

PNP Medium power transistors

BCX51/BCX52/BCX53

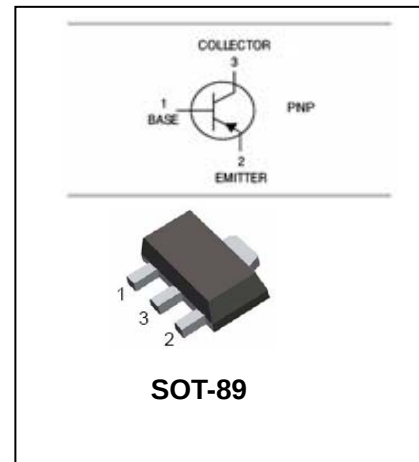
FEATURES

- For AF driver and output stages.
- High collector current.
- Low collector-emitter saturation voltage.
- Complementary types: BCX54/BCX55/BCX56.



APPLICATIONS

- Medium power general purposes.
- Driver stages of audio amplifiers.



ORDERING INFORMATION

Type No.	Marking	Package Code
BCX51	AA	SOT-89
BCX51-10	AC	SOT-89
BCX51-16	AD	SOT-89
BCX52	AE	SOT-89
BCX52-10	AG	SOT-89
BCX52-16	AM	SOT-89
BCX53	AH	SOT-89
BCX53-10	AK	SOT-89
BCX53-16	AL	SOT-89

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	BCX51 -45	V
		BCX52 -60	
		BCX53 -100	
V_{CEO}	Collector-Emitter Voltage	BCX51 -45	V
		BCX52 -60	
		BCX53 -80	
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-1	A
I_{CM}	Collector Current -Peak	-1.5	A
P_D	Total Device Dissipation	500	mW
T_j, T_{stg}	Junction and Storage Temperature	-65 to +150	°C

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified



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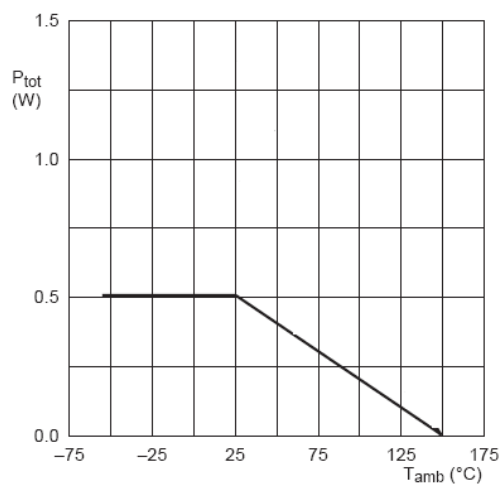
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu A$ $I_E = 0$ BCX51 BCX52 BCX53	-45 -60 -100			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10mA$ $I_B = 0$ BCX51 BCX52 BCX53	-45 -60 -80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu A$ $I_C = 0$	-5			μV
Collector cut-off current	I_{CBO}	$V_{CB} = -30V$ $I_E = 0$			-0.1	μA
DC current gain	h_{FE}	$V_{CE} = -2V$ $I_C = -5mA$	25			
		$V_{CE} = -2V$ $I_C = -150mA$ BCX51...53	40		250	
		$V_{CE} = -2V$ $I_C = -150mA$ -10 -16	63 100		160 250	
		$V_{CE} = -2V$ $I_C = -500mA$	25			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500mA$ $I_B = -50mA$			-0.5	V
Base-emitter voltage	V_{BE}	$I_C = -500mA$, $V_{CE} = -2V$			-1	V
Transition frequency	f_T	$V_{CE} = -10$ $I_C = -50mA$, $f = 20MHz$		125		MHz

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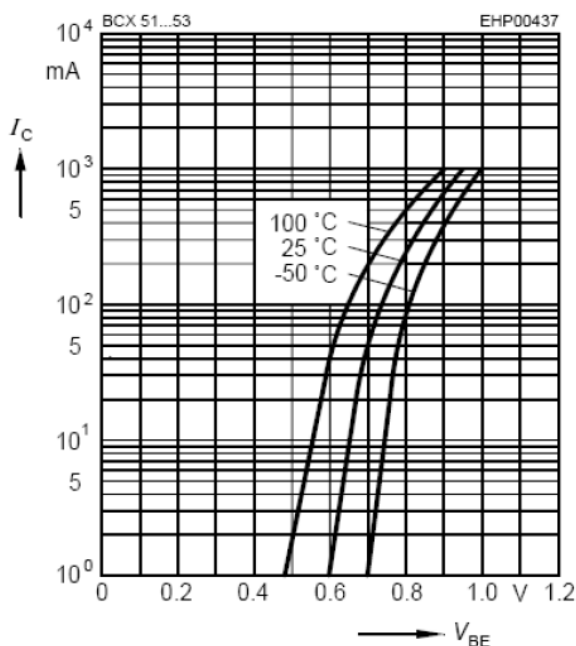
TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

Total power dissipation $P_{\text{tot}} = f(T_S)$



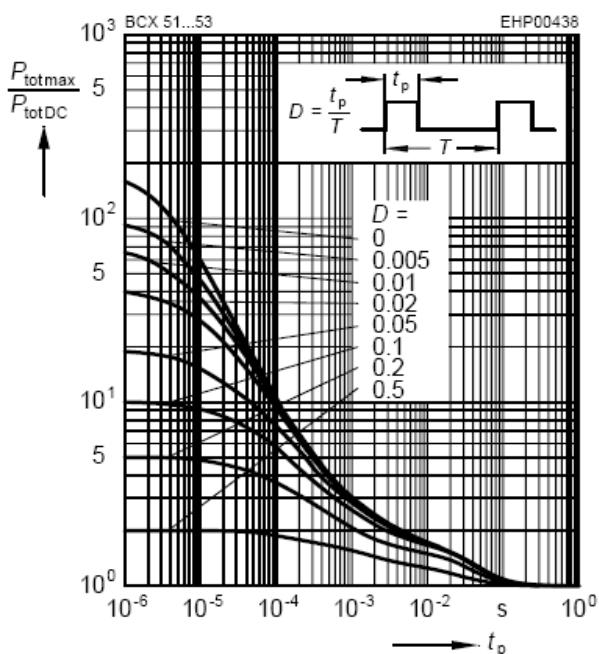
Collector current $I_C = f(V_{\text{BE}})$

$V_{\text{CE}} = 2\text{V}$



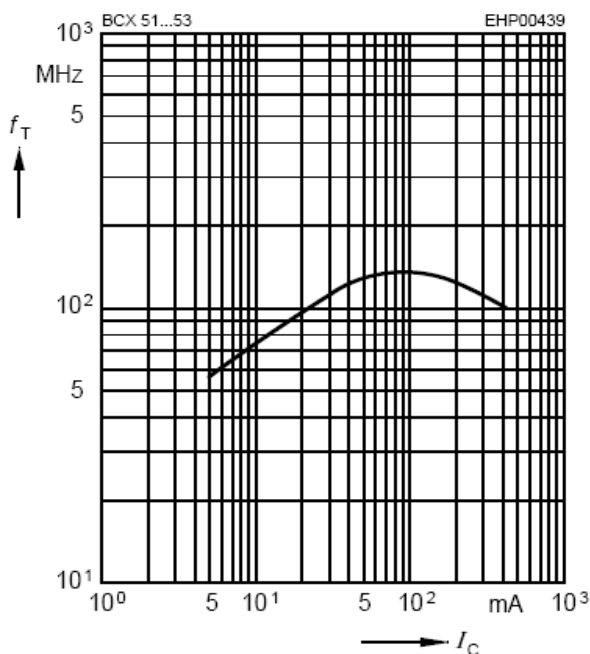
Permissible pulse load

$P_{\text{totmax}} / P_{\text{totDC}} = f(t_p)$



Transition frequency $f_T = f(I_C)$

$V_{\text{CE}} = 10\text{V}$

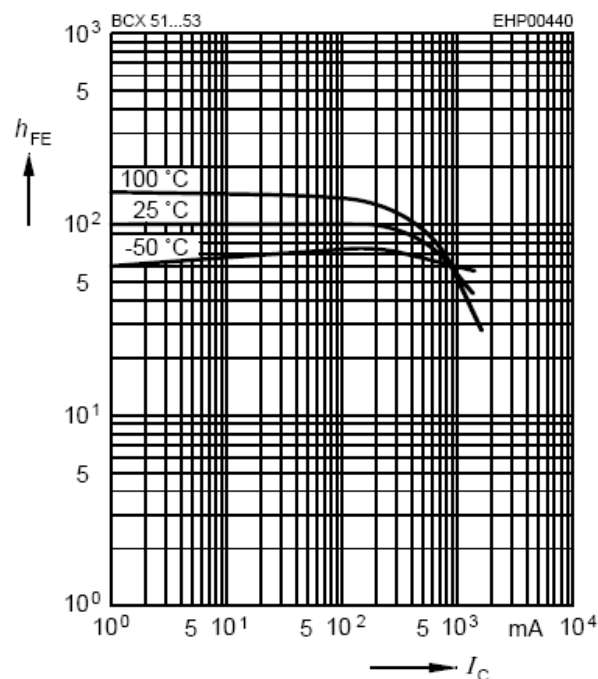


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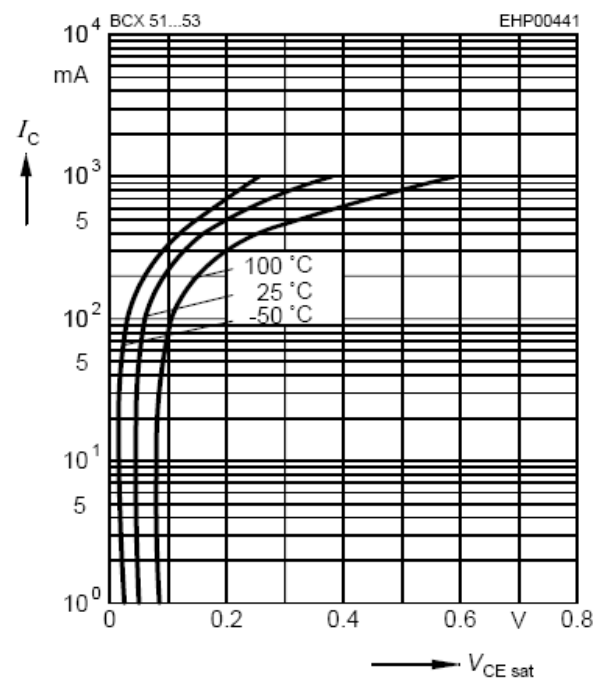
DC current gain $h_{FE} = f(I_C)$

$V_{CE} = 2V$



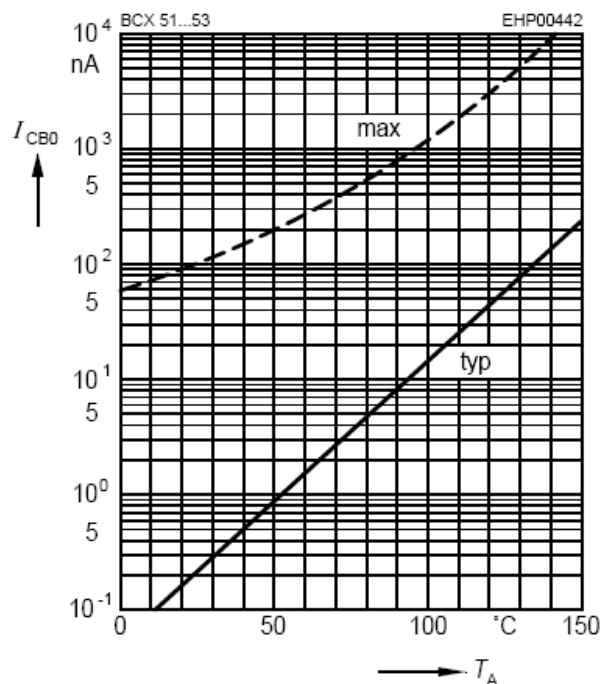
Collector-emitter saturation voltage

$I_C = f(V_{CEsat}), h_{FE} = 10$



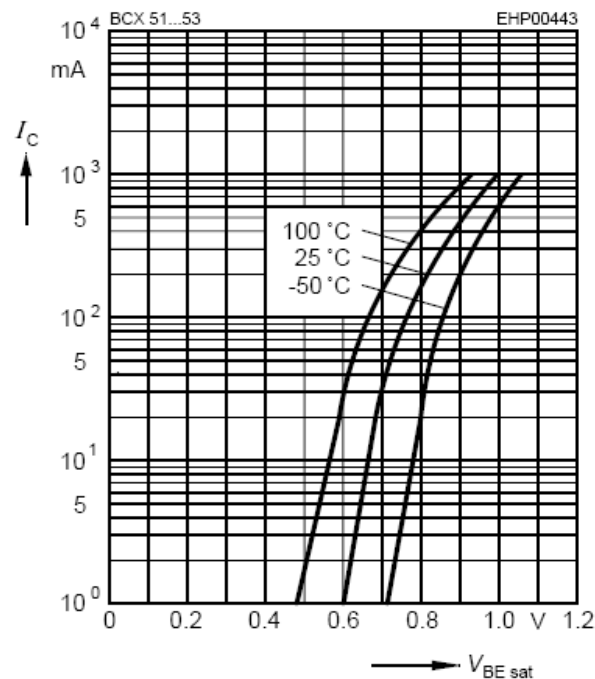
Collector cutoff current $I_{CBO} = f(T_A)$

$V_{CB} = 30V$



Base-emitter saturation voltage

$I_C = f(V_{BEsat}), h_{FE} = 10$



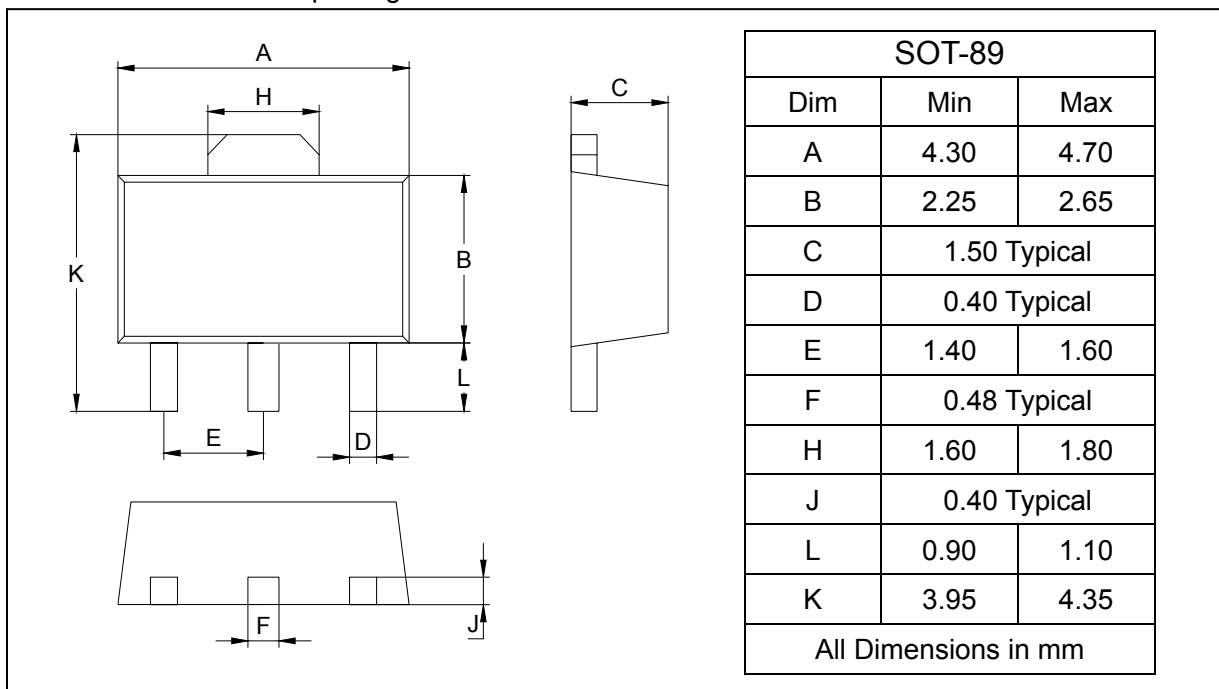
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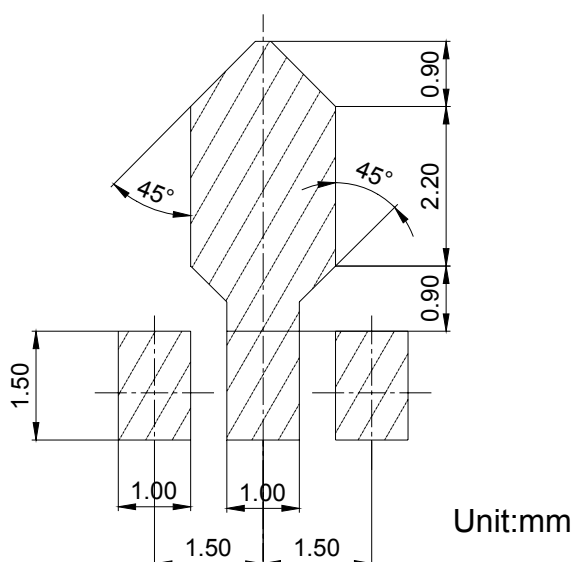
PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
BCX51/BCX52/BCX53	SOT-89	1000/Tape&Reel