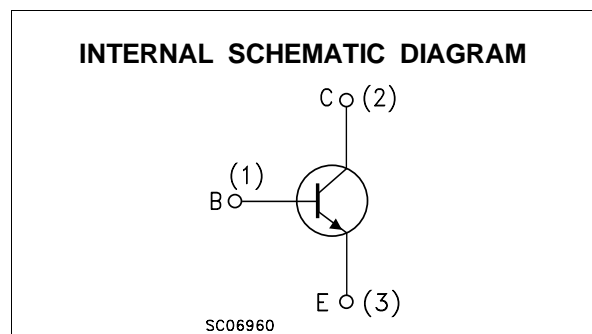
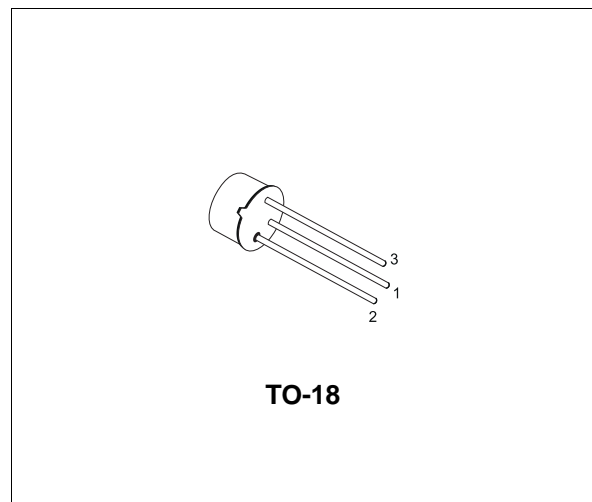


EPITAXIAL PLANAR NPN
■ HIGH VOLTAGE AMPLIFIER
DESCRIPTION

The BC394 is a silicon Planar Epitaxial NPN transistor in Jedec TO-18 metal case, designed for general purpose high-voltage and video amplifier applications.


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 Dissipation at $T_{amb} \leq 25\text{ }^\circ\text{C}$ at $T_C \leq 25\text{ }^\circ\text{C}$	0.4	W
		1.4	W
T_{stg}	Storage Temperature	-55 to 175	$^\circ\text{C}$
T_j	Max. Operating Junction Temperature	175	$^\circ\text{C}$

BC394

THERMAL DATA

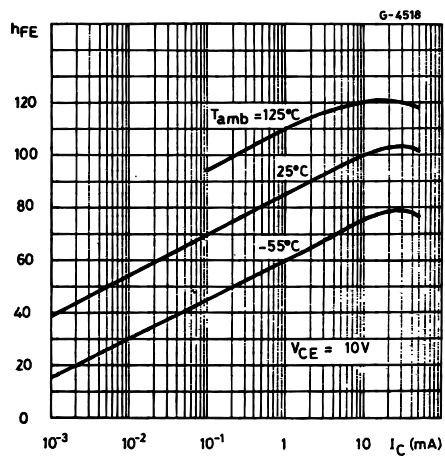
$R_{thj-case}$	Thermal Resistance Junction-Case	Max	107.1	$^{\circ}C/W$
$R_{thj-amb}$	Thermal Resistance Junction-Ambient	Max	375	$^{\circ}C/W$

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

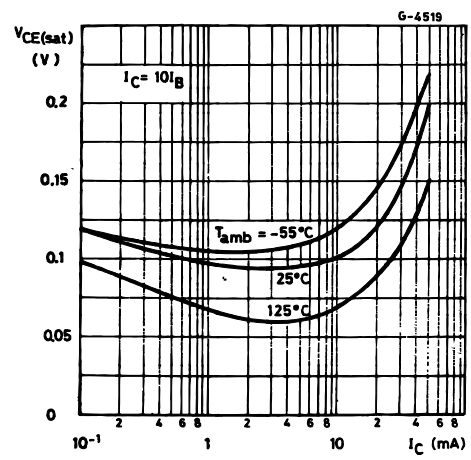
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut-off Current ($I_E = 0$)	$V_{CB} = 100 V$ $V_{CB} = 100 V$ $T_C = 150^{\circ}C$			50 50	nA μA
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_E = 0$)	$I_C = 100 \mu A$	180			V
$V_{(BR)CEO}^*$	Collector-Emitter Breakdown Voltage ($I_B = 0$)	$I_C = 10 mA$	180			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_C = 0$)	$I_E = 100 \mu A$	6			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = 10 mA$ $I_B = 1 mA$ $I_C = 50 mA$ $I_B = 5 mA$		0.2 0.4	0.3	V V
$V_{BE(sat)}^*$	Base-Emitter Saturation Voltage	$I_C = 10 mA$ $I_B = 1 mA$ $I_C = 50 mA$ $I_B = 5 mA$		0.75 0.85	0.9	V V
h_{FE}^*	DC Current Gain	$I_C = 1 mA$ $V_{CE} = 10 V$ $I_C = 10 mA$ $V_{CE} = 10 V$	30	85 100		
C_{CBO}	Collector-Base Capacitance	$I_E = 0$ $V_{CB} = 10 V$ $f = 1 MHz$		5		pF

* Pulsed: Pulse duration = 300 μs , duty cycle $\leq 1\%$

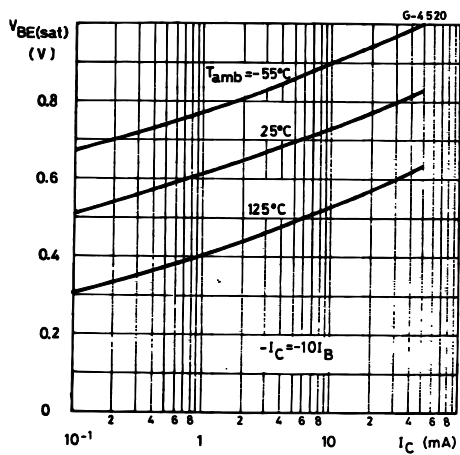
DC Current Gain



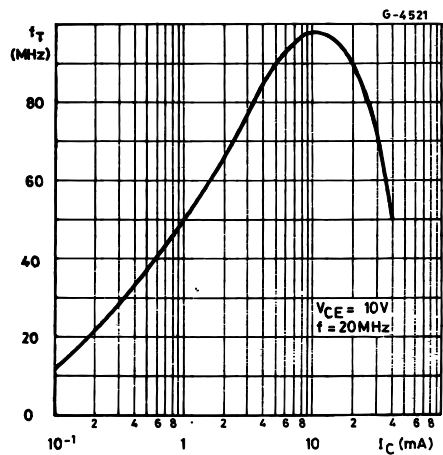
Collector Emitter Saturation Voltage



Base Emitter Saturation Voltage

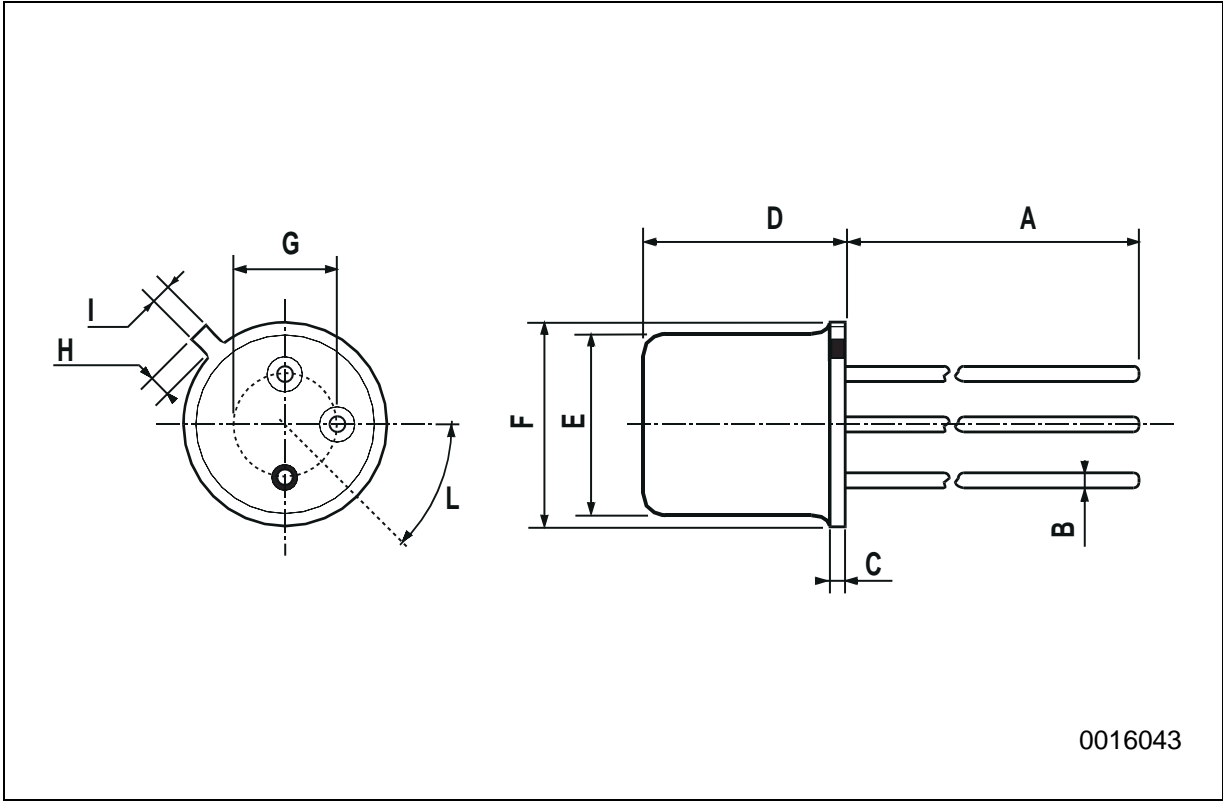


Transition Frequency



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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