

PNP Medium Power Transistors

BCX53-3L

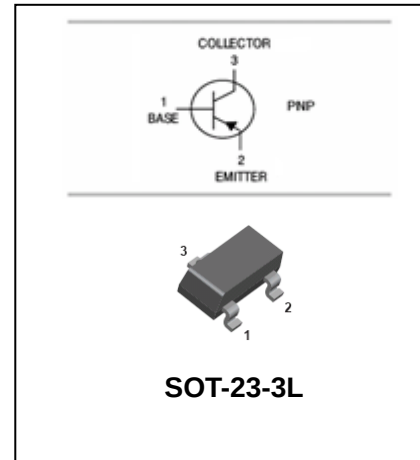
FEATURES

- For AF driver and output stages.
- High collector current.
- Low collector-emitter saturation voltage.
- Complementary types: BCX56-3L.

APPLICATIONS

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

HF



ORDERING INFORMATION

Type No.	Marking	Package Code
BCX53-3L	AH	SOT-23-3L
BCX53-10-3L	AK	SOT-23-3L
BCX53-16-3L	AL	SOT-23-3L

MAXIMUM RATING @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-100	V
V_{CEO}	Collector-Emitter Voltage	-80	V
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	$^\circ\text{C}$

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

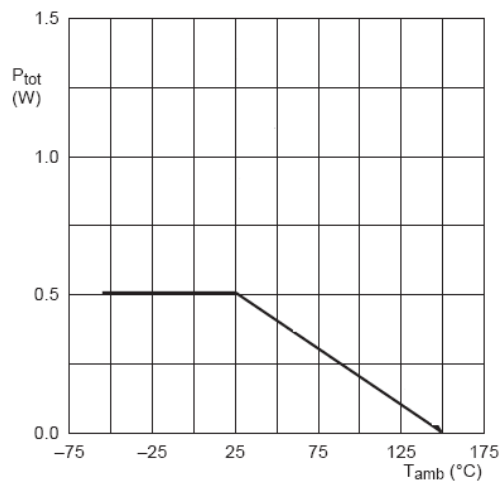
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu\text{A}$ $I_E = 0$	-100			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10\text{mA}$ $I_B = 0$	-80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu\text{A}$ $I_C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

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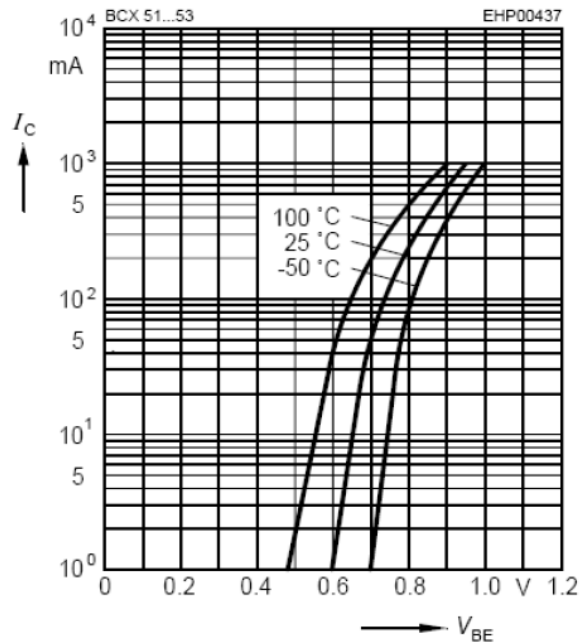
TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

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



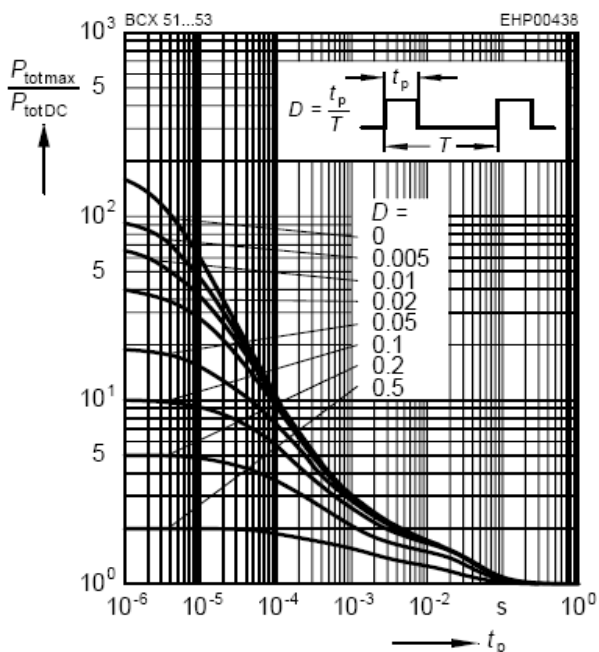
Collector current $I_C = f(V_{\text{BE}})$

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



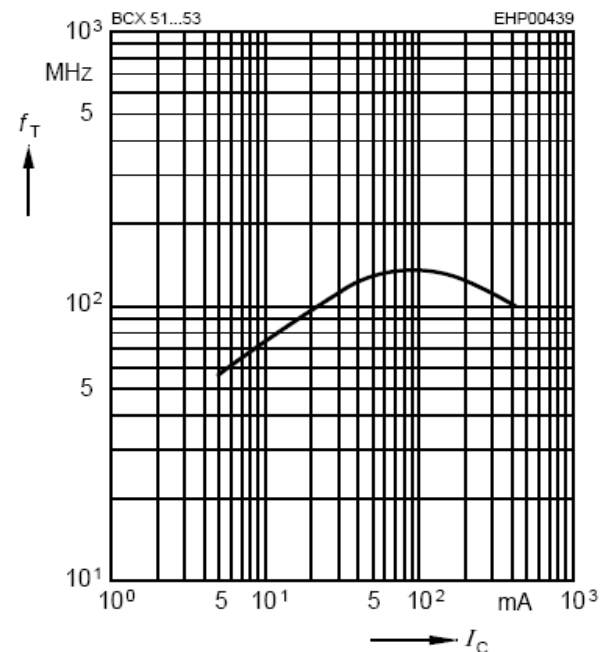
Permissible pulse load

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



Transition frequency $f_T = f(I_C)$

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

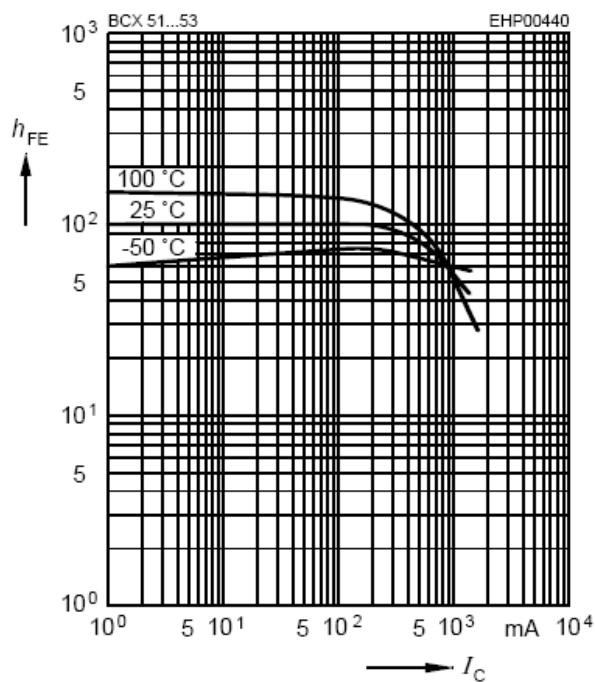


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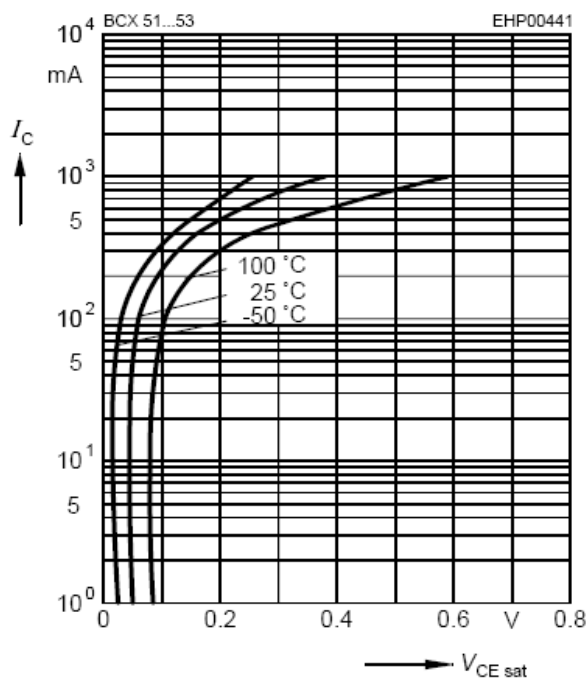
DC current gain $h_{FE} = f(I_C)$

$V_{CE} = 2V$



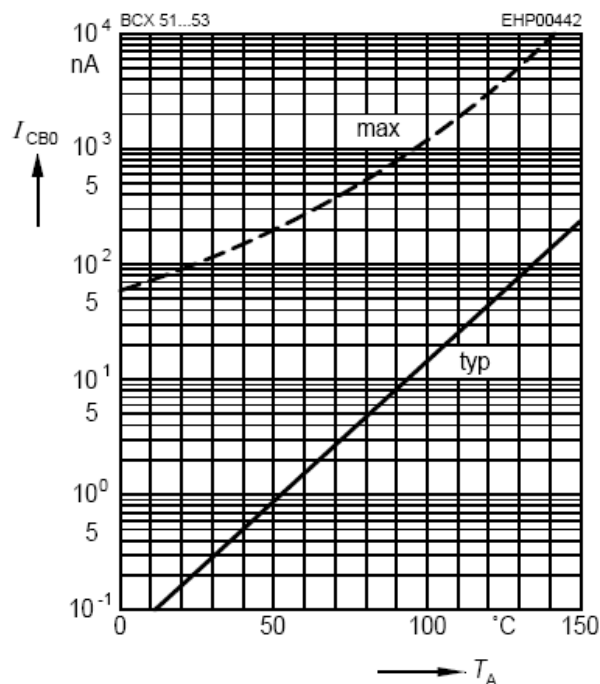
Collector-emitter saturation voltage

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



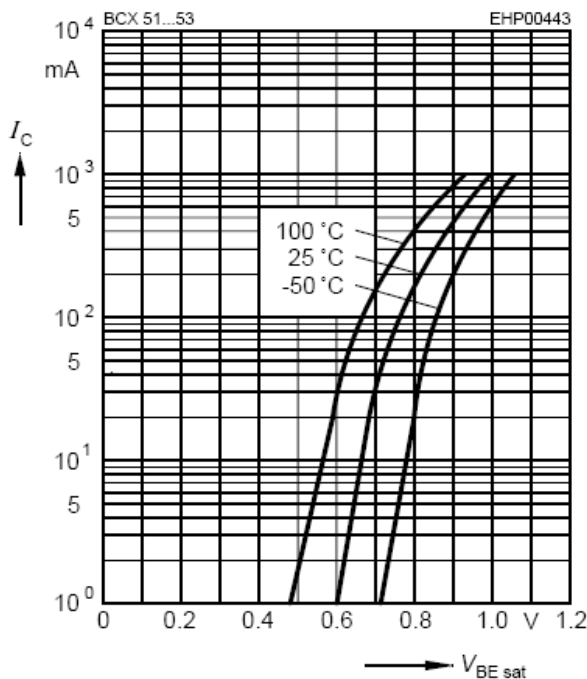
Collector cutoff current $I_{CBO} = f(T_A)$

$V_{CB} = 30V$



Base-emitter saturation voltage

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



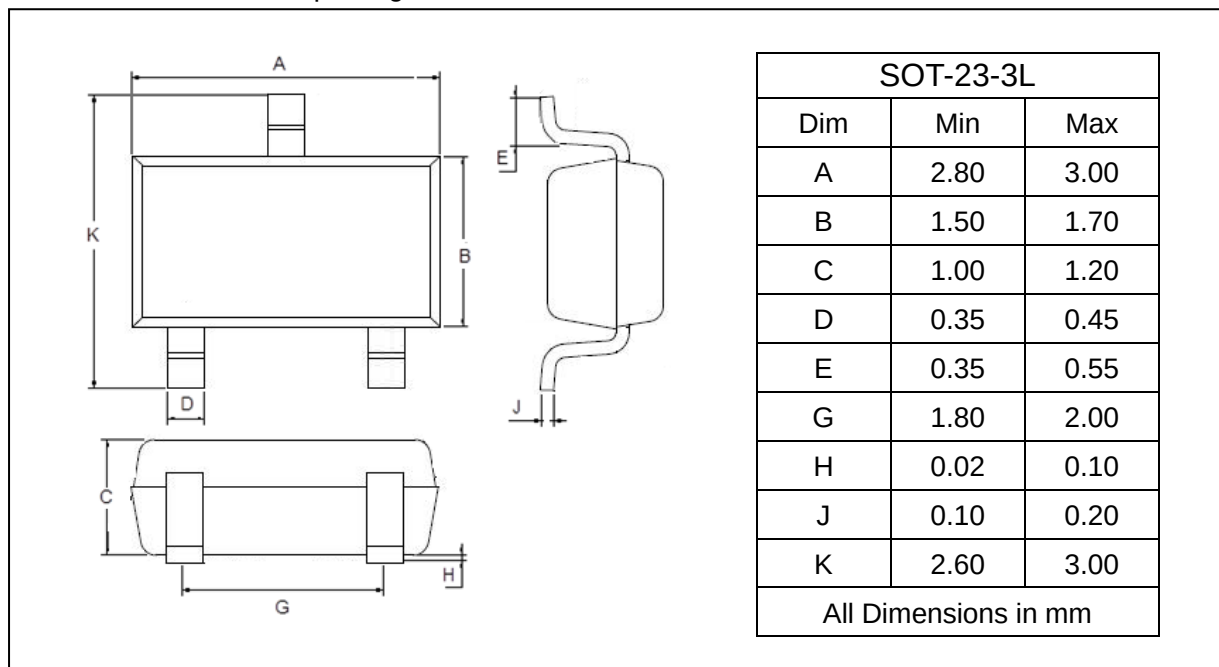
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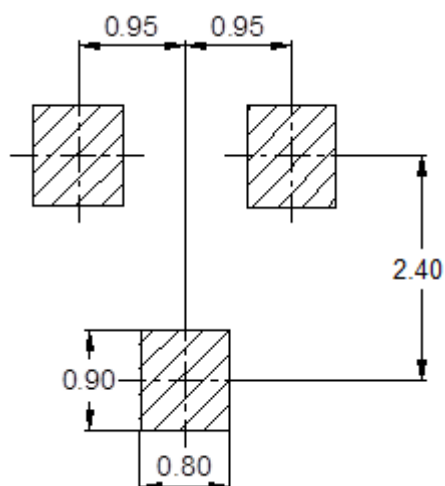
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23-3L



SOLDERING FOOTPRINT



Unit: mm

PACKAGE INFORMATION

Device	Package	Shipping
BCX53-3L	SOT-23-3L	3000pcs / Tape & Reel