

HIGH VOLTAGE VIDEO AMPLIFIERS

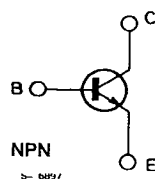
DESCRIPTION

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.



TO-126

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

THERMAL DATA

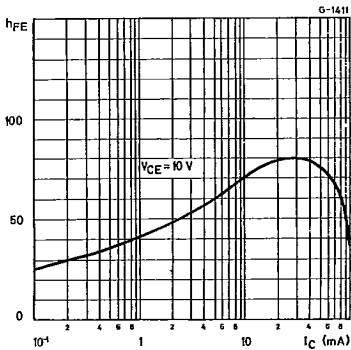
$R_{th\ j-case}$	Thermal Resistance Junction-case	Max	10	°C/W
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient	Max	100	°C/W

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

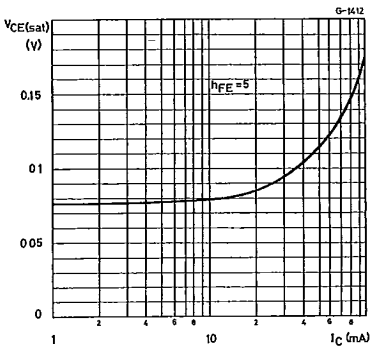
Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cutoff Current ($I_E = 0$)	for BF 457 for BF 458 for BF 459	$V_{CB} = 100\text{ V}$ $V_{CB} = 200\text{ V}$ $V_{CB} = 250\text{ V}$			50 50 50	nA nA nA
$V_{(BR)CEO}^*$	Collector-emitter Breakdown Voltage ($I_B = 0$)	$I_C = 10\text{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

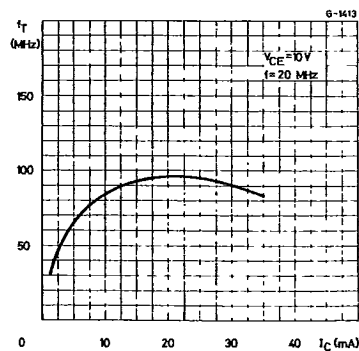
DC Current Gain.



Collector-emitter Saturation Voltage.



Transition Frequency.



Output and Reverse Capacitance.

