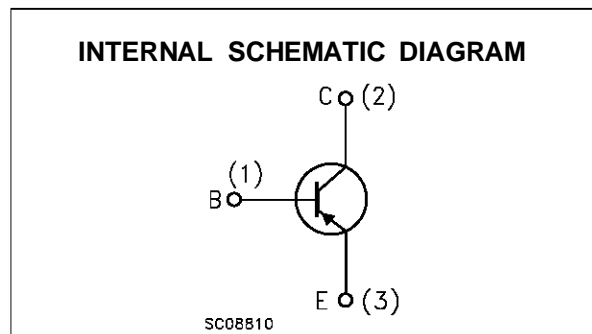
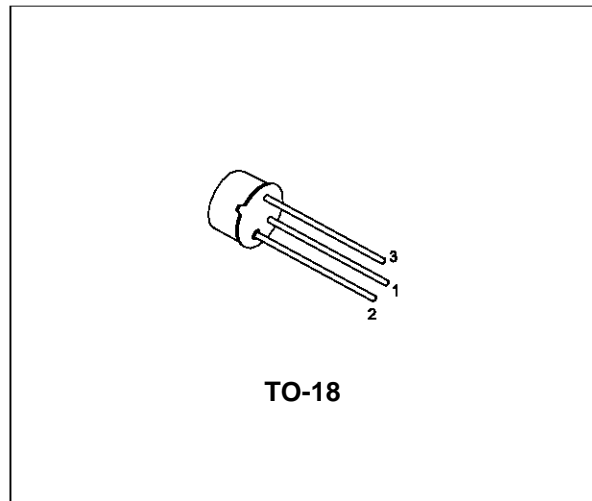


LOW NOISE GENERAL PURPOSE AUDIO AMPLIFIERS

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} ≤ 25 °C	0.3	W
T _{stg}	Storage Temperature	-65 to 175	°C
T _j	Max. Operating Junction Temperature	175	°C

THERMAL DATA

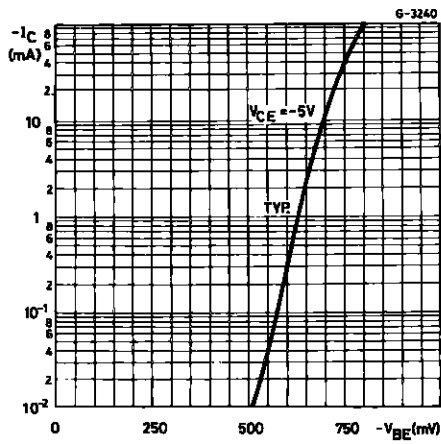
R _{thj-case}	Thermal Resistance Junction-Case	Max	200	°C/W
R _{thj-amb}	Thermal Resistance Junction-Ambient	Max	500	°C/W

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

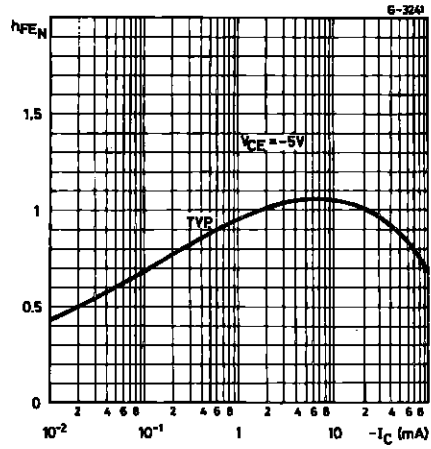
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CES}	Collector Cut-off Current (V _{BE} = 0)	V _{CE} = -20 V V _{CE} = -20 V T _{amb} = 150 °C		-1	-100 -10	nA μA
V _{(BR)CES}	Collector-Emitter Breakdown Voltage (V _{BE} = 0)	I _C = -10 μA	-50			V
V _{(BR)CEO*}	Collector-Emitter Breakdown Voltage (I _B = 0)	I _C = -2 mA	-45			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage (I _C = 0)	I _E = -10 μA	-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 = 1KHz 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 _{CB0}	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 = 1KHz R _g = 2KΩ B = 200Hz		2	10	dB
h _{ie}	Input Impedance	I _C = -2 mA V _{CE} = -5 V f = 1KHz Gr. A Gr. B		2.7 5.2		KΩ KΩ
h _{re}	Reverse Voltage Ratio	I _C = -2 mA V _{CE} = -5 V f = 1KHz 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 = 1KHz Gr. A Gr. B		25 35		μS μS

* Pulsed: Pulse duration = 300 μs, duty cycle ≤ 1 %

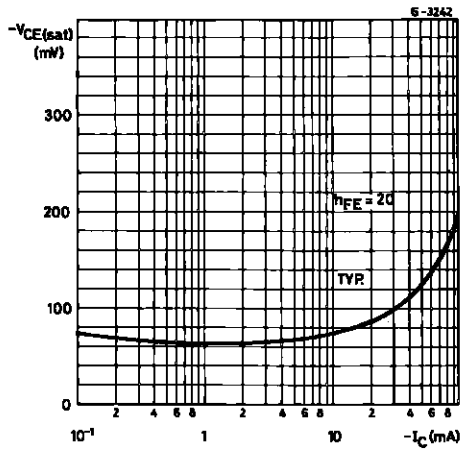
DC Transconductance.



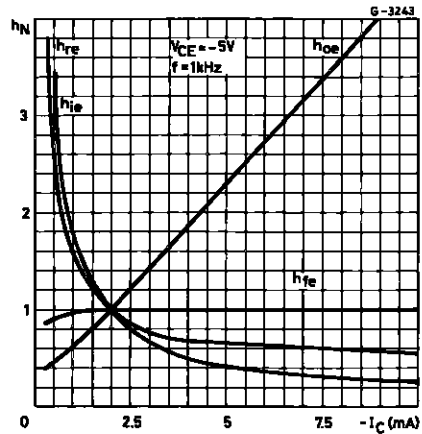
DC Normalized Current Gain.



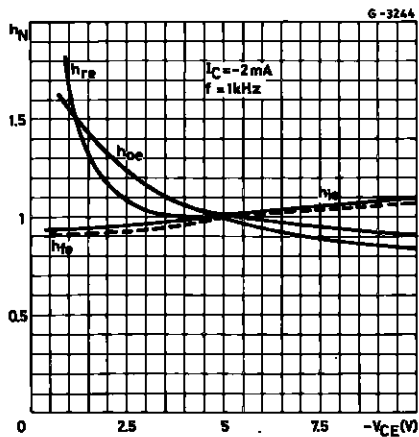
Collector-emitter Saturation Voltage.



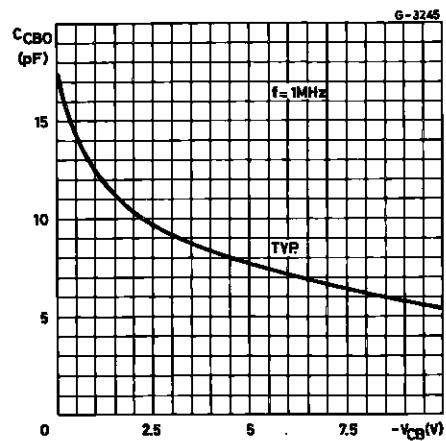
Normalized h Parameters.



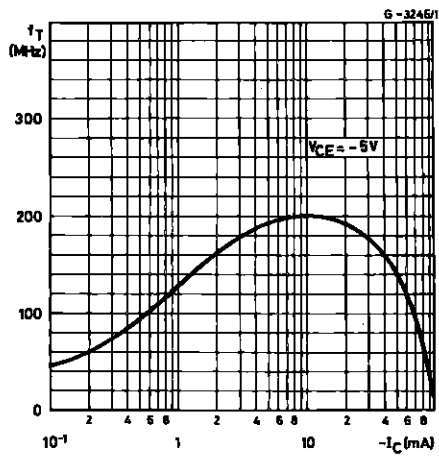
Normalized h Parameters.



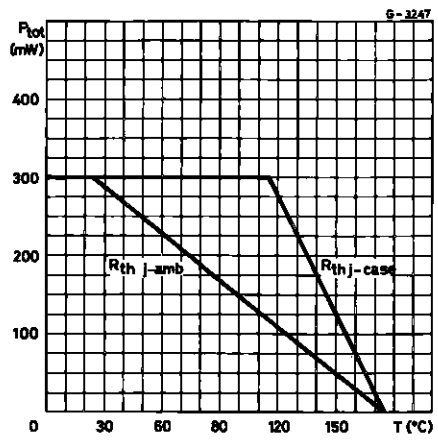
Collector-base Capacitance.



Transition Frequency.

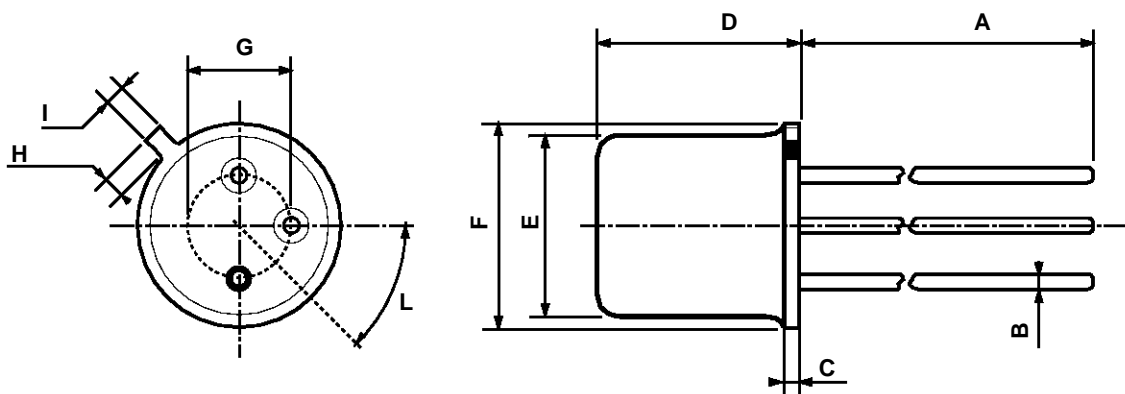


Power Rating Chart.



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°		



0016043

Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1997 SGS-THOMSON Microelectronics - Printed in Italy - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES

Australia - Brazil - Canada - China - France - Germany - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands -
Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A

...