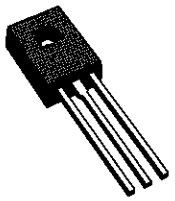
SGS-THOMSON MICROELECTRONICS

BF457
BF458-BF459

HIGH VOLTAGE VIDEO AMPLIFIERS

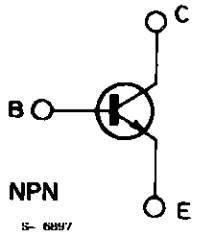
DESCRIPTION

The BF457, BF458 and BF459 are silicon planar epitaxial NPN transistors in Jedec TO-126 plastic package. They are particularly intended for use as video output stages in colour and black and white TV receivers, class A output stages and drivers for horizontal deflection circuits. These transistors have been studied in order to guarantee the maximum resistance against flash over.



SOT-32

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value			Unit
		BF 457	BF 458	BF 459	
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_{CM}	Collector Peak Current	300			mA
I_{BM}	Base Peak Current	50			mA
P_{tot}	Total Power Dissipation at $T_{amb} \leq 25$ °C $T_{case} \leq 25$ °C	1.25 12.5			W W
T_{stg}	Storage Temperature	– 55 to 150			°C
T_j	Junction Temperature	150			°C

THERMAL DATA

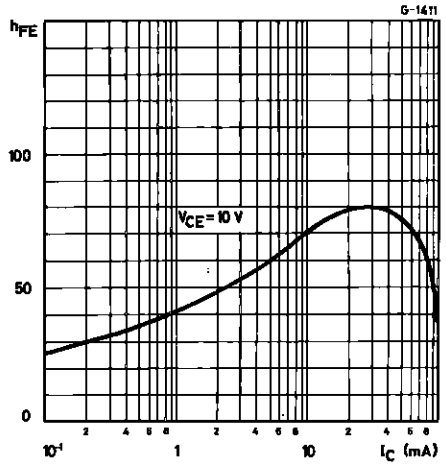
$R_{th\ j\text{-}case}$	Thermal Resistance Junction-case	Max	10	°C/W
$R_{th\ j\text{-}amb}$	Thermal Resistance Junction-ambient	Max	100	°C/W

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

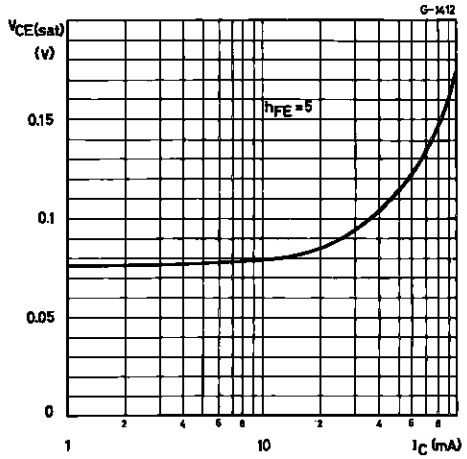
Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cutoff Current (I_E = 0)	for **BF 457** for **BF 458** for **BF 459**	V_{CB} = 100 V V_{CB} = 200 V V_{CB} = 250 V			50 50 50	nA nA nA
$V_{(BR)CEO}$*	Collector-emitter Breakdown Voltage (I_B = 0)	I_C = 10 mA	for **BF 457** for **BF 458** for **BF 459**	160 250 300			V V 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 = 50 mA	I_B = 10 mA			1	V
h_{FE}*	DC Current Gain	I_C = 30 mA	V_{CE} = 10 V	30	80		
f_T	Transition Frequency	I_C = 30 mA	V_{CE} = 10 V		90		MHz
C_{re}	Reverse Capacitance	I_C = 0 f = 1 MHz	V_{CE} = 30 V		4		pF
C_{oe}	Output Capacitance	I_C = 0 f = 1 MHz	V_{CE} = 30 V		5		pF

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

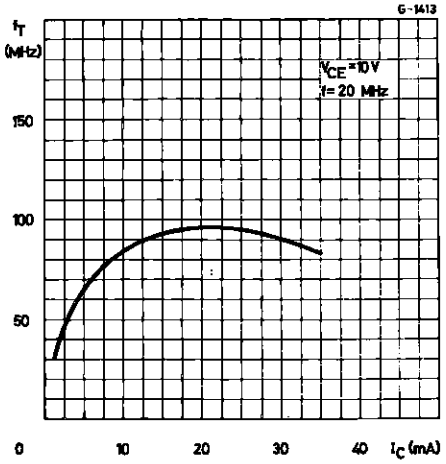
DC Current Gain.



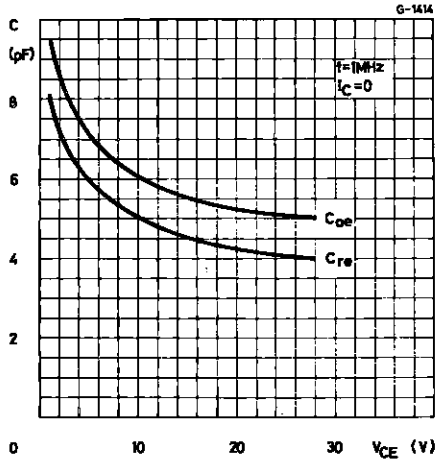
Collector-emitter Saturation Voltage.



Transition Frequency.

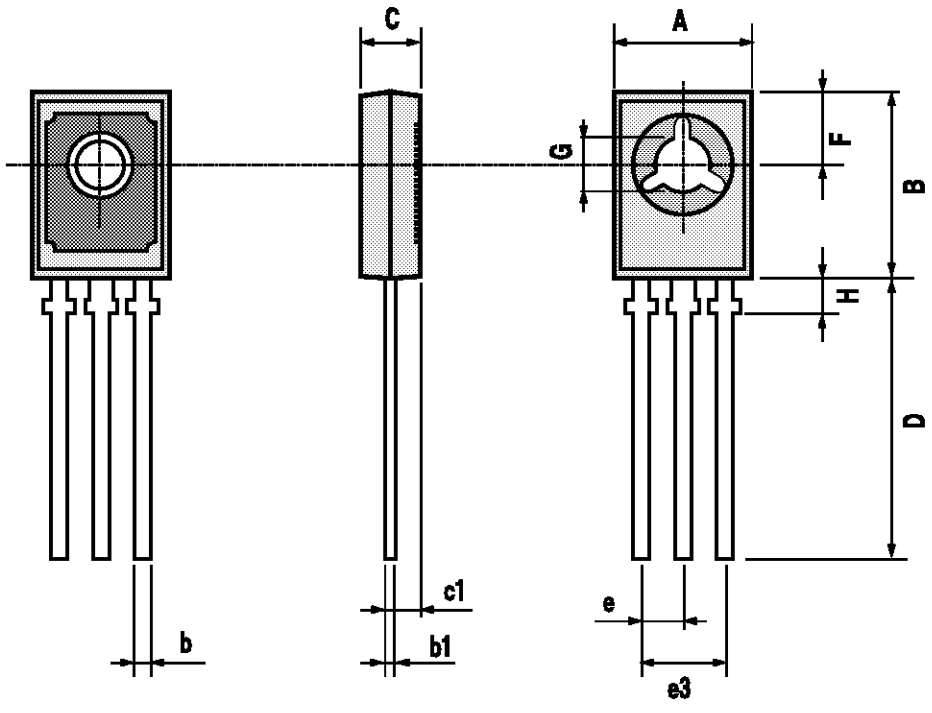


Output and Reverse Capacitance.



SOT-32 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	7.4		7.8	0.291		0.307
B	10.5		10.8	0.413		0.445
b	0.7		0.9	0.028		0.035
b1	0.49		0.75	0.019		0.030
C	2.4		2.7	0.04		0.106
c1		1.2			0.047	
D		15.7			0.618	
e		2.2			0.087	
e3		4.4			0.173	
F		3.8			0.150	
G	3		3.2	0.118		0.126
H			2.54			0.100



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