

NPN Darlington Transistor

BST50;BST51;BST52

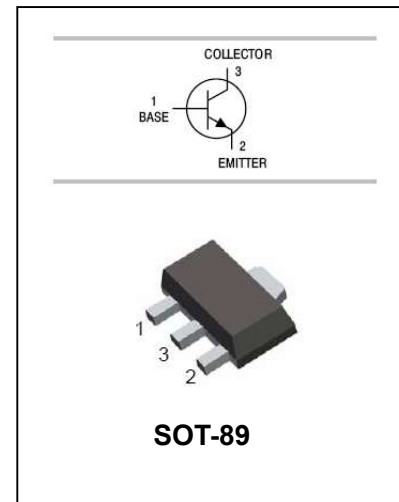
FEATURES

- 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

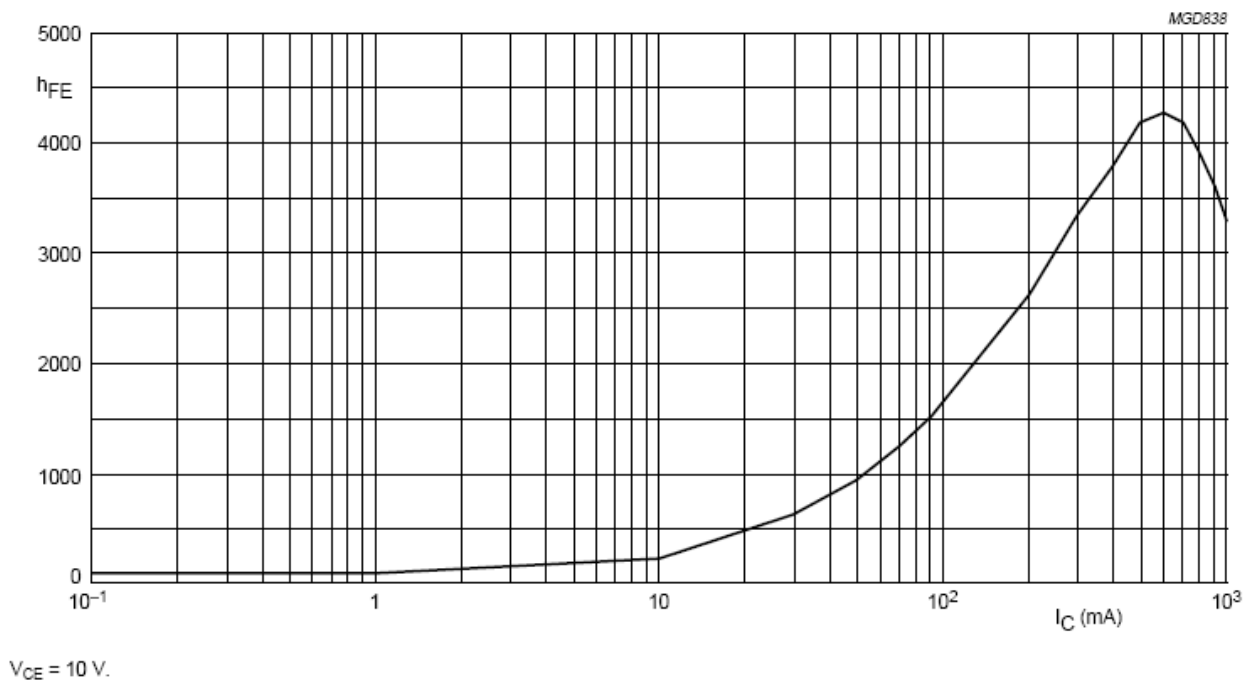
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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

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	$V_{CE(sat)}$	$I_C=500mA, I_B=0.5mA$ $I_C=500mA, I_B=0.5mA, T_j=150^\circ C$			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.

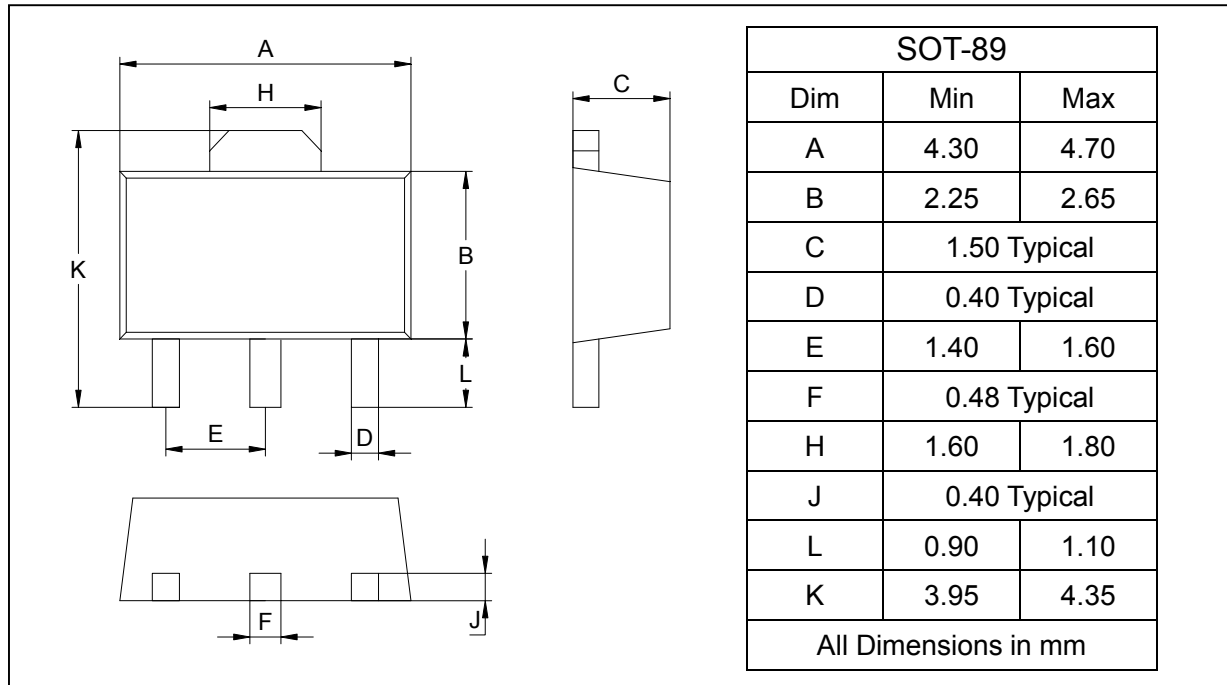
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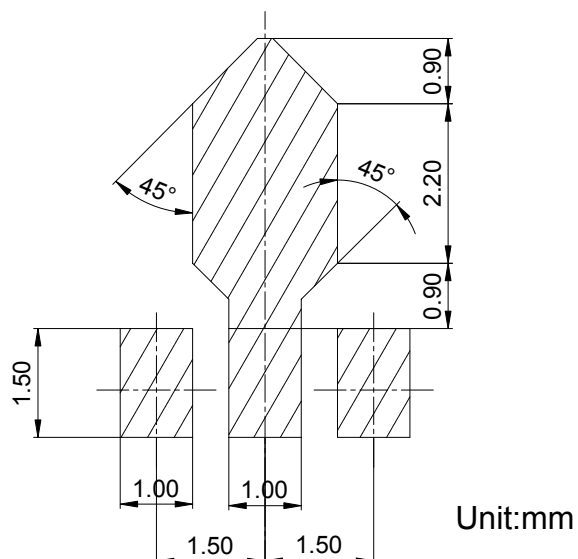
PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



SOLDERING FOOTPRINT



PACKAGE INFORMATION

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