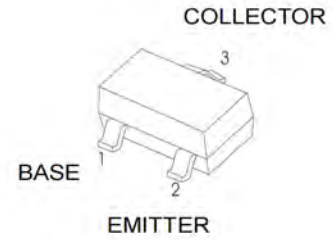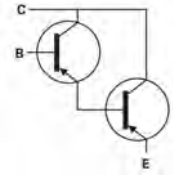**PNP Silicon Darlington Transistors**

- For general AF applications
- High collector current
- High current gain
- Complementary types: BAV27, BAV47 (NPN)
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101

COLLECTOR

BASE

EMITTER

SOT-23

Type	Marking	Pin Configuration			Package
BAV26	FDs	1=B	2=E	3=C	SOT23
BAV46	FEs	1=B	2=E	3=C	SOT23

Maximum Ratings

Parameter	Symbol	Value	Unit
Collector- emitter voltage	$-V_{CEO}$		V
BAV26		30	
BAV46		60	
Collector- base voltage	$-V_{CBO}$		
BAV26		40	
BAV46		80	
Emitter- base voltage	$-V_{EBO}$	10	
Collector current	$-I_C$	500	mA
Peak collector current $t_p \leq 10$ ms	$-I_{CM}$	800	
Base current	$-I_B$	100	
Peak base current	$-I_{BM}$	200	
Total power dissipation- $T_S \leq 74$ °C	P_{tot}	360	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	- 65 … 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point[1]	R_{thJS}	≤ 210	K/W

[1]For calculation of R_{thJA} please refer to Application Note AN077 (Thermal Resistance Calculation)

Electrical Characteristics at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Collector-emitter breakdown voltage	-$V_{(BR)CEO}$				V
-I_C = 10 mA, -I_B = 0 , BAV26		30	-	-	
-I_C = 10 mA, -I_B = 0 , BAV46		60	-	-	
Collector-base breakdown voltage	-$V_{(BR)CBO}$				
-I_C = 100 µA, -I_E = 0 , BAV26		40	-	-	
-I_C = 100 µA, -I_E = 0 , BAV46		80	-	-	
Emitter-base breakdown voltage	-$V_{(BR)EBO}$	10	-	-	
-I_E = 10 µA, -I_C = 0					
Collector-base cutoff current	-I_{CBO}				µA
-V_{CB} = 30 , -I_E = 0 , BAV26		-	-	0.1	
-V_{CB} = 60 , -I_E = 0 , BAV46		-	-	0.1	
-V_{CB} = 30 , -I_E = 0 , T_A = 150 °C, BAV26		-	-	10	
-V_{CB} = 60 , -I_E = 0 , T_A = 150 °C, BAV46		-	-	10	
Emitter-base cutoff current	-I_{EBO}	-	-	100	nA
-V_{EB} = 4 V, -I_C = 0					
DC current gain [1]	h_{FE}				-
-I_C = 100 µA, -V_{CE} = 1 V, BAV26		4000	-	-	
-I_C = 100 µA, -V_{CE} = 1 V, BAV46		2000	-	-	
-I_C = 10 mA, -V_{CE} = 5 V, BAV26		10000	-	-	
-I_C = 10 mA, -V_{CE} = 5 V, BAV46		4000	-	-	
-I_C = 100 mA, -V_{CE} = 5 V, BAV26		20000	-	-	
-I_C = 100 mA, -V_{CE} = 5 V, BAV46		10000	-	-	
-I_C = 0.5 A, -V_{CE} = 5 V, BAV26		4000	-	-	
-I_C = 0.5 A,- V_{CE} = 5 V, BAV46		2000	-	-	
Collector-emitter saturation voltage [1]	-V_{CEsat}	-	-	1	V
-I_C = 100 mA, -I_B = 0.1 mA					
Base emitter saturation voltage [1]	-V_{BEsat}	-	-	1.5	
-I_C = 100 mA, -I_B = 0.1 mA					

[1]Pulse test: t < 300μs; D < 2%

Electrical Characteristics at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC Characteristics					
Transition frequency -I_C = 50 mA, -V_{CE} = 5 V, f = 100 MHz	f_T	-	200	-	MHz
Collector-base capacitance -V_{CB} = 10 V, f = 1 MHz	C_{cb}	-	4.5	-	pF

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

$V_{CE} = 5$ V
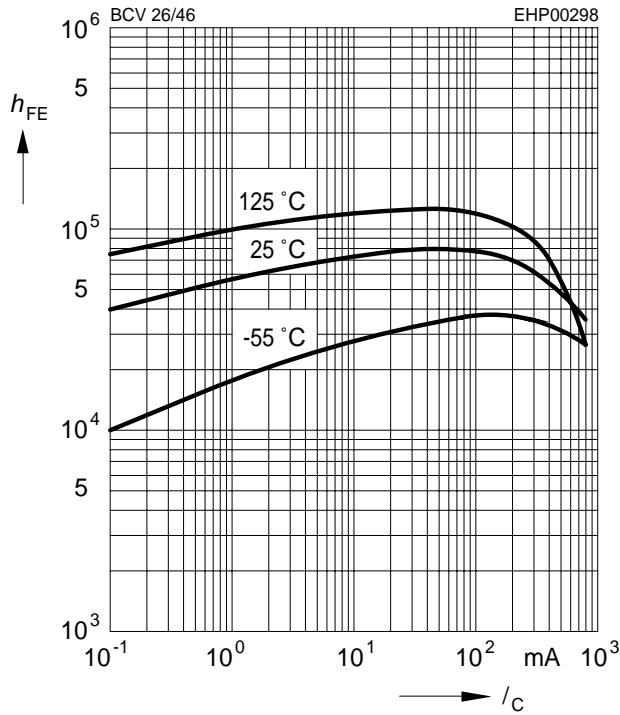
Collector-emitter saturation voltage
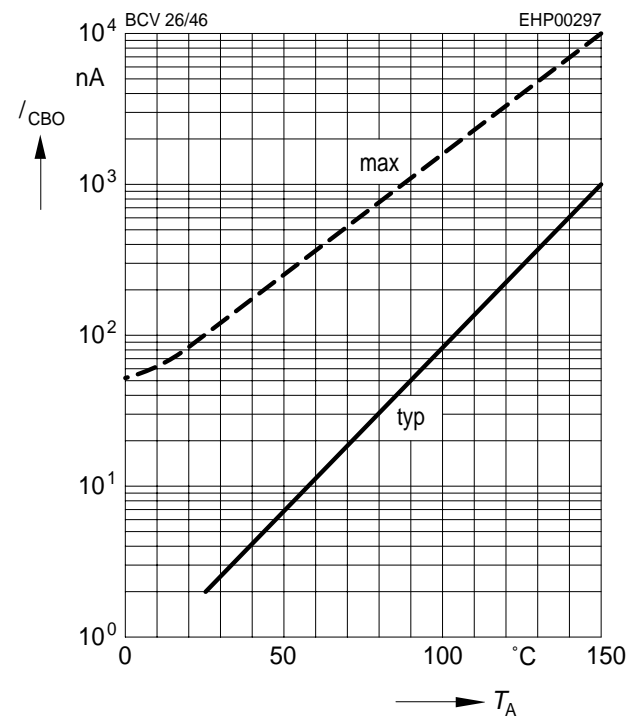
$I_C = f(V_{CEsat})$, $h_{FE} = 1000$
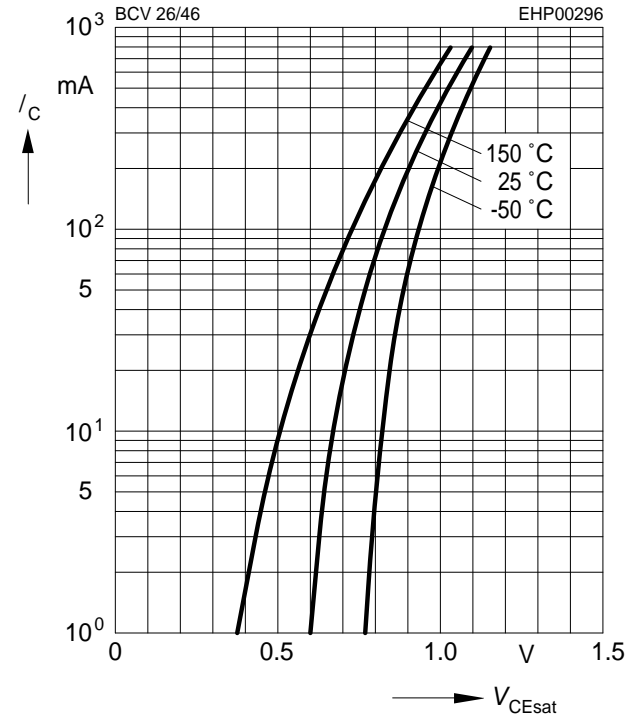
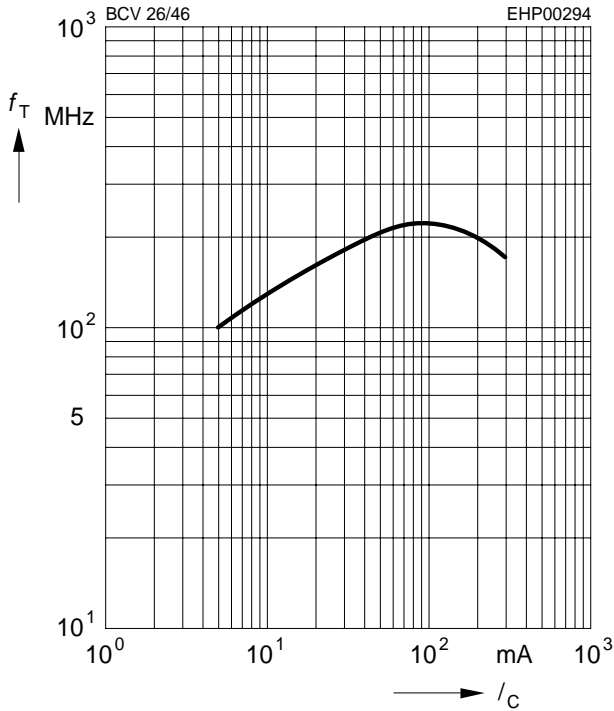## Base-emitter saturation voltage

$I_C = f(V_{BEsat})$, $h_{FE} = 1000$
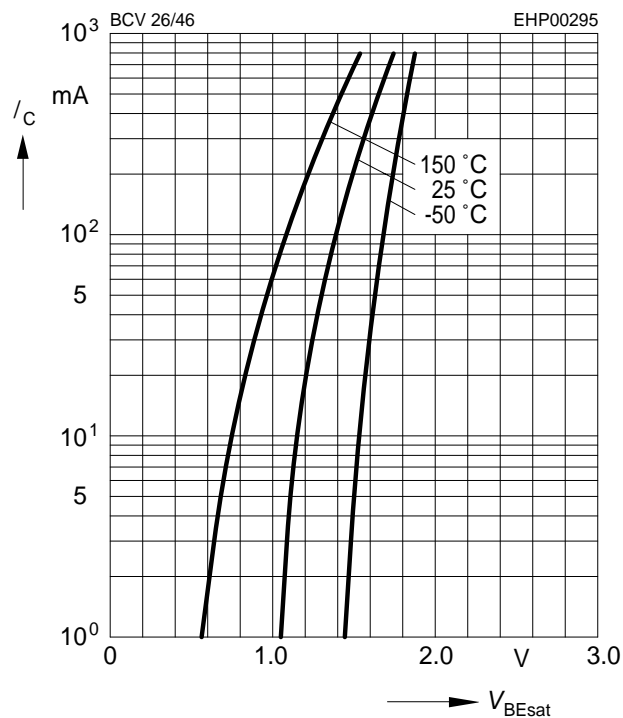
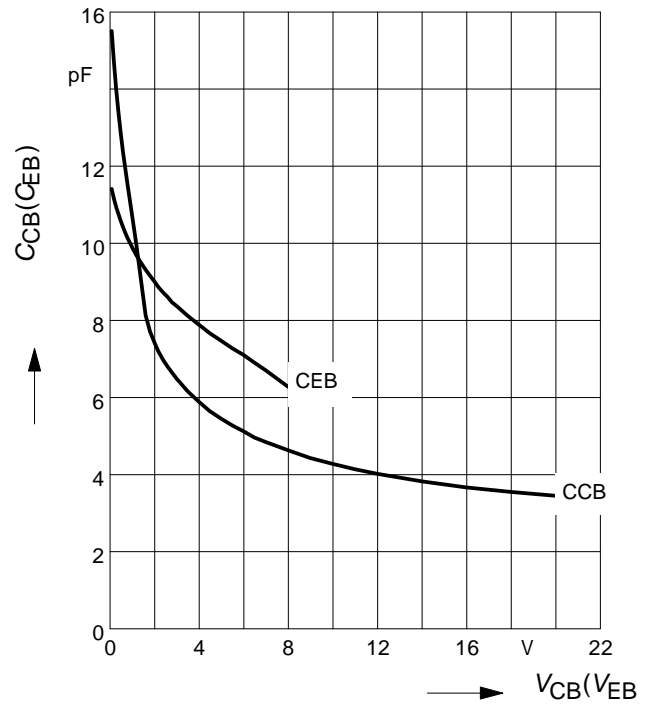## Collector cutoff current $I_{CBO} = f(T_A)$

$V_{CB} = V_{CEmax}$
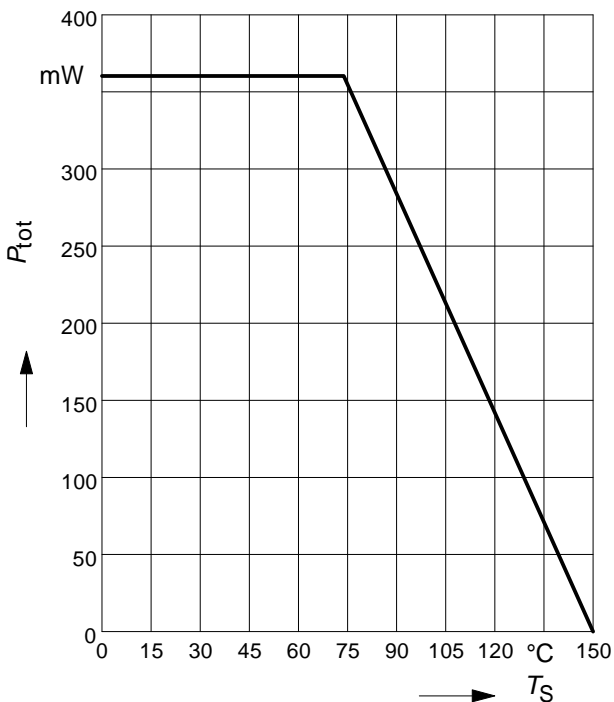
Transition frequency $f_T = f(I_C)$

$V_{CE} = 5$ V

Collector-base capacitance $C_{cb} = f(V_{CB})$
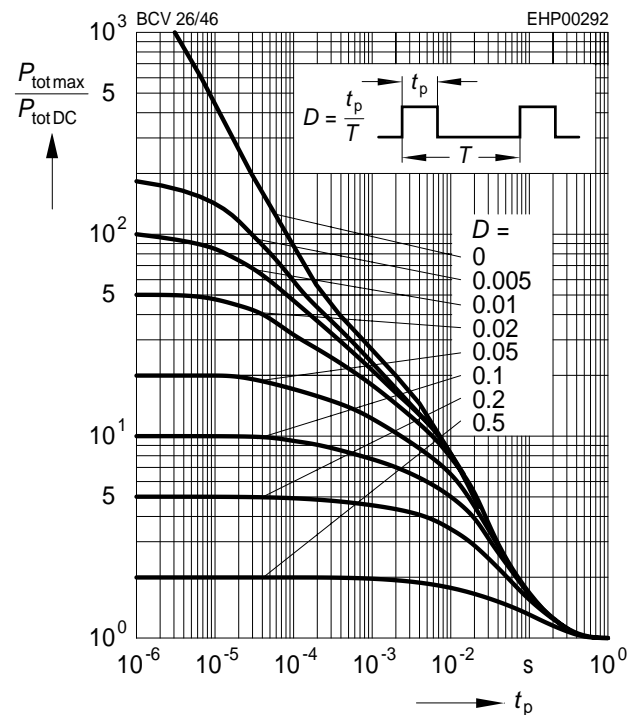**Emitter-base capacitance** $C_{eb} = f(V_{EB})$

BCV 26/46   EHP00294

BCV 26/46

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

Permissible Pulse Load

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

BCV 26/46   EHP00292

$D = \dfrac{t_p}{T}$

$D =$
0
0.005
0.01
0.02
0.05
0.1
0.2
0.5

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads   **SOT-23**
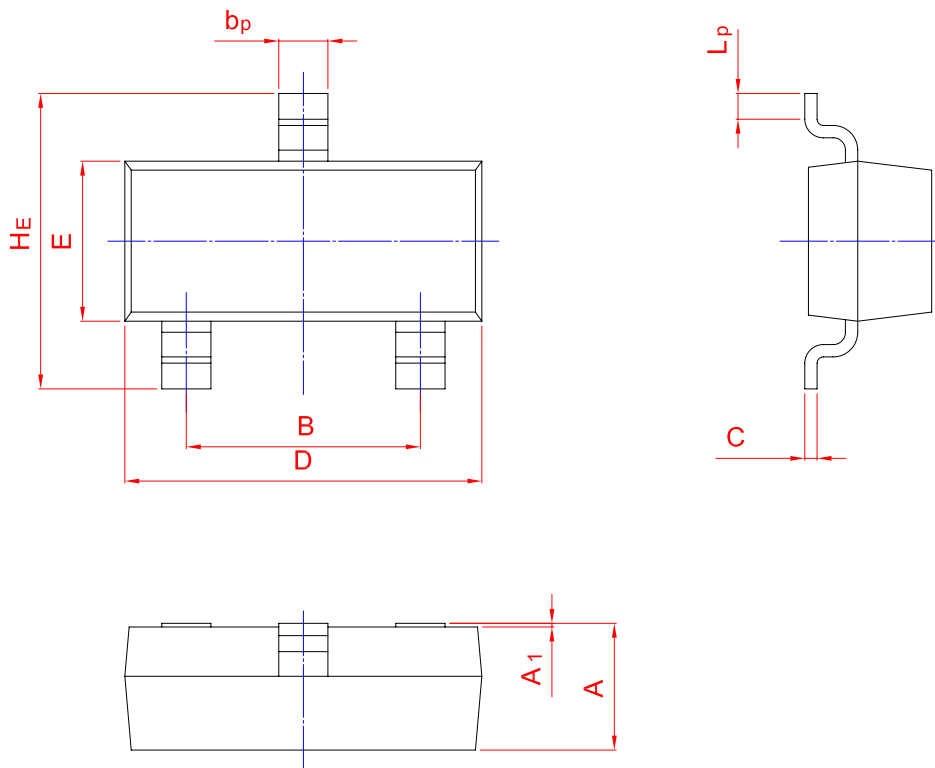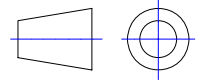
UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20