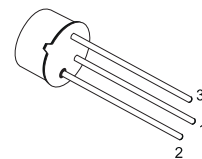


EPITAXIAL PLANAR NPN

■ HIGH VOLTAGE AMPLIFIER

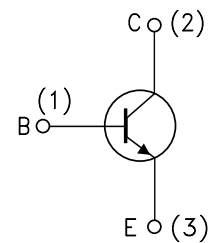
DESCRIPTION

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.



TO-18

INTERNAL SCHEMATIC DIAGRAM



SC06960

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 1.4	W W
T_{stg}	Storage Temperature	-55 to 175	$^{\circ}\text{C}$
T_j	Max. Operating Junction Temperature	175	$^{\circ}\text{C}$

THERMAL DATA

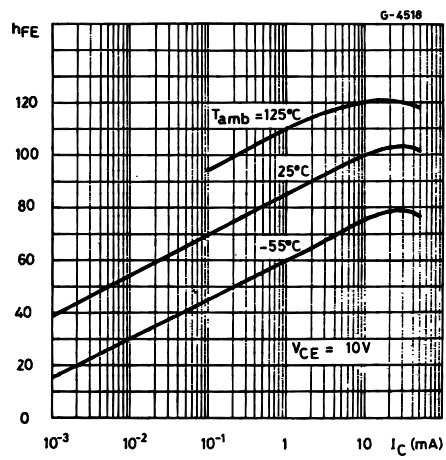
R _{thj-case}	Thermal Resistance Junction-Case	Max	107.1	°C/W
R _{thj-amb}	Thermal Resistance Junction-Ambient	Max	375	°C/W

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

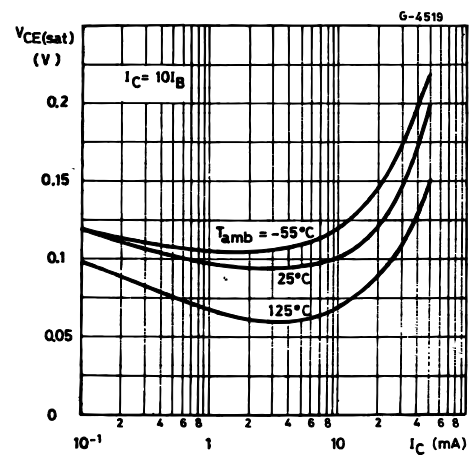
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CBO}	Collector Cut-off Current (I _E = 0)	V _{CB} = 100 V V _{CB} = 100 V T _C = 150 °C			50 50	nA μA
V _{(BR)CBO}	Collector-Base Breakdown Voltage (I _E = 0)	I _C = 100 μA	180			V
V _{(BR)CEO} *	Collector-Emitter Breakdown Voltage (I _B = 0)	I _C = 10 mA	180			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage (I _C = 0)	I _E = 100 μA	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 ≤ 1 %

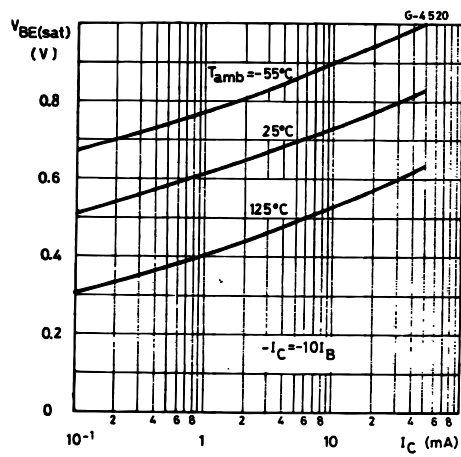
DC Current Gain



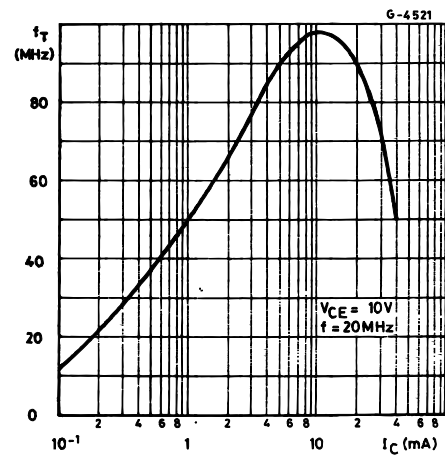
Collector Emitter Saturation Voltage



Base Emitter Saturation Voltage

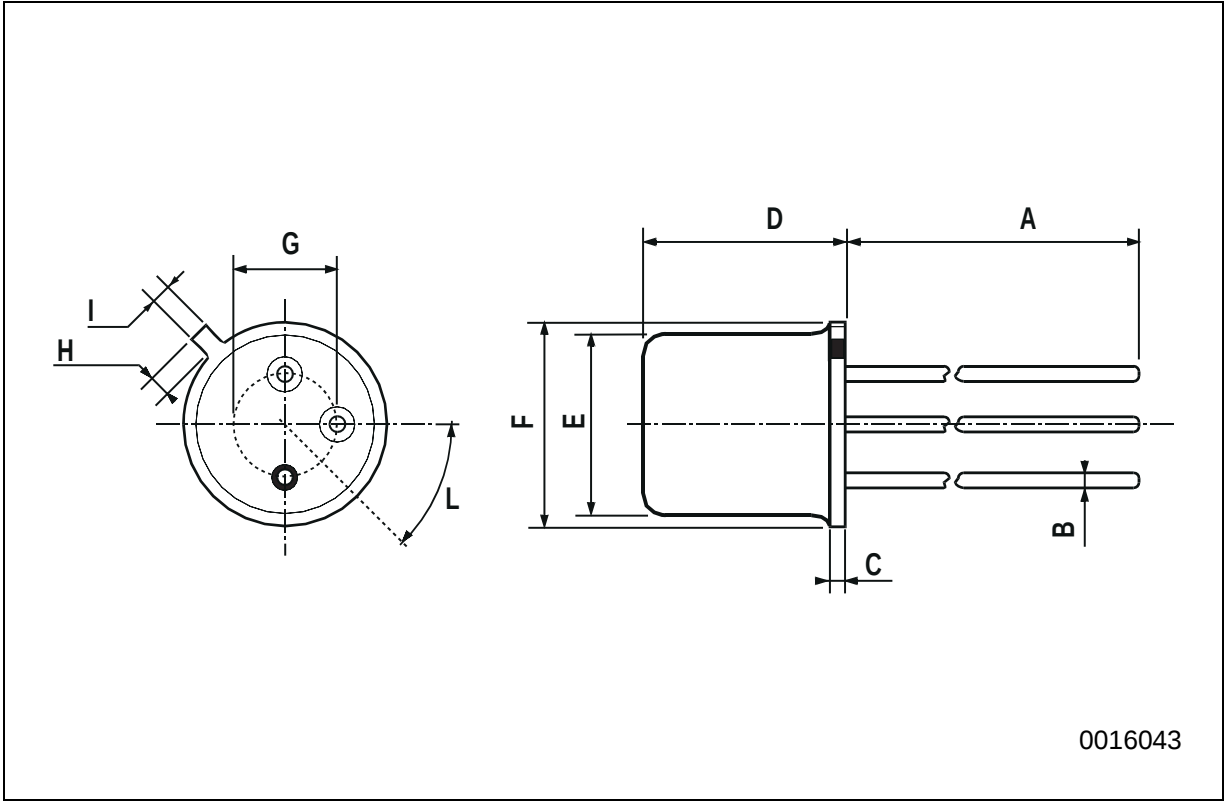


Transition Frequency



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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