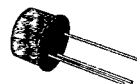
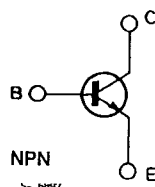


DESCRIPTION

The BSX26 is a silicon planar epitaxial NPN transistor in Jedec TO-18 metal case. It is designed for switching applications up to 500 mA.



TO-18

INTERNAL SCHEMATIC DIAGRAM**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base Voltage ($I_E = 0$)	40	V
V_{CES}	Collector-emitter Voltage ($V_{BE} = 0$)	40	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)	15	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)	4	V
I_C	Collector Current	500	mA
P_{tot}	Total Power Dissipation at $T_{amb} \leq 25^\circ\text{C}$	0.36	W
	at $T_{case} \leq 25^\circ\text{C}$	1.2	W
	at $T_{case} \leq 100^\circ\text{C}$	0.68	W
T_{stg}, T_J	Storage and Junction Temperature	- 65 to 200	$^\circ\text{C}$

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THERMAL DATA

R _{th j-case}	Thermal Resistance Junction-case	Max	146	°C/W
R _{th j-amb}	Thermal Resistance Junction-ambient	Max	486	°C/W

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

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CES}	Collector Cutoff Current (V _{BE} = 0)	V _{CE} = 20 V V _{CE} = 20 V T _{amb} = 85 °C			0.5 15	μA μA
V _{(BR)CBO}	Collector-base Breakdown Voltage (I _E = 0)	I _C = 100 μA	40			V
V _{(BR)CES}	Collector-emitter Breakdown Voltage (V _{BE} = 0)	I _C = 100 μA	40			V
V _{(BR)CEO*}	Collector-emitter Breakdown Voltage (I _B = 0)	I _C = 10 mA	15			V
V _{(BR)EBO}	Emitter-base Breakdown Voltage (I _C = 0)	I _E = 100 μA	4			V
V _{CE(sat)*}	Collector-emitter Saturation Voltage	I _C = 30 mA I _B = 3 mA I _C = 100 mA I _B = 10 mA I _C = 300 mA I _B = 30 mA I _C = 30 mA I _B = 3 mA T _{amb} = 85 °C		0.16 0.18 0.39 0.18	0.18 0.28 0.5 0.3	V V V V
V _{BE(sat)*}	Base-emitter Saturation Voltage	I _C = 30 mA I _B = 3 mA I _C = 100 mA I _B = 10 mA I _C = 300 mA I _B = 30 mA	0.75	0.82 0.97 1.3	0.95 1.2 1.7	V V V
h _{FE*}	DC Current Gain	I _C = 30 mA V _{CE} = 0.4 V I _C = 100 mA V _{CE} = 0.5 V I _C = 300 mA V _{CE} = 1 V	30 25 15	60 55	120	
f _T	Transition Frequency	I _C = 30 mA V _{CE} = 10 V f = 100 MHz	350	550		MHz
C _{EBO}	Emitter-base Capacitance	I _C = 0 V _{EB} = 0.5 V f = 1 MHz		6.5	8	pF
C _{CBO}	Collector-base Capacitance	I _E = 0 V _{CB} = 5 V f = 1 MHz		3.3	5	pF
t _s	Storage Time	I _C = 10 mA V _{CC} = 10 V I _{B1} = - I _{B2} = 10 mA		8	18	ns
t _{on**}	Turn-on Time	I _C = 300 mA V _{CC} = 15 V I _{B1} = 30 mA		9	15	ns
t _{off**}	Turn-off Time	I _C = 300 mA V _{CC} = 15 V I _{B1} = - I _{B2} = 30 mA		15	25	ns

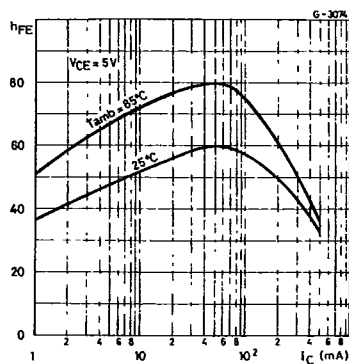
* Pulsed : pulse duration = 300μs, duty cycle = 1%

** See test circuit.

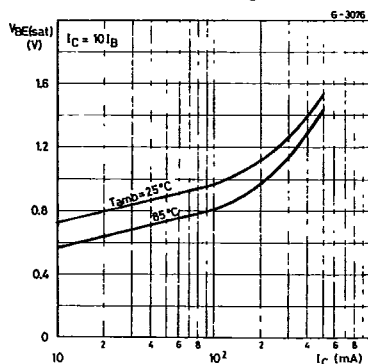
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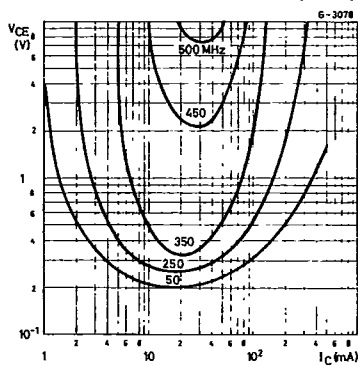
DC Current Gain.



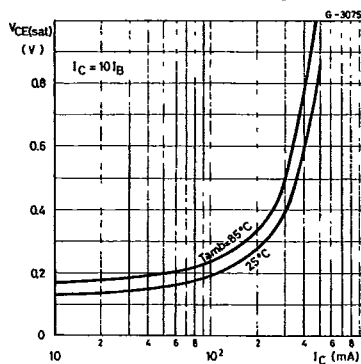
Base-emitter Saturation Voltage.



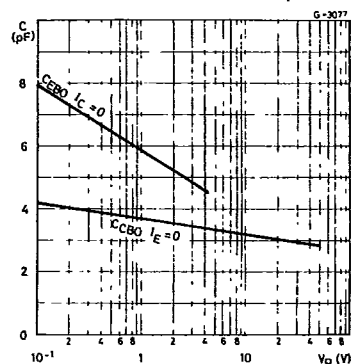
Contours of Constant Transition Frequency.



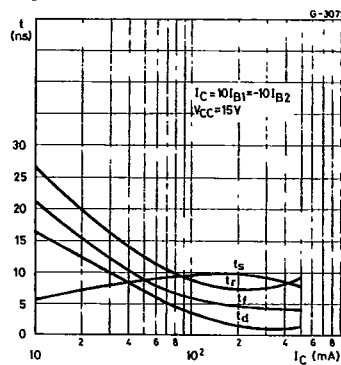
Collector-emitter Saturation Voltage.

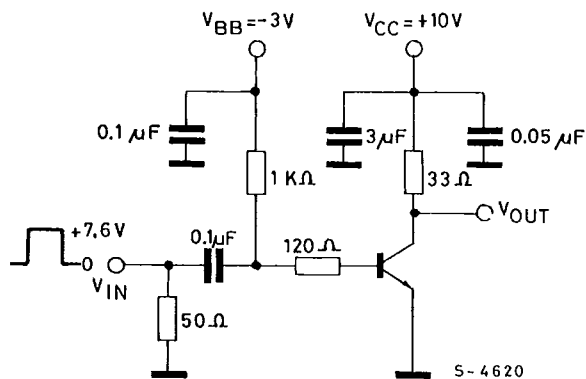


Emitter-base and Collector-base Capacitances.



Switching Characteristics.



Test circuit for t_{on} , t_{off} .

PULSE GENERATOR :

 $t_r, t_f < 1.0ns$ $PW \geq 240ns$ $Z_{IN} = 50\Omega$

TO OSCILLOSCOPE :

 $t_r < 1.0ns$ $Z_{IN} \approx 100K\Omega$