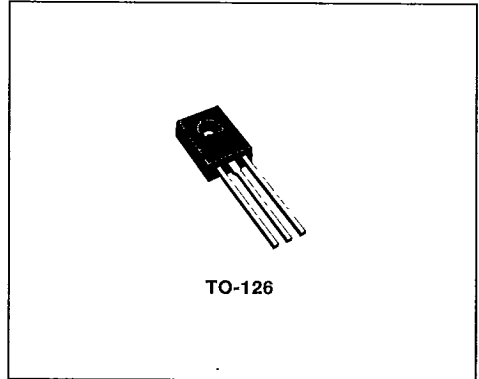


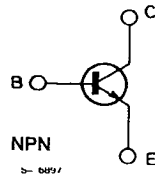
## HIGH VOLTAGE VIDEO AMPLIFIERS

### 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**

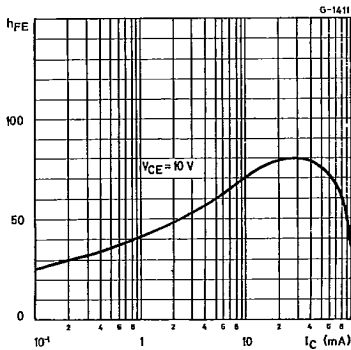
$R_{th\ j-case}$	Thermal Resistance Junction-case	Max	10	°C/W
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient	Max	100	°C/W

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

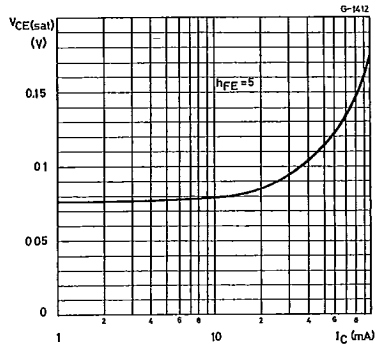
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CBO}$	Collector Cutoff Current ( $I_E = 0$ )	for <b>BF 457</b> $V_{CB} = 100\text{ V}$ for <b>BF 458</b> $V_{CB} = 200\text{ V}$ for <b>BF 459</b> $V_{CB} = 250\text{ V}$			50 50 50	nA nA nA
$V_{(BR)CEO}^*$	Collector-emitter Breakdown Voltage ( $I_B = 0$ )	$I_C = 10\text{ mA}$		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  $\mu\text{s}$ , duty cycle = 1 %.

**DC Current Gain.**



**Collector-emitter Saturation Voltage.**



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T-33-05

Transition Frequency.

Output and Reverse Capacitance.

