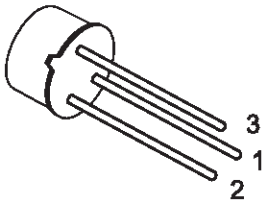
BSS44

SILICON PNP TRANSISTOR

- STMicroelectronics PREFERRED SALESTYPE
- PNP TRANSISTOR

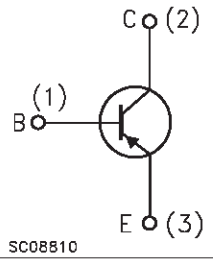


TO-39

DESCRIPTION

The BSS44 is a silicon epitaxial planar PNP transistor in Jedec TO-39 metal case. It is used for high-current switching and power applications up to 5 A.

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage (I_E = 0)	- 65	V
V_{CEO}	Collector-Emitter Voltage (I_B = 0)	- 60	V
V_{EBO}	Emitter-Base Voltage (I_C = 0)	- 6	V
I_C	Collector Current	- 5	A
P_{tot}	Total Dissipation at $T_{case} \leq 25\ ^oC$ $T_{amb} \leq 25\ ^oC$	5 0.87	W W
T_{stg}	Storage Temperature	-65 to 200	^oC
T_j	Max. Operating Junction Temperature	200	^oC

THERMAL DATA

$R_{thj\text{-}case}$	Thermal Resistance Junction-case Max	35	°C/W
$R_{thj\text{-}amb}$	Thermal Resistance Junction-amb Max	200	°C/W

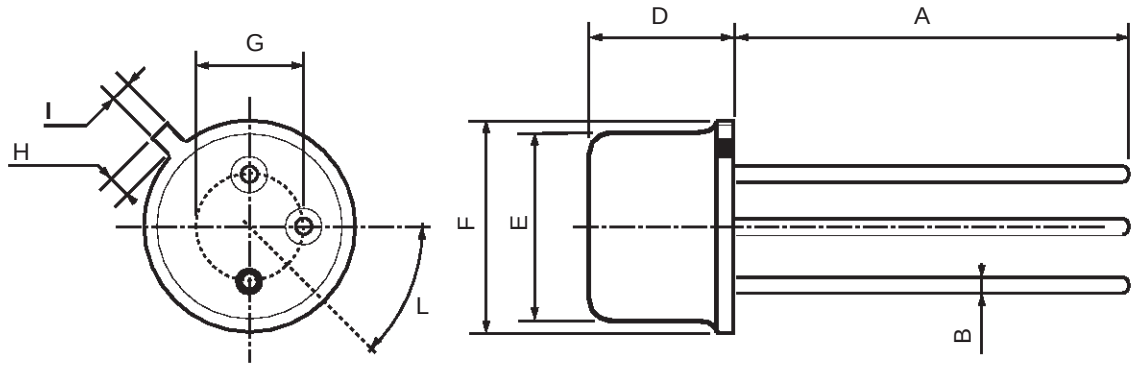
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CES}	Collector Cut-off Current (V_{BE}=0)	V_{CE} = -60 V			-0.5	µA
$V_{(BR)CBO}$*	Collector-base Breakdown Voltage (I_E = 0)	I_C = -1 mA	-65			V
$V_{CEO(sus)}$*	Collector-Emitter Sustaining Voltage (I_B = 0)	I_C = -50 mA	-60			V
V_{EBO}*	Emitter-base Voltage (I_C = 0)	I_E =.- 1 mA	-6			V
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C = -0.5 A I_B = -50 mA I_C = - 5 A I_B = -0.5 A		-0.1 -0.4	 -1	V V
$V_{BE(sat)}$*	Base-Emitter Saturation Voltage	I_C = -0.5 A I_B = -50 mA I_C = - 5 A I_B = -0.5 A		-0.8 -1.1	 -1.6	V V
h_{FE}*	DC Current Gain	I_C = -0.5 A V_{CE} = -2 V I_C = -2 A V_{CE} = -2 V I_C = -5 A V_{CE} = -2 V	30 40	 70 45		
f_T*	Transition Frequency	I_C = -0.5 A V_{CE} = -5 V		80		MHz
C_{CBO}	Collector-base Capacitance	I_E = 0 V_{CB} = 10 V f = 1 MHz			100	pF
t_{on}	Turn-on Time	IC = -0.5 A V_{CC} = -20 V I_{B1} = -I_{B2} = -50 mA		0.065		µs
t_{off}	Turn-off Time			0.45		µs

∗ Pulsed: Pulse duration = 300 µs, duty cycle 1.5 %

TO-39 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	12.7			0.500		
B			0.49			0.019
D			6.6			0.260
E			8.5			0.334
F			9.4			0.370
G	5.08			0.200		
H			1.2			0.047
I			0.9			0.035
L	45^{o} (typ.)					



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