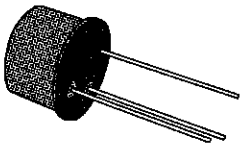
SGS-THOMSON MICROELECTRONICS

BF257
BF258-BF259

HIGH VOLTAGE VIDEO AMPLIFIERS

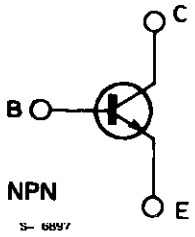
DESCRIPTION

The BF257, BF258 and BF259 are silicon planar epitaxial NPN transistors in Jedec TO-39 metal case. They are particularly designed for video output stages in CTV and MTV sets, class A audio output stages and drivers for horizontal deflection circuits.



TO-39

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value			Unit
		BF257	BF258	BF259	
V_{CBO}	Collector-base Voltage (I_E = 0)	160	250	300	V
V_{CEO}	Collector-emitter Voltage (I_B = 0)	160	250	300	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 Power Dissipation at $T_{amb} \leq 50$ °C	5			W
T_{stg}	Storage Temperature	– 55 to 200			°C
T_j	Junction Temperature	200			°C

THERMAL DATA

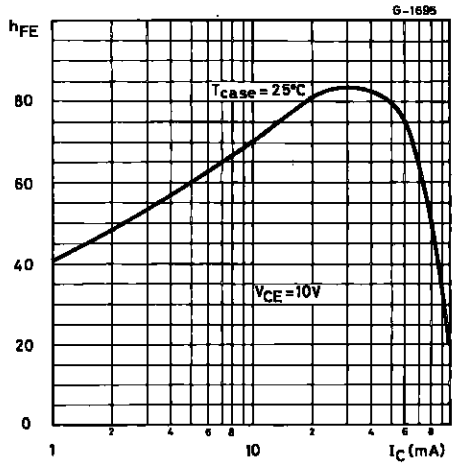
$R_{th\ j\text{-}case}$	Thermal Resistance Junction-case	Max	30	°C/W
$R_{th\ j\text{-}amb}$	Thermal Resistance Junction-ambient	Max	175	°C/W

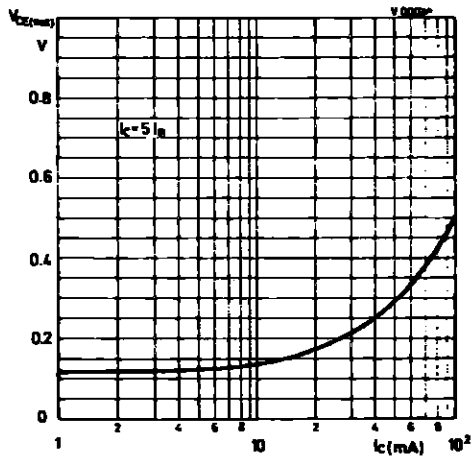
ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cutoff Current (I_E = 0)	for **BF257**	V_{CB} = 100 V			50	nA
		for **BF258**	V_{CB} = 200 V			50	nA
		for **BF259**	V_{CB} = 250 V			50	nA
$V_{(BR)\ CBO}$	Collector-base Breakdown Voltage (I_E = 0)	I_C = 100 µA	for **BF257**	160			V
			for **BF258**	250			V
			for **BF259**	300			V
$V_{(BR)CEO}$*	Collector-emitter Breakdown Voltage (I_B = 0)	I_C = 10 mA	for **BF257**	160			V
			for **BF258**	250			V
			for **BF259**	300			V
$V_{(BR)\ EBO}$	Emittter-base Breakdown Voltage (I_C = 0)	I_E = 100 µA		5			V
$V_{CE\ (sat)}$*	Collector-emitter Saturation Voltage	I_C = 30 mA	I_B = 6 mA			1	V
h_{FE}*	DC Current Gain	I_C = 30 mA	V_{CE} = 10 V	25			
f_T	Transition Frequency	I_C = 15 mA	V_{CE} = 10 V		90		MHz
C_{re}	Reverse Capacitance	I_C = 0 f = 1 MHz	V_{CE} = 30 V		3		pF

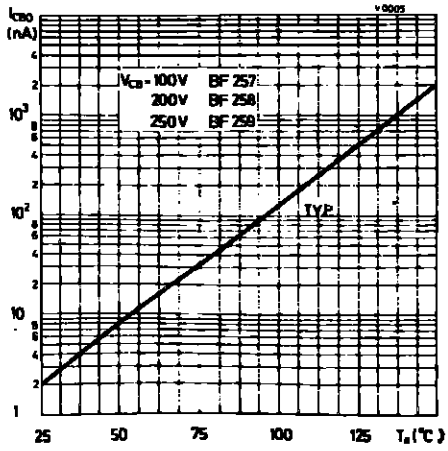
* Pulsed : pulse duration = 300 µs, duty cycle = 1 %.

DC Current Gain.

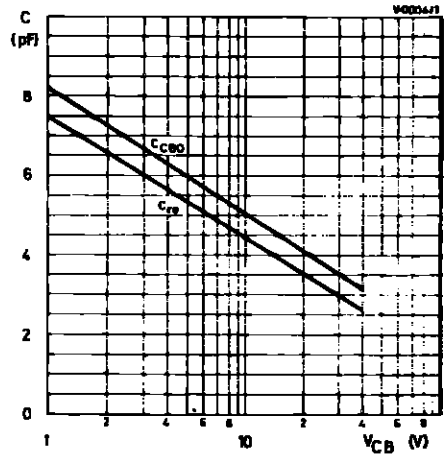




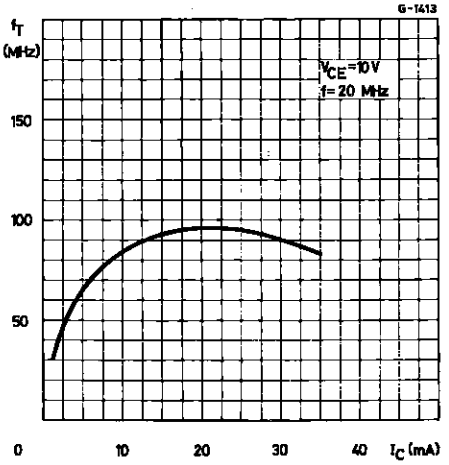
Collector Cutoff Current.



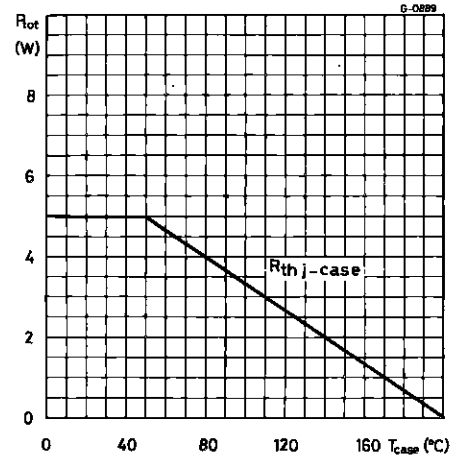
Collector-base Capacitance.



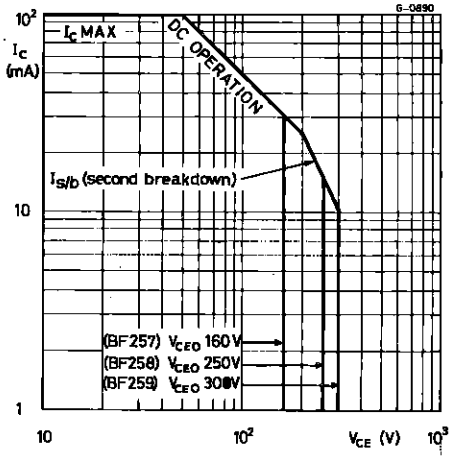
Transition Frequency.



Power Rating Chart.

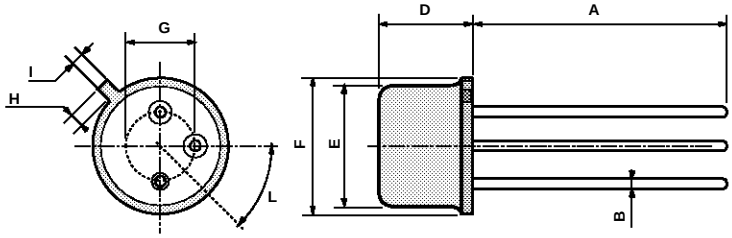


Safe Operating Area.



TO39 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	12.7			0.500		
B			0.49			0.019
D			6.6			0.260
E			8.5			0.334
F			9.4			0.370
G	5.08			0.200		
H			1.2			0.047
I			0.9			0.035
L	45^{o} (typ.)					



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