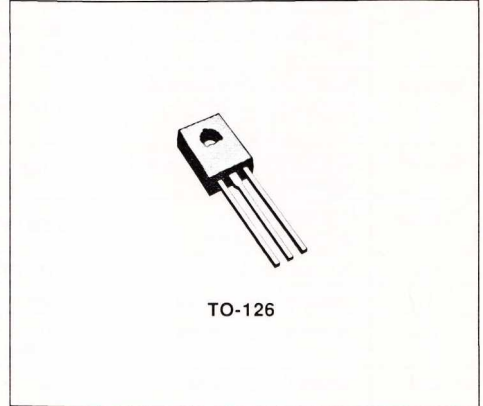


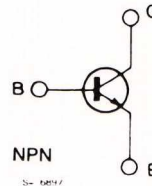
HIGH VOLTAGE VIDEO AMPLIFIERS

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.



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 $T_{amb} \leq 25^\circ\text{C}$ $T_{case} \leq 25^\circ\text{C}$	1.25			W
		12.5			W
T_{stg}	Storage Temperature	- 55 to 150			$^\circ\text{C}$
T_J	Junction Temperature	150			$^\circ\text{C}$

THERMAL DATA

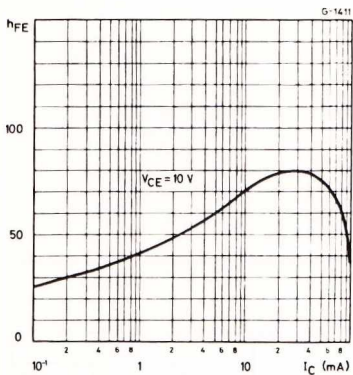
$R_{th j-case}$	Thermal Resistance Junction-case	Max	10	°C/W
$R_{th j-amb}$	Thermal Resistance Junction-ambient	Max	100	°C/W

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

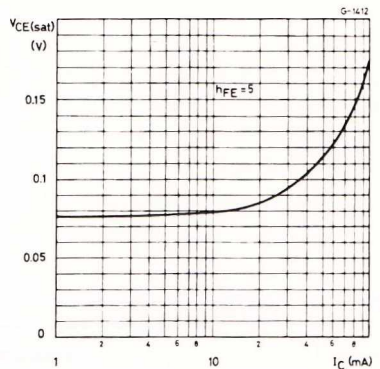
Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cutoff Current ($I_E = 0$)	for BF 457 for BF 458 for BF 459	$V_{CB} = 100\text{ V}$ $V_{CB} = 200\text{ V}$ $V_{CB} = 250\text{ V}$			50 50 50	nA nA nA
$V_{(BR)CEO}^*$	Collector-emitter Breakdown Voltage ($I_B = 0$)	$I_C = 10\text{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

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

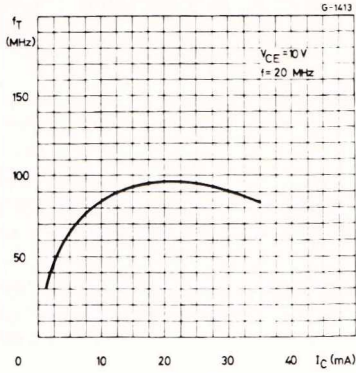
DC Current Gain.



Collector-emitter Saturation Voltage.



Transition Frequency.



Output and Reverse Capacitance.

