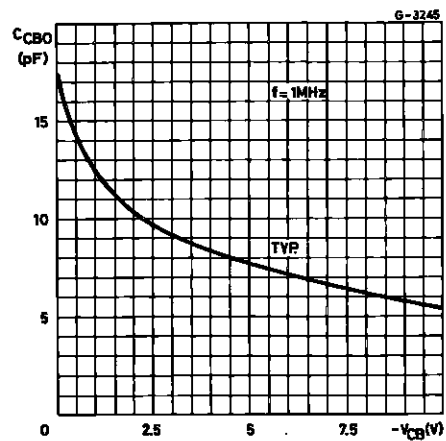
Normalized h Parameters.



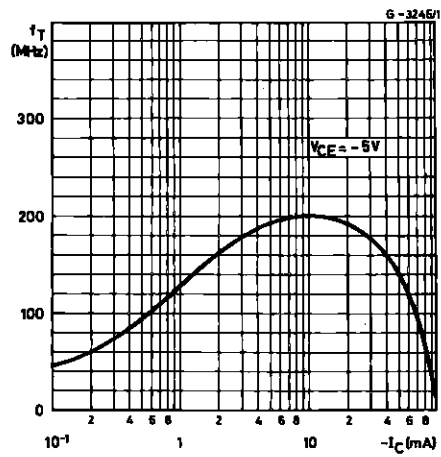
Normalized h Parameters.



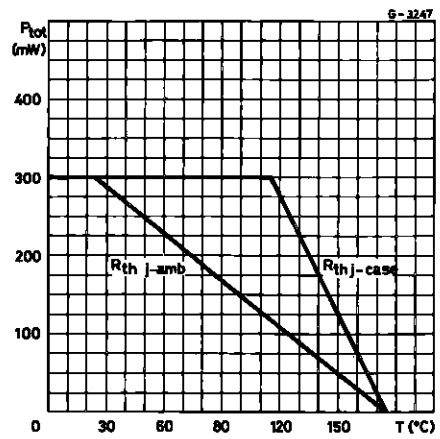
Collector-base Capacitance.



Transition Frequency.

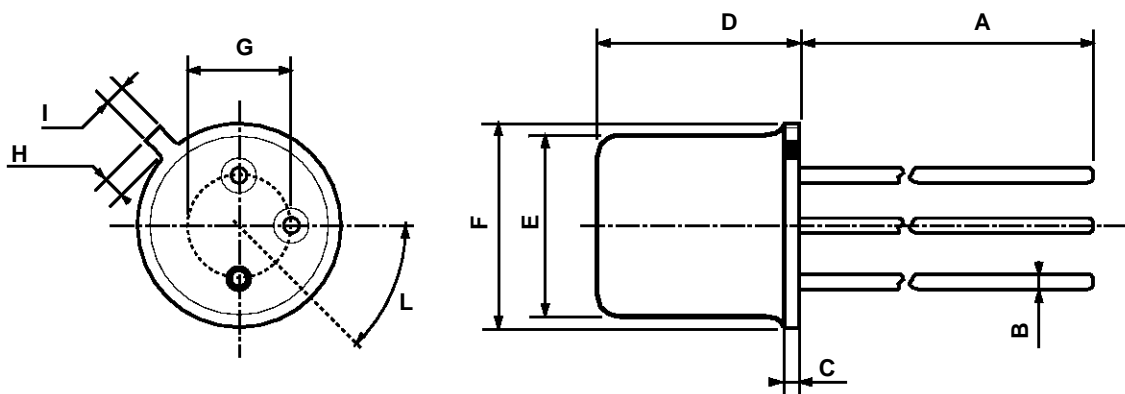


Power Rating Chart.



TO-18 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		12.7			0.500	
B			0.49			0.019
D			5.3			0.208
E			4.9			0.193
F			5.8			0.228
G	2.54			0.100		
H			1.2			0.047
I			1.16			0.045
L	45°			45°		



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