BCX51-BCX53

PNP Silicon AF Transistors

Features

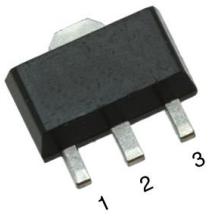
- For AF driver and output stages
- High collector current
- Low collector-emitter saturation voltage
- RoHS compliant package

Mechanical Data

- Case: SOT-89 Molded plastic
- Epoxy: UL94V-O rate flame retardant

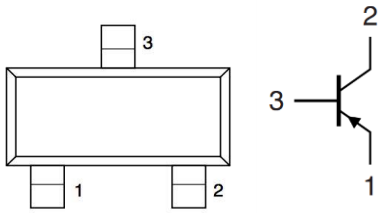
Packing & Order Information

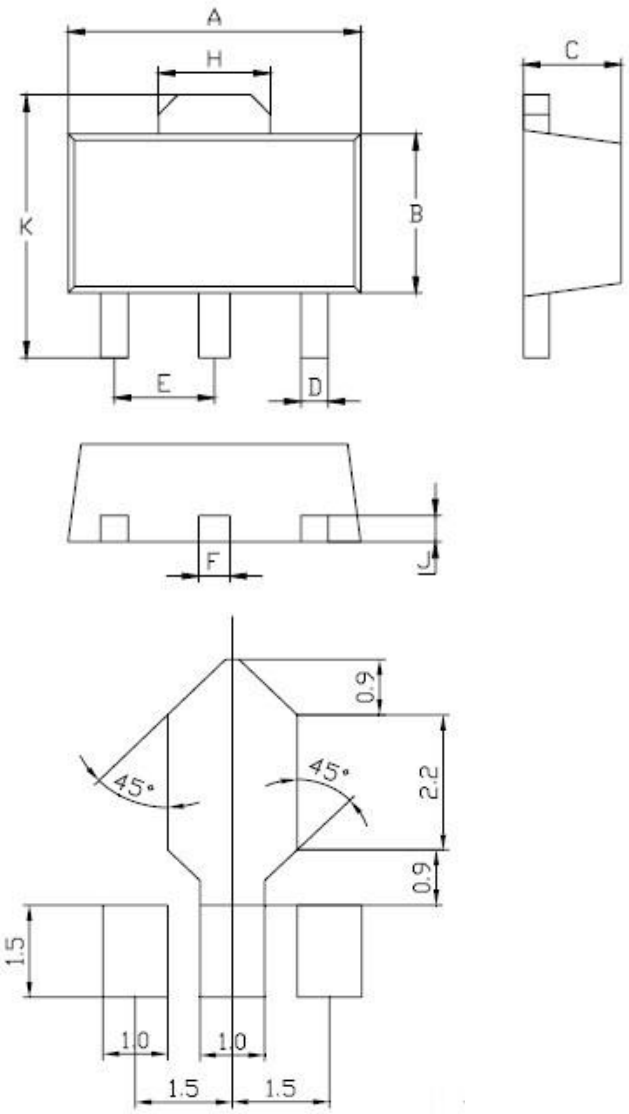
2,500/Reel



RoHS
COMPLIANT

Graphic symbol





SOT-89		
Dim	Min	Max
A	4.5	4.7
B	2.3	2.7
C	1.5Typical	
D	0.35	0.55
E	1.4	1.6
F	0.4	0.6
H	1.55	1.75
J	0.4Typical	
K	4.15	4.25
All Dimensions in mm		

BCX51-BCX53

PNP Silicon AF Transistors

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Maximum Ratings (Tc=25°C unless otherwise noted)					
Symbol	Parameter	BCX51	BCX52	BCX53	Unit
VCEO	Collector-Emitter Voltage	45	60	80	V
VCBO	Collector-Base Voltage	45	60	100	V
VEBO	Emitter-Base Voltage	5	5	5	V
IC	Collector Current—Continuous	1			A
ICM	Peak collector current, tp ≤ 10	1.5			A
IB	Base current	100			mA
IBM	Peak base current	200			mA
Ptot	Total power dissipation, TS ≤ 120 °C	2			W
TJ	Junction temperature	150			˚C
Tstg	Storage temperature	-65~+150			˚C

THERMAL CHARACTERISTICS			
Symbol	Characteristic	Max	Unit
RthJS	Junction - soldering point	≤ 15	K/W

DC CHARACTERISTICS						
Symbol	Parameter		MIN	TYP	MAX	UNIT
V(BR)CEO	Collector-Emitter Breakdown V oltage (Ic=-10mAdc,IB=0)	BCX51	45			V
		BCX52	60			V
		BCX53	80			V
V(BR)CBO	Collector-Base Breakdown Voltage (Ic=-10μAdc,IE=0)	BCX51	45			V
		BCX52	60			V
		BCX53	100			V
V(BR)EBO	Emitter-Base Breakdown Voltage (IE=-10μAdc,Ic=0)	BCX51	5			V
		BCX52	5			V
		BCX53	5			V
ICBO	Collector Cutoff Current V					V
	(VCB=-30v)				0.1	uA
	(VcB=-30Vdc,TA=150°C)				20	uA
HFE	DC Current Gain	BCX51	25			
	(IC = 5 mA, VCE = 2 V)	BCX52	25			
		BCX53	25			
	(IC = 150 mA, VCE = 2 V)	BCX51-53	40		250	
		hFE-grp.10	63	100	160	
		hFE-grp.16	100	160	250	

BCX51-BCX53

PNP Silicon AF Transistors

DC CHARACTERISTICS						
Symbol	Parameter		MIN	TYP	MAX	UNIT
HFE	(IC = 500 mA, VCE = 2 V)	BCX51	25			
		BCX52	25			
		BCX53	25			
VCE(sat)	Collector-Emitter Saturation Voltage (IC = 500 mA, IB = 50 mA)				0.5	V
VBE(on)	Base-Emitter Voltag (IC = 500 mA, VCE = 2 V)				1.0	V

AC CHARACTERISTICS						
Symbol	Parameter		MIN	TYP	MAX	UNIT
fT	Current-Gain-Bandwidth Product (Ic= -10mAdc,VCE= -5.0Vdc,f=100MHz)			125		MHz

AC CHARACTERISTICS					
Type	Marking	Pin Configuration			Package
BCX51	AA	1=B	2=C	3=E	SOT89
BCX51-10	AC	1=B	2=C	3=E	SOT89
BCX51-16	AD	1=B	2=C	3=E	SOT89
BCX52	AE	1=B	2=C	3=E	SOT89
BCX52-10	AG	1=B	2=C	3=E	SOT89
BCX52-16	AM	1=B	2=C	3=E	SOT89
BCX53	AH	1=B	2=C	3=E	SOT89
BCX53-10	AK	1=B	2=C	3=E	SOT89
BCX53-16	AL	1=B	2=C	3=E	SOT89

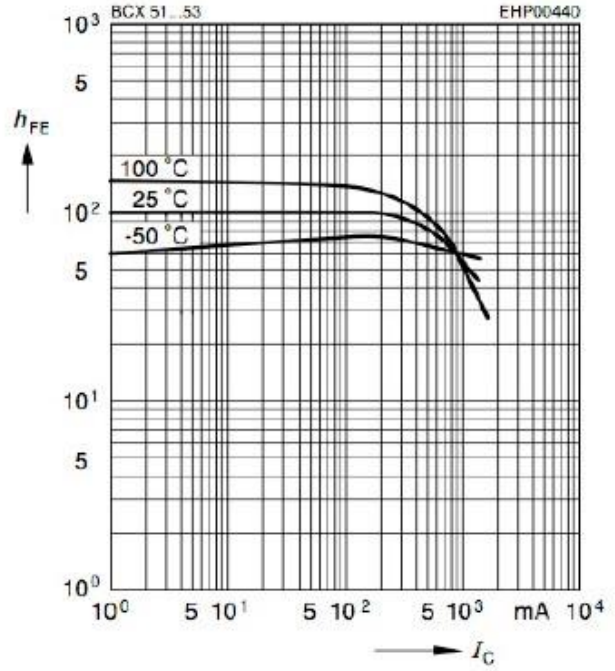
BCX51-BCX53

PNP Silicon AF Transistors

■RATINGS AND CHARACTERISTIC CURVES

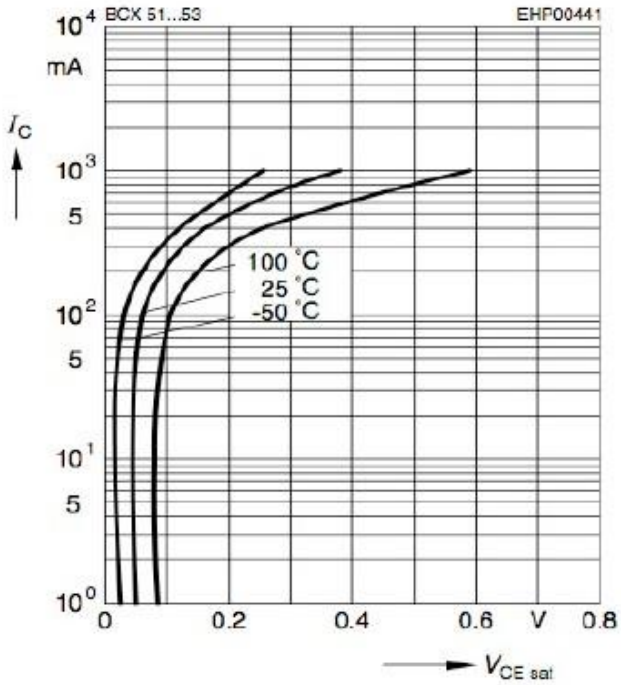
DC current gain $h_{FE} = f(I_C)$

$V_{CE} = 2$ V



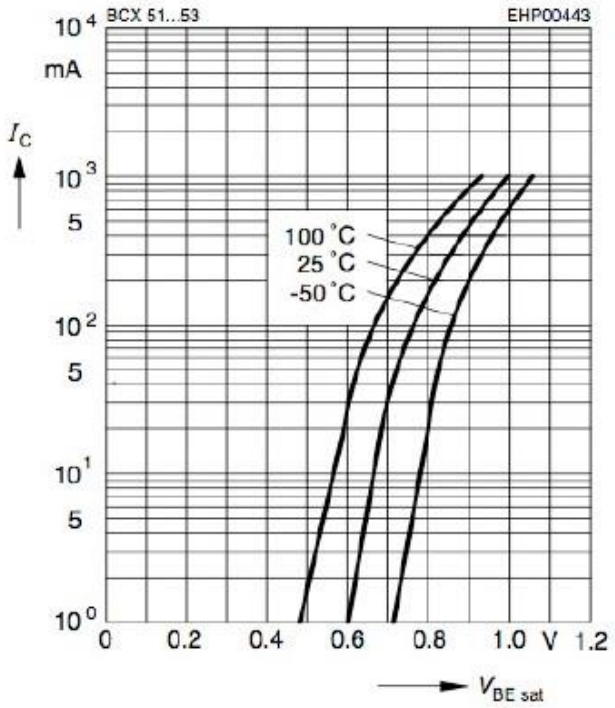
Collector-emitter saturation voltage

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



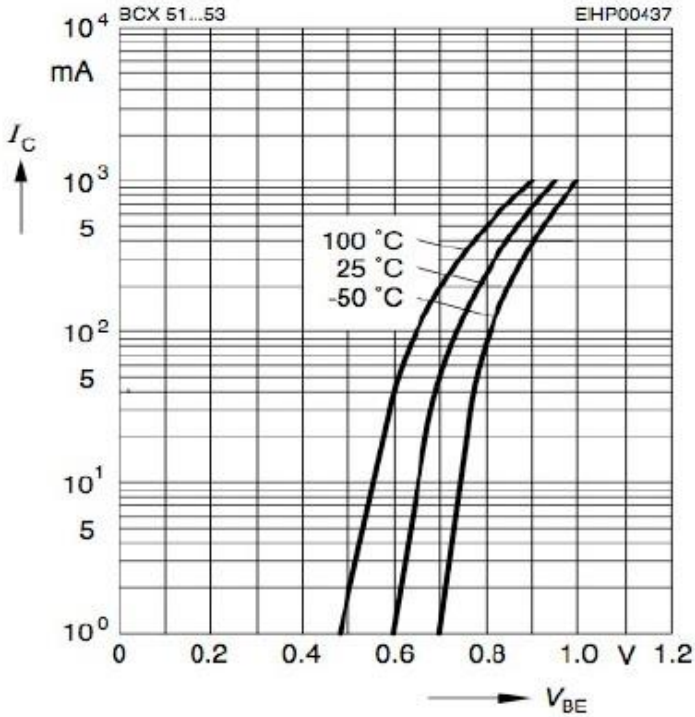
Base-emitter saturation voltage

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



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

$V_{CE} = 2$V



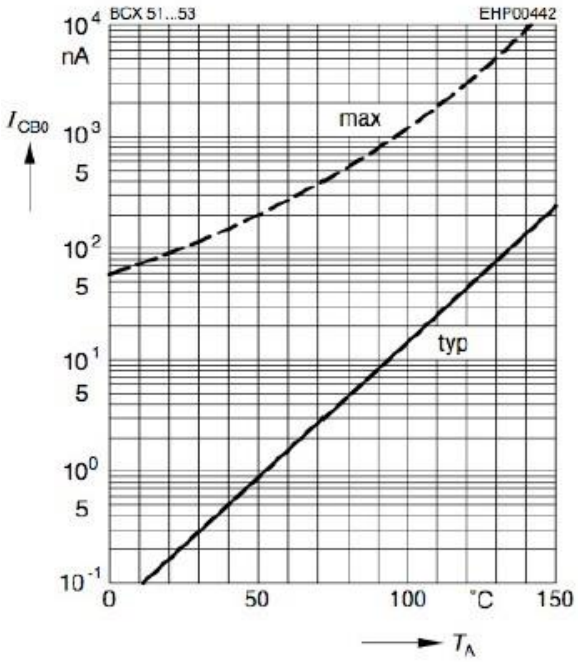
BCX51-BCX53

PNP Silicon AF Transistors

■RATINGS AND CHARACTERISTIC CURVES

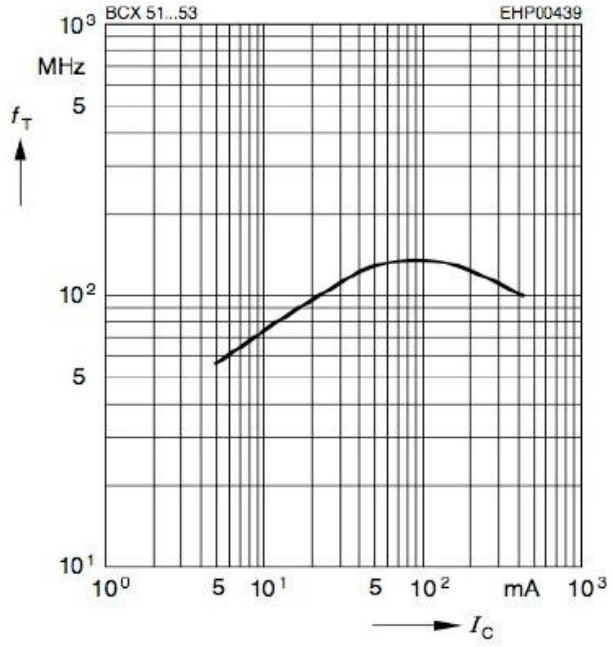
Collector cutoff current I_{CBO} = $f(T_A)$

V_{CBO} = 30 V

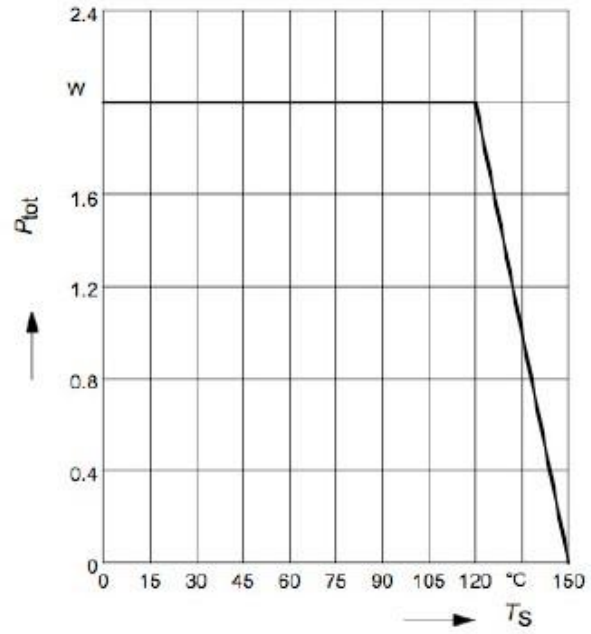


Transition frequency f_T = $f(I_C)$

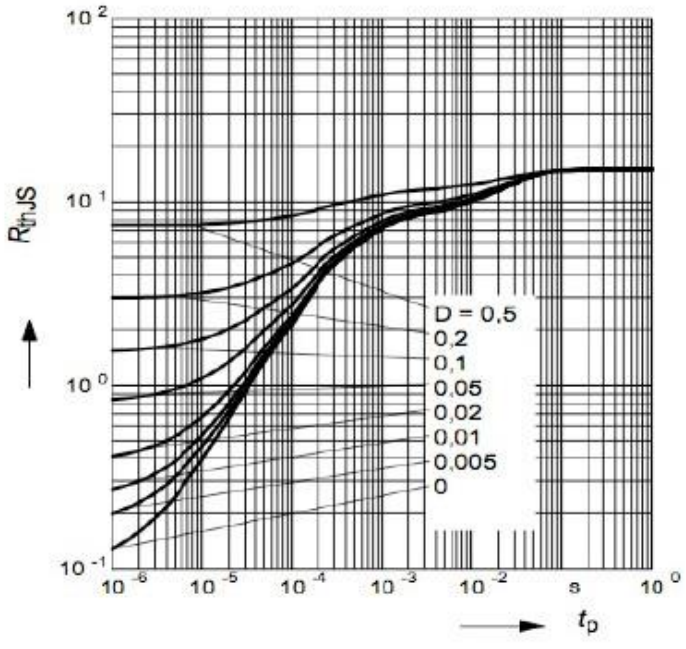
V_{CE} = 10 V



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



Permissible Pulse Load R_{thJS} = $f(t_p)$



BCX51-BCX53

PNP Silicon AF Transistors

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Bruckewell Technology Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Bruckewell”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Bruckewell makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Bruckewell disclaims

(i) Any and all liability arising out of the application or use of any product.

(ii) Any and all liability, including without limitation special, consequential or incidental damages.

(iii) Any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Bruckewell’s knowledge of typical requirements that are often placed on Bruckewell products in generic applications.

Such statements are not binding statements about the suitability of products for a particular application. It is the customer’s responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time.

Product specifications do not expand or otherwise modify Bruckewell’s terms and conditions of purchase, including but not limited to the warranty expressed therein.