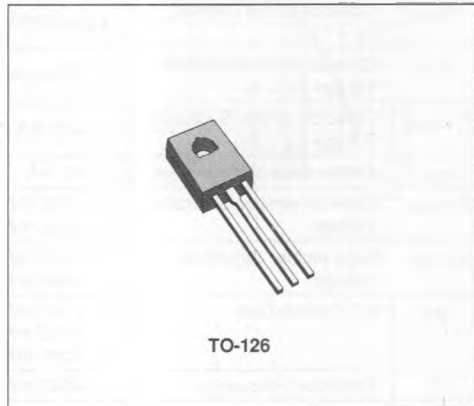


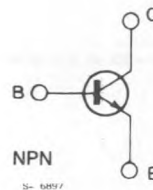
HIGH VOLTAGE SWITCH

DESCRIPTION

The BU325 is a silicon planar epitaxial NPN transistor in Jedec TO-126 plastic case. It is intended for high voltage, high current linear and switching applications.



INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base Voltage ($I_E = 0$)	200	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)	200	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)	5	V
I_C	Collector Current	3	A
I_B	Base Current	1	A
P_{tot}	Total Power Dissipation at $T_{amb} \leq 25^\circ\text{C}$ $T_{case} \leq 25^\circ\text{C}$	1.25	W
		25	W
T_{stg}	Storage Temperature	- 65 to 150	$^\circ\text{C}$
T_j	Junction Temperature	150	$^\circ\text{C}$

THERMAL DATA

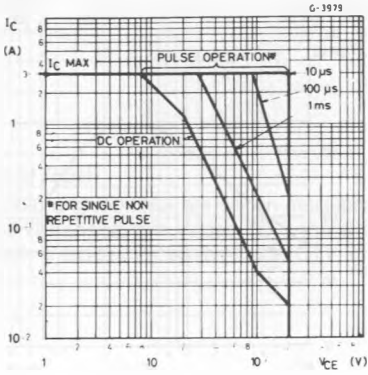
$R_{th(j-case)}$	Thermal Resistance Junction-case	Max	5	°C/W
$R_{th(j-amb)}$	Thermal Resistance Junction-amb.	Max	100	°C/W

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

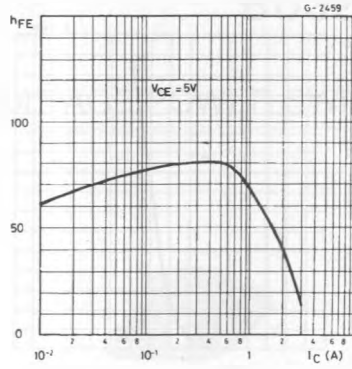
Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cutoff Current ($I_E = 0$)	$V_{CB} = 200\text{ V}$				100	μA
V_{CBO}	Collector-base Breakdown Voltage ($I_E = 0$)	$I_C = 100\text{ }\mu\text{A}$		200			V
$V_{CE0(sus)}^*$	Collector-emitter Sustaining Voltage ($I_B = 0$)	$I_C = 10\text{ mA}$		200			V
V_{EBO}^*	Emitter-base Voltage ($I_C = 0$)	$I_E = 1\text{ mA}$		5			V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 150\text{ mA}$	$I_B = 15\text{ mA}$		0.06	1.0	V
		$I_C = 500\text{ mA}$	$I_B = 50\text{ mA}$		0.10	1.5	V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = 150\text{ mA}$	$I_B = 15\text{ mA}$		0.73	1.0	V
		$I_C = 500\text{ mA}$	$I_B = 50\text{ mA}$		0.80	1.2	V
h_{FE}^*	DC Current Gain	$I_C = 50\text{ mA}$	$V_{CE} = 5\text{ V}$	30		200	
		$I_C = 150\text{ mA}$	$V_{CE} = 5\text{ V}$	30		200	
		$I_C = 500\text{ mA}$	$V_{CE} = 5\text{ V}$	30		200	
f_T	Transition Frequency	$I_C = 500\text{ mA}$	$V_{CE} = 5\text{ V}$		40		MHz
C_{CBO}	Collector-base Capacitance	$I_E = 0$ $f = 1\text{ MHz}$	$V_{CB} = 10\text{ V}$			50	pF
t_{on}	Turn-on Time	$I_C = 0.5\text{ A}$ $V_{CC} = 20\text{ V}$	$I_{B1} = 50\text{ mA}$		0.3		μs
t_{off}	Turn-off Time	$I_C = 0.5\text{ A}$ $I_{B1} = -I_{B2} = 50\text{ mA}$ $V_{CC} = 20\text{ V}$			1		μs

* Pulsed : pulse duration = 300 μs , duty cycle = 1.5 %.

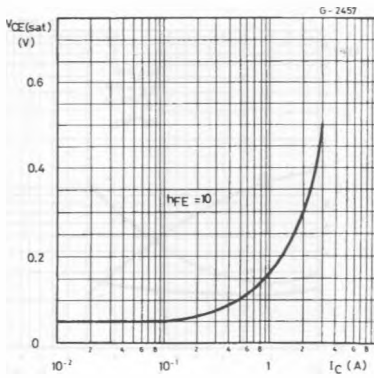
Safe Operating Area.



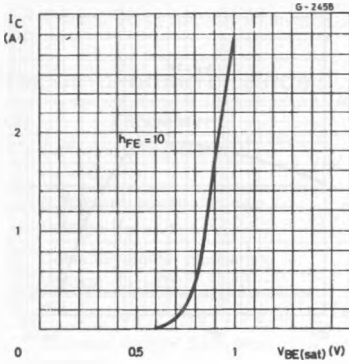
DC Current Gain.



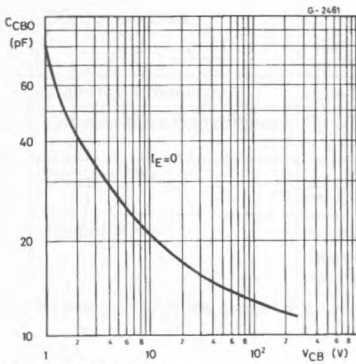
Collector-emitter Saturation Voltage.



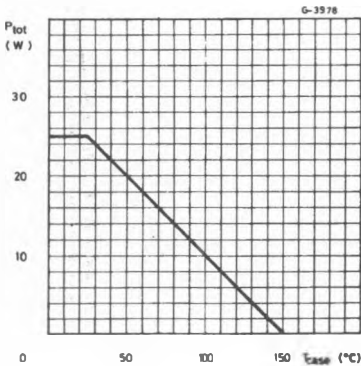
Base-emitter Saturation Voltage.



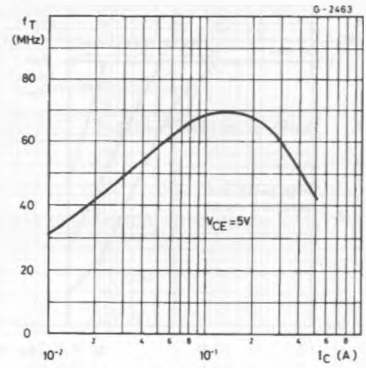
Collector-emitter Saturation Voltage.



Power Rating Chart.



Transition Frequency.



Saturated Switching Characteristics.

