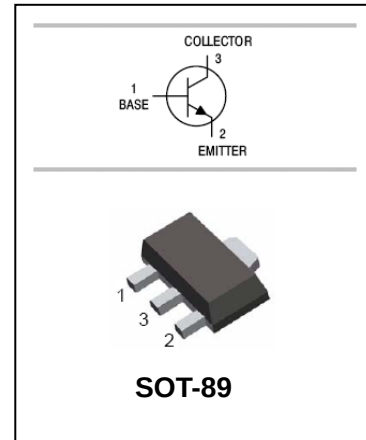


NPN medium power Transistors BSR40/BSR41/BSR42/BSR43

FEATURES

- High current(max.1A).
- Low voltage(max.80V).
- Thick and thin-film circuits.
- Telephony and general industrial applications.
- NPN complements:BSR30,BSR31 and BSR33.

HF



ORDERING INFORMATION

Type No.	Marking	Package Code
BSR40	AR1	SOT-89
BSR41	AR2	SOT-89
BSR42	AR3	SOT-89
BSR43	AR4	SOT-89

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage BSR40 BSR41 BSR42 BSR43	70 90	V
V_{CEO}	Collector-Emitter Voltage BSR40 BSR41 BRS42 BSR43	60 80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	DC Collector Current	1	A
I_{CM}	Peak Collector Current	2	A
I_{BM}	Peak base current	0.2	A
P_{tot}	Total power dissipation, $T_S=130^{\circ}\text{C}$	1.35	W
T_j, T_{stg}	Junction and Storage Temperature	-65 to +150	$^{\circ}\text{C}$

NPN medium power Transistors BSR40/BSR41/BSR42/BSR43

ELECTRICAL CHARACTERISTICS @ $T_a=25^{\circ}\text{C}$ unless otherwise specified

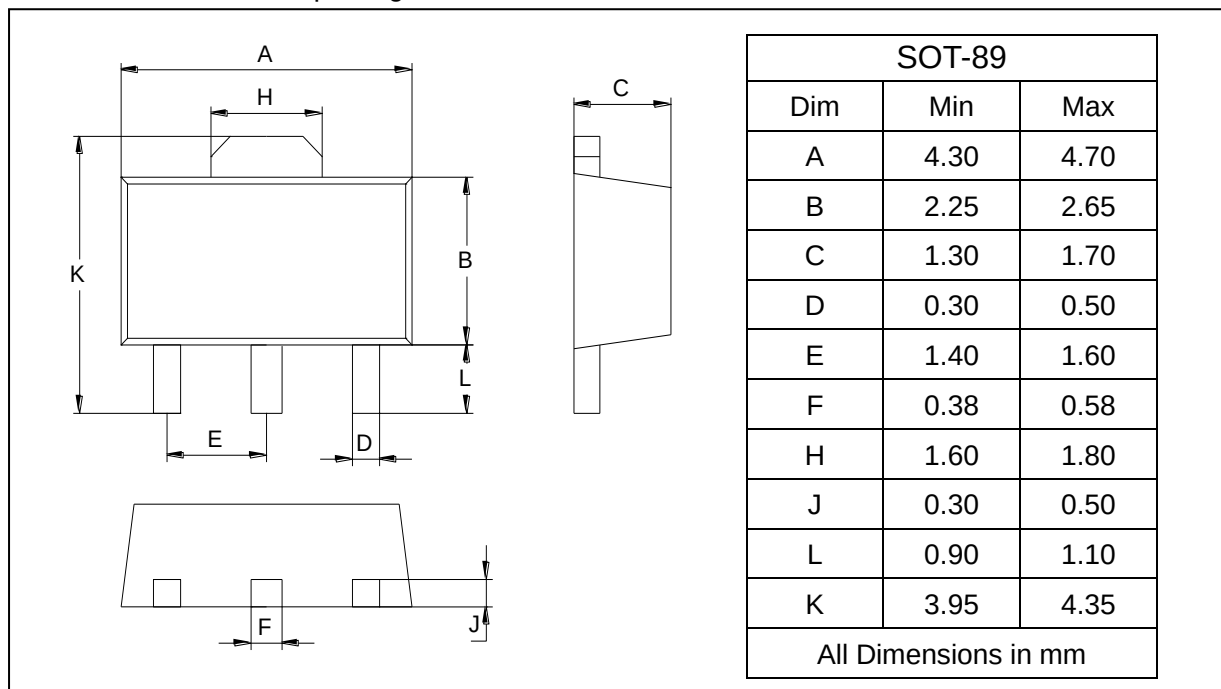
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{V } I_E=0$		100	nA
		$V_{CB}=60\text{V } I_E=0, T_A=150^{\circ}\text{C}$		50	μA
Emitter-base cut-off current	I_{EBO}	$V_{CE}=5\text{V } I_C=0\text{A}$		100	nA
DC current gain	h_{FE}	$V_{CE}=5\text{V } I_C=100\mu\text{A}$ BSR40;BSR42 BSR41;BSR43	10 30		
		$V_{CE}=5\text{V } I_C=100\text{mA}$ BSR40;BSR42 BSR41;BSR43	40 100	120 300	
		$V_{CE}=5\text{V } I_C=500\text{mA}$ BSR40;BSR42 BSR41;BSR43	30 50		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=150\text{mA } I_B=15\text{mA}$ $I_C=500\text{mA } I_B=50\text{mA}$		0.25 0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=150\text{mA } I_B=15\text{mA}$ $I_C=500\text{mA } I_B=50\text{mA}$		1 1.2	V
Collector capacitance	C_c	$I_E=i_e=0\text{A}, V_{CB}=10\text{V}$ $f=1\text{MHz}$		12	pF
Emitter capacitance	C_e	$I_C=i_c=0\text{A}, V_{EB}=0.5\text{V}$ $f=1\text{MHz}$		90	pF
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=50\text{mA},$ $f=100\text{MHz}$	100		MHz
Turn-on time	t_{on}	$I_{Con}=100\text{mA}; I_{Bon}=5\text{mA}; I_{Boff}=-5\text{mA}$		250	ns
Turn-off time	t_{on}			1	us

NPN medium power Transistors BSR40/BSR41/BSR42/BSR43

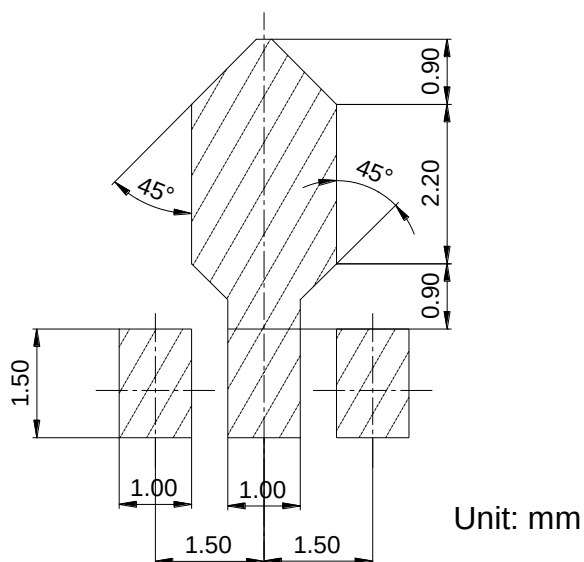
PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
BSR40/BSR41/BSR42/BSR43	SOT-89	1000 pcs / Tape & Reel