

NPN Darlington Transistor

BST50;BST51;BST52

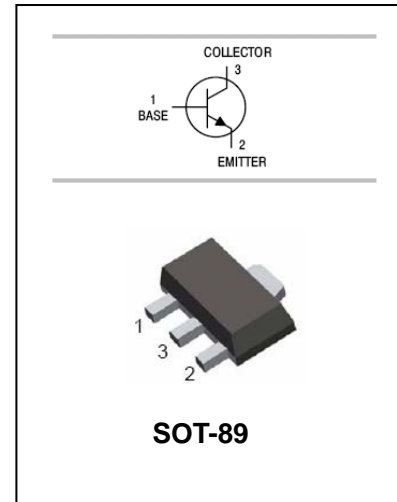
FEATURES

- High current(max.0.5A).
- High voltage(max.80v).
- Integrated diode and resistor.
- PNP complements:BST60,BST61 AND BST62.



APPLICATIONS

- Industrial switching applications such as:
 - Print hammer
 - Solenoid
 - Relay and lamp driving



ORDERING INFORMATION

Type No.	Marking	Package Code
BST50	AS1	SOT-89
BST51	AS2	SOT-89
BST52	AS3	SOT-89

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage	BST50	60
		BST51	80
		BST52	90
V _{CEO}	Collector-Emitter Voltage	BST50	45
		BST51	60
		BST52	80
V _{EBO}	Emitter-Base Voltage	5	V
I _C	Collector Current -DC	1	A
I _{CM}	Peak Collector Current	2	A
I _B	Base Current	100	mA
P _{tot}	Total powerDissipation	1.3	W
T _j , T _{stg}	Junction and Storage Temperature	-65 to +150	°C



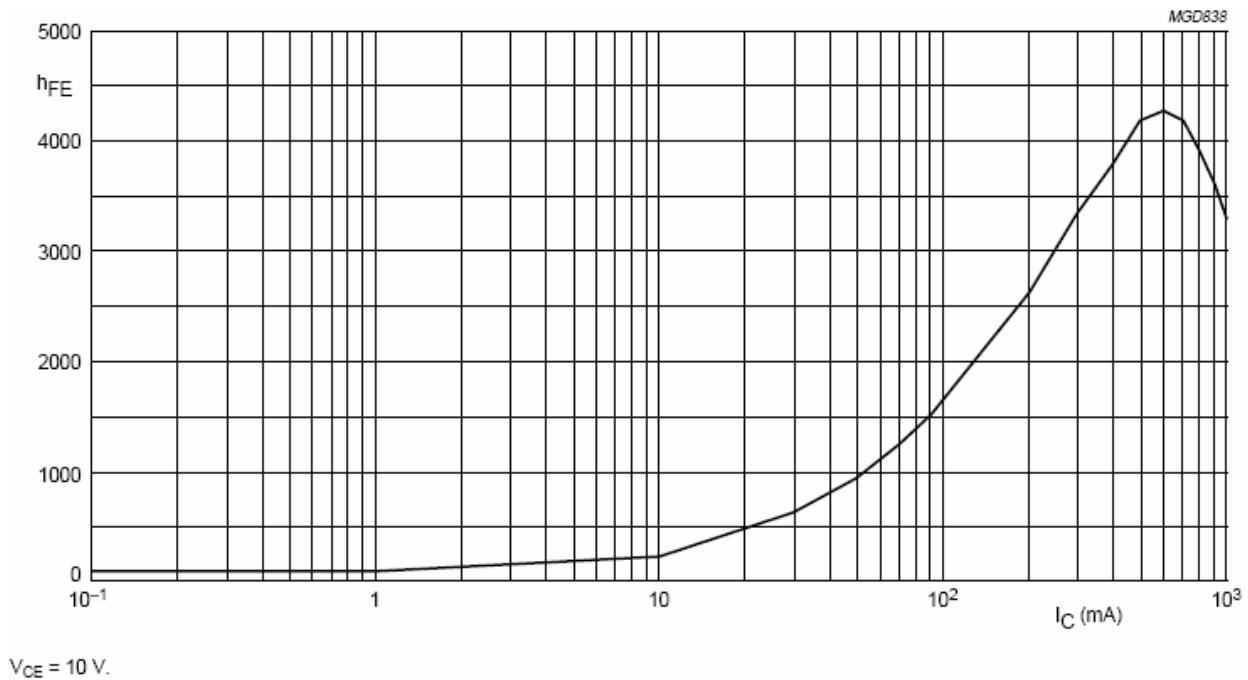
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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector cut-off current	I _{CES}	V _{BE} =0, V _{CE} =45V BST50			50	nA
		V _{BE} =0, V _{CE} =60V BST51			50	nA
		V _{BE} =0, V _{CE} =80V BST52			50	nA
Emitter cut-off current	I _{EBO}	V _{EB} =4V, I _C =0			50	nA
DC current gain	h _{FE}	V _{CE} =10V, I _C =150mA	1000			
		V _{CE} =10V, I _C =500mA	2000			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =500mA, I _B =0.5mA I _C =500mA, I _B =0.5mA, T _j =150°C			1.3	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C =500mA, I _B =0.5mA			1.9	V
Transition frequency	f _T	V _{CE} =5V, I _C =500mA, f=100MHz		200		MHz
Turn-on Time	t _{on}	I _{Con} =500mA, I _{Bon} =0.5mA, I _{Boff} =-0.5mA		400		ns
Turn-off Time	t _{off}			1500		ns

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified



DC current gain; typical values.

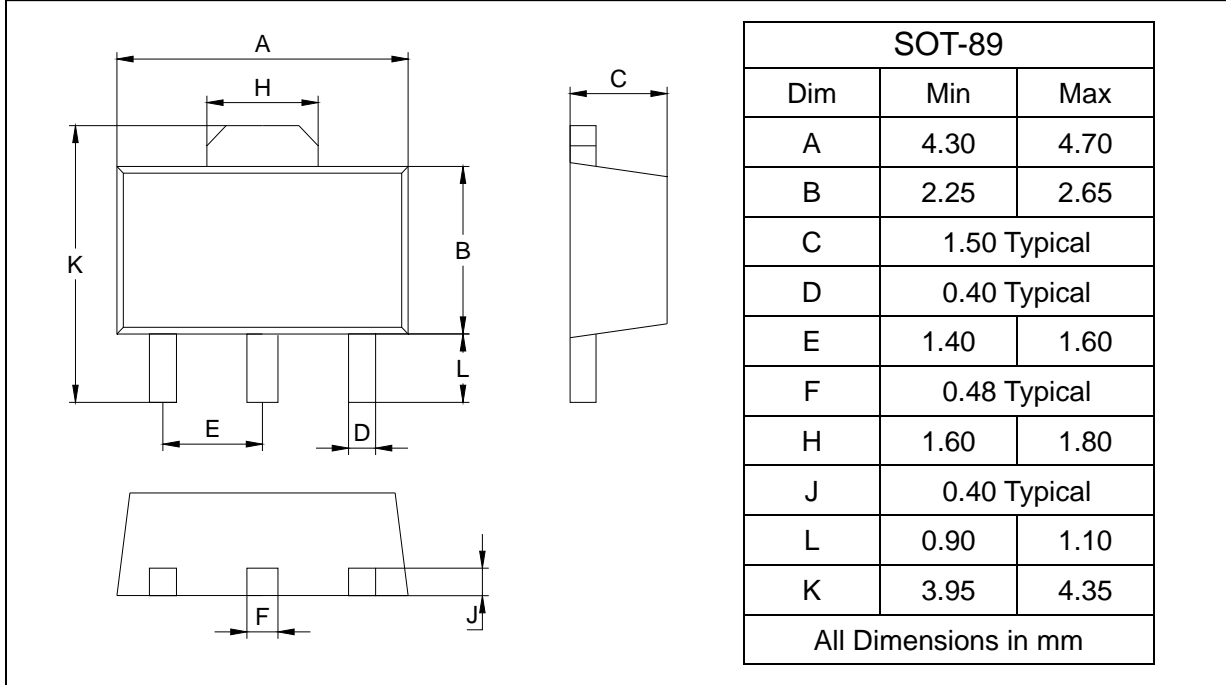
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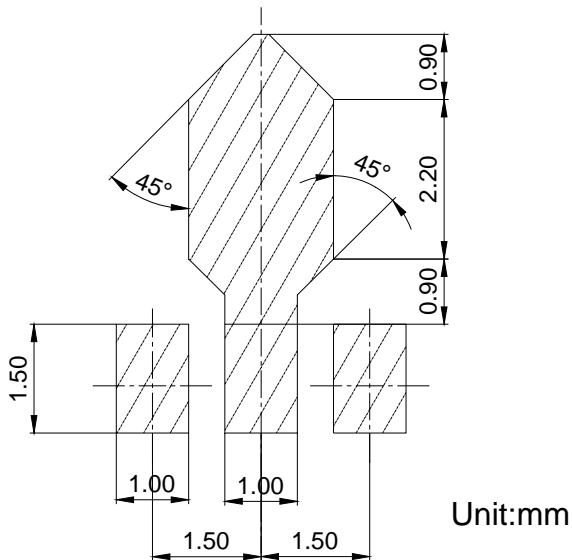
PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
BST50/BST51/BST52	SOT-89	1000/Tape&Reel