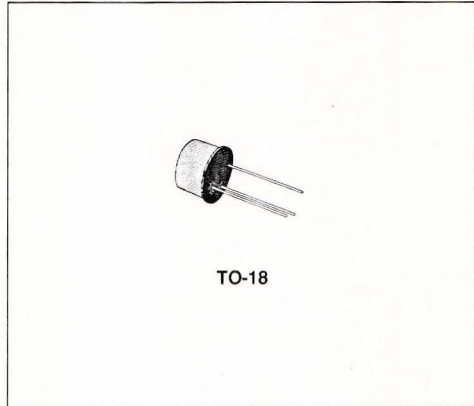


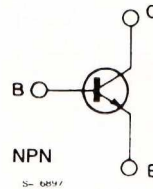
HIGH -VOLTAGE, HIGH-CURRENT SWITCH

DESCRIPTION

The BSS 26 is a silicon planar epitaxial NPN transistor in Jedec TO-18 metal case. It is intended for high voltage, high current switching applications.



INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base Voltage ($I_E = 0$)	60	V
V_{CES}	Collector-emitter Voltage ($V_{BE} = 0$)	60	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)	40	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)	6	V
I_C	Collector Current	1	A
P_{tot}	Total Power Dissipation at $T_{amb} \leq 25^\circ\text{C}$ at $T_{case} \leq 25^\circ\text{C}$	0.36	W
		1.2	W
T_{stg}, T_J	Storage and Junction Temperature	- 55 to 200	$^\circ\text{C}$

THERMAL DATA

$R_{th\ j-case}$	Thermal Resistance Junction-case	Max	146	$^{\circ}C/W$
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient	Max	486	$^{\circ}C/W$

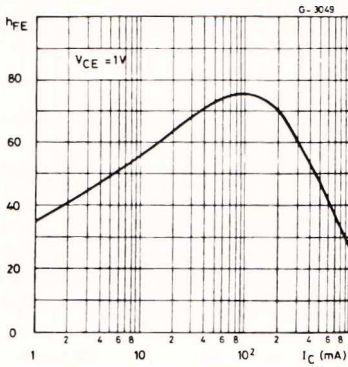
ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\ ^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cutoff Current ($I_E = 0$)	$V_{CB} = 40\ V$ $V_{CB} = 40\ V$ $T_{amb} = 100\ ^{\circ}C$			1.7 120	μA μA
$V_{(BR)CBO}$	Collector-base Breakdown Voltage ($I_E = 0$)	$I_C = 10\ \mu A$	60			V
$V_{(BR)CES}$	Collector-emitter Breakdown Voltage ($V_{BE} = 0$)	$I_C = 10\ \mu A$	60			V
$V_{(BR)CEO}^*$	Collector-emitter Breakdown Voltage ($I_B = 0$)	$I_C = 10\ mA$	40			V
$V_{(BR)EBO}$	Emitter-base Breakdown Voltage ($I_C = 0$)	$I_E = 10\ \mu A$	6			V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 100\ mA$ $I_B = 10\ mA$ $I_C = 500\ mA$ $I_B = 50\ mA$ $I_C = 1\ A$ $I_B = 0.1\ A$		0.17 0.3 0.5	0.3 0.5 0.95	V V V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = 100\ mA$ $I_B = 10\ mA$ $I_C = 500\ mA$ $I_B = 50\ mA$ $I_C = 1\ A$ $I_B = 0.1\ A$	0.8	0.78 0.95 1.05	0.9 1.2 1.7	V V V
h_{FE}^*	DC Current Gain	$I_C = 10\ mA$ $V_{CE} = 1\ V$ $I_C = 100\ mA$ $V_{CE} = 1\ V$ $I_C = 500\ mA$ $V_{CE} = 1\ V$ $I_C = 1\ A$ $V_{CE} = 5\ V$	25 40 25	55 75 45 45		
f_T	Transition Frequency	$I_C = 50\ mA$ $V_{CE} = 10\ V$ $f = 100\ MHz$	250	400		MHz
C_{EBO}	Emitter-base Capacitance	$I_C = 0$ $V_{EB} = 0.5\ V$ $f = 1\ MHz$		40	55	pF
C_{CBO}	Collector-base Capacitance	$I_E = 0$ $V_{CB} = 10\ V$ $f = 1\ MHz$		4.8	12	pF
t_{on}^{**}	Turn-on Time ^e	$I_C = 500\ mA$ $V_{CC} = 30\ V$ $I_{B1} = 50\ mA$		15	35	ns
t_{off}^{**}	Turn-off Time	$I_C = 500\ mA$ $V_{CC} = 30\ V$ $I_{B1} = -I_{B2} = 50\ mA$		40	60	ns

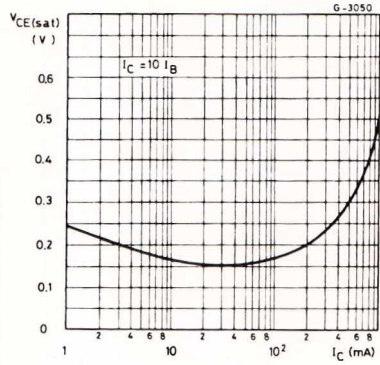
* Pulsed : pulse duration = 300 μs , duty cycle = 1 %

** See test circuit.

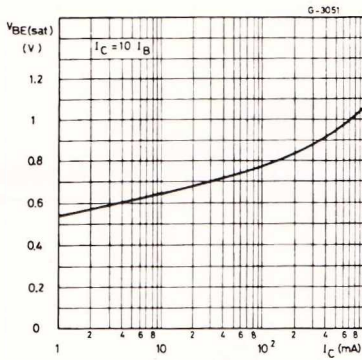
DC Current Gain.



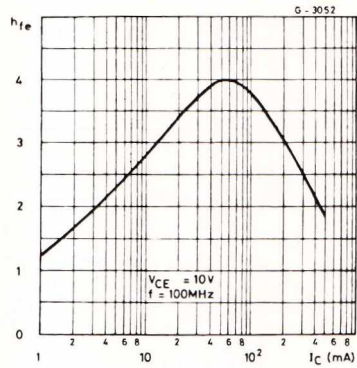
Collector-emitter Saturation Voltage.



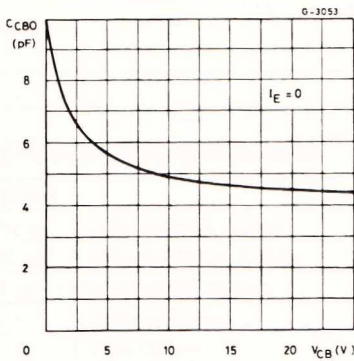
Base-emitter Saturation Voltage.



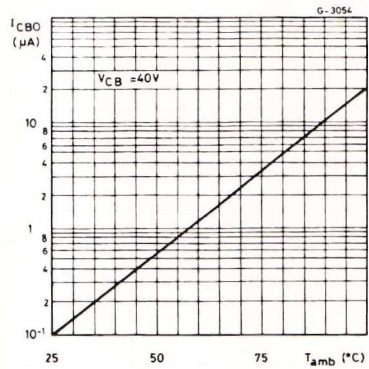
High Frequency Current Gain.



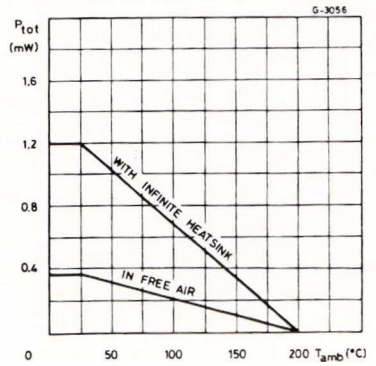
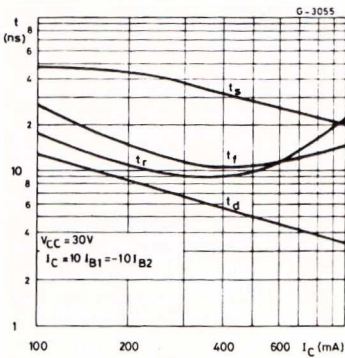
Collector-base Capacitance.



Collector Cutoff Current.



Switching Characteristics.



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

