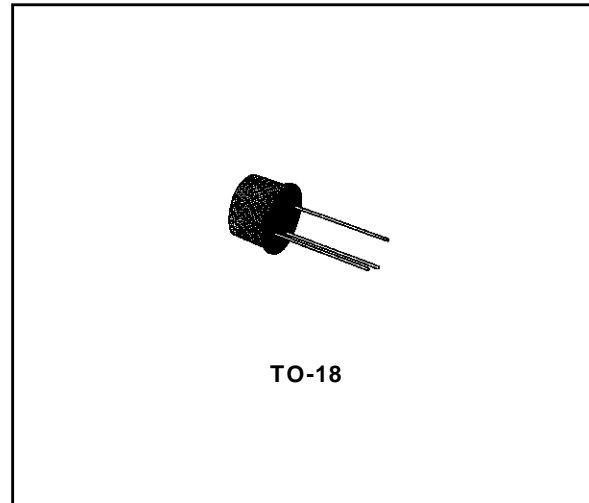


**HIGH VOLTAGE AMPLIFIER**

**DESCRIPTION**

The BC393 is a silicon planar epitaxial PNP transistor in Jedec TO-18 metal case, designed for general purpose high-voltage and video amplifier applications.

The complementary NPN type is the BC394.



**INTERNAL SCHEMATIC DIAGRAM**



**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-base Voltage ( $I_E = 0$ )	- 180	V
$V_{CEO}$	Collector-emitter Voltage ( $I_B = 0$ )	- 180	V
$V_{EBO}$	Emitter-base Voltage ( $I_C = 0$ )	- 6	V
$I_C$	Collector Current	- 100	mA
$P_{tot}$	Total Power Dissipation at $T_{amb} \leq 25\text{ }^\circ\text{C}$ at $T_{case} \leq 25\text{ }^\circ\text{C}$	0.4	W
		1.4	W
$T_{stg}$	Storage Temperature	- 55 to 200	$^\circ\text{C}$
$T_j$	Junction Temperature	200	$^\circ\text{C}$

# BC393

## THERMAL DATA

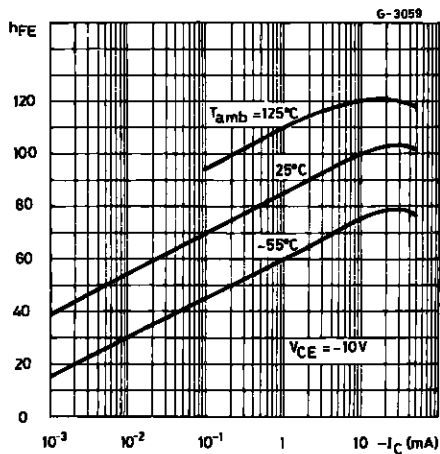
$R_{th\ j-case}$	Thermal Resistance Junction-case	Max	125	°C/W
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient	Max	440	°C/W

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

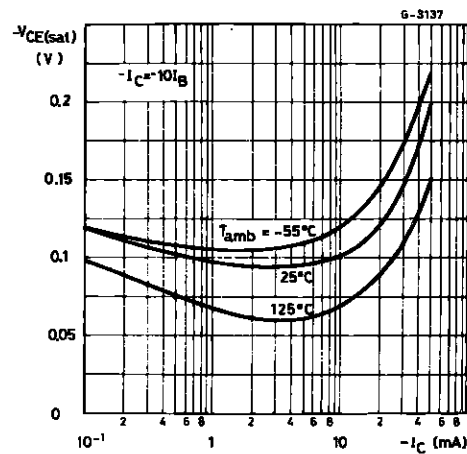
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CBO}$	Collector Cutoff Current ( $I_E = 0$ )	$V_{CB} = -100\text{ V}$ $V_{CB} = -100\text{ V } T_{amb} = 150\text{ °C}$			50 50	nA $\mu\text{A}$
$V_{(BR)\ CBO}$	Collector-base Breakdown Voltage ( $I_E = 0$ )	$I_C = -10\ \mu\text{A}$	-180			V
$V_{(BR)\ CEO}^*$	Collector-emitter Breakdown Voltage ( $I_B = 0$ )	$I_C = -2\text{ mA}$	-180			V
$V_{(BR)\ EBO}$	Emitter-base Breakdown Voltage ( $I_C = 0$ )	$I_E = -10\ \mu\text{A}$	-6			V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = -10\text{ mA } I_B = -1\text{ mA}$ $I_C = -50\text{ mA } I_B = -5\text{ mA}$		-100 -230	-300	mV mV
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = -10\text{ mA } I_B = -1\text{ mA}$ $I_C = -50\text{ mA } I_B = -5\text{ mA}$		-750 -850	-900	mV mV
$h_{FE}^*$	DC Current Gain	$I_C = -1\text{ mA } V_{CE} = -10\text{ V}$ $I_C = -10\text{ mA } V_{CE} = -10\text{ V}$	50	85 100		
$f_T$	Transition frequency	$I_C = -10\text{ mA } V_{CE} = -10\text{ V}$	50	95		MHz
$C_{CBO}$	Collector-base Capacitance	$I_E = 0$ $f = 1\text{ MHz}$		4	7	pF

\* Pulsed : pulse duration = 300  $\mu\text{s}$ , duty cycle = 1 %.

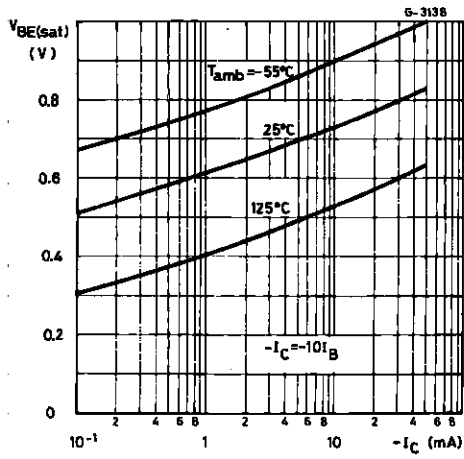
### DC Current Gain.



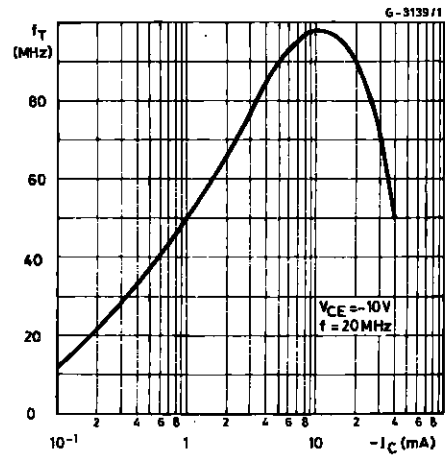
### Collector-emitter Saturation Voltage.



Base-emitter Saturation Voltage.

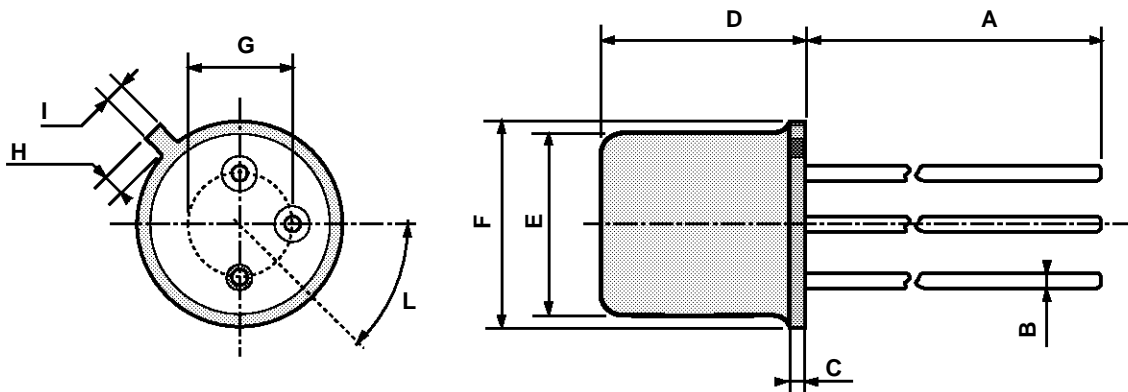


Transition Frequency.



TO-18 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		12.7			0.500	
B			0.49			0.019
D			5.3			0.208
E			4.9			0.193
F			5.8			0.228
G	2.54			0.100		
H			1.2			0.047
I			1.16			0.045
L	45°			45°		



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