

EVVOSEMI[®]

THINK CHANGE DO



ESD



TVS



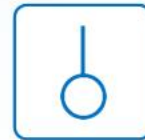
MOS



LDO



Diode



Sensor



DC-DC

Product Specification

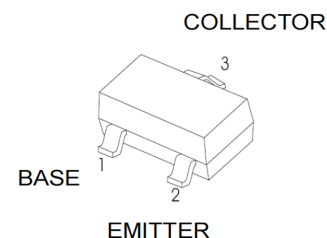
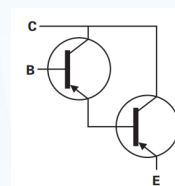
▶ Domestic	Part Number	EVBCV26-S1, EVBCV46-S1
▶ Overseas	Part Number	BCV26, BCV46
▶ Equivalent	Part Number	BCV26, BCV46

"S1" means SOT-23

EV is the abbreviation of name EVVO

PNP Silicon Darlington Transistors

- For general AF applications
- High collector current
- High current gain
- Complementary types: EVBCV27-S1, EVBCV47-S1 (NPN)
- Pb-free (RoHS compliant) package



SOT-23

Type	Marking	Pin Configuration			Package
EVBCV26-S1	FDs	1=B	2=E	3=C	SOT23
EVBCV46-S1	FEs	1=B	2=E	3=C	SOT23

Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-emitter voltage	$-V_{CEO}$	30	V
EVBCV26-S1		60	
Collector-base voltage	$-V_{CBO}$	40	
EVBCV26-S1		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 $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

DC Characteristics

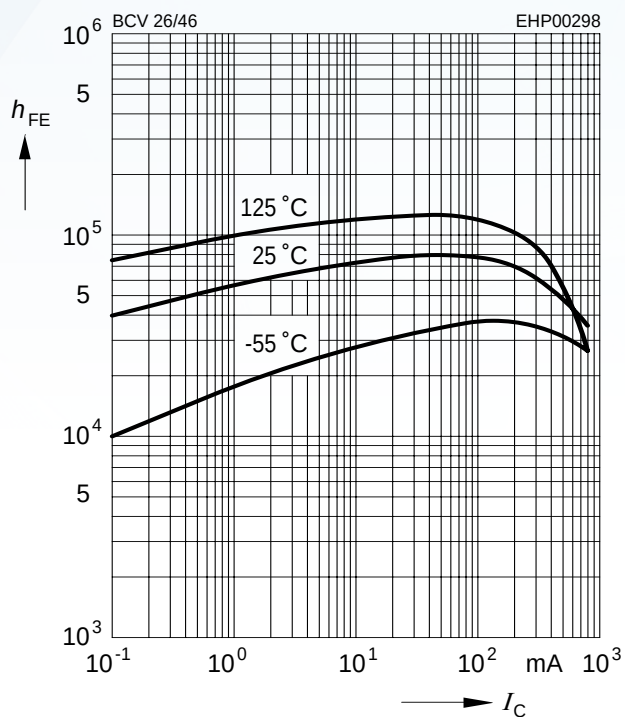
Collector-emitter breakdown voltage - $I_C = 10\text{ mA}$, - $I_B = 0$, EVBCV26-S1 - $I_C = 10\text{ mA}$, - $I_B = 0$, EVBCV46-S1	$-V_{(BR)CEO}$	30 60	- -	- -	V
Collector-base breakdown voltage - $I_C = 100\text{ }\mu\text{A}$, - $I_E = 0$, EVBCV26-S1 - $I_C = 100\text{ }\mu\text{A}$, - $I_E = 0$, EVBCV46-S1	$-V_{(BR)CBO}$	40 80	- -	- -	
Emitter-base breakdown voltage - $I_E = 10\text{ }\mu\text{A}$, - $I_C = 0$	$-V_{(BR)EBO}$	10	-	-	
Collector-base cutoff current - $V_{CB} = 30$, - $I_E = 0$, EVBCV26-S1 - $V_{CB} = 60$, - $I_E = 0$, EVBCV46-S1 - $V_{CB} = 30$, - $I_E = 0$, $T_A = 150^\circ\text{C}$, EVBCV26-S1 - $V_{CB} = 60$, - $I_E = 0$, $T_A = 150^\circ\text{C}$, EVBCV46-S1	$-I_{CBO}$	- - - -	- - - -	0.1 0.1 10 10	μA
Emitter-base cutoff current - $V_{EB} = 4\text{ V}$, - $I_C = 0$	$-I_{EBO}$	-	-	100	nA
DC current gain ¹⁾ - $I_C = 100\text{ }\mu\text{A}$, - $V_{CE} = 1\text{ V}$, EVBCV26-S1 - $I_C = 100\text{ }\mu\text{A}$, - $V_{CE} = 1\text{ V}$, EVBCV46-S1 - $I_C = 10\text{ mA}$, - $V_{CE} = 5\text{ V}$, EVBCV26-S1 - $I_C = 10\text{ mA}$, - $V_{CE} = 5\text{ V}$, EVBCV46-S1 - $I_C = 100\text{ mA}$, - $V_{CE} = 5\text{ V}$, EVBCV26-S1 - $I_C = 100\text{ mA}$, - $V_{CE} = 5\text{ V}$, EVBCV46-S1 - $I_C = 0.5\text{ A}$, - $V_{CE} = 5\text{ V}$, EVBCV26-S1 - $I_C = 0.5\text{ A}$, - $V_{CE} = 5\text{ V}$, EVBCV46-S1	h_{FE}	4000 2000 10000 4000 20000 10000 4000 2000	- - - - - - - -	- - - - - - - -	-
Collector-emitter saturation voltage ¹⁾ - $I_C = 100\text{ mA}$, - $I_B = 0.1\text{ mA}$	$-V_{CEsat}$	-	-	1	V
Base emitter saturation voltage ¹⁾ - $I_C = 100\text{ mA}$, - $I_B = 0.1\text{ mA}$	$-V_{BEsat}$	-	-	1.5	

¹Pulse test: $t < 300\mu\text{s}$; $D < 2\%$
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

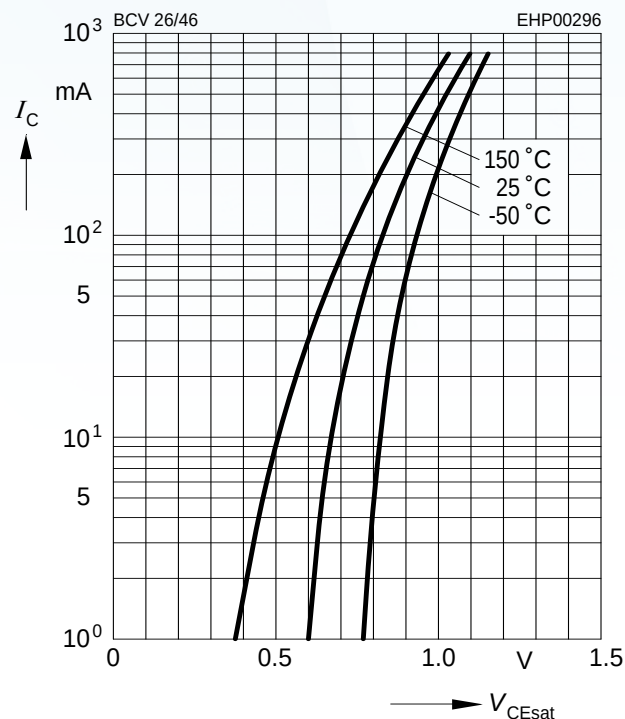
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC Characteristics					
Transition frequency -I _C = 50 mA, -V _{CE} = 5 V, f = 100 MHz	f _T	-	200	-	MHz
Collector-base capacitance -V _{CB} = 10 V, f = 1 MHz	C _{cb}	-	4.5	-	pF

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

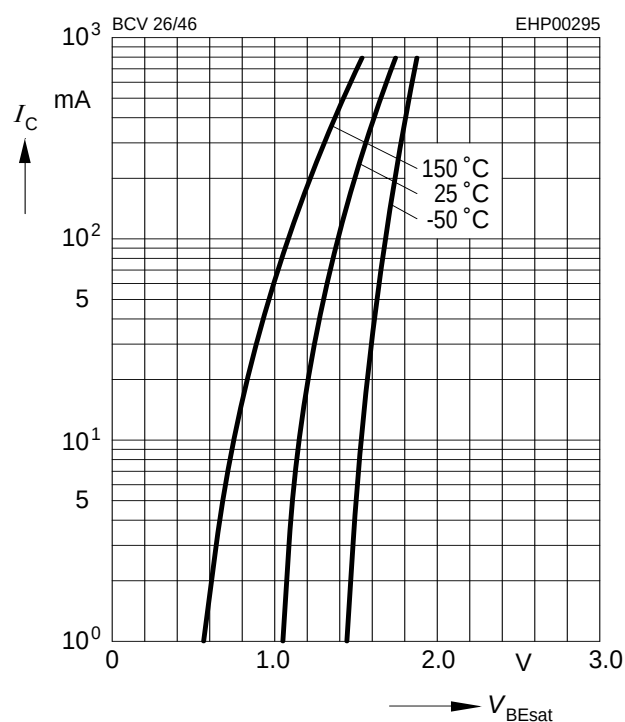
$$V_{CE} = 5 \text{ V}$$

**Collector-emitter saturation voltage**

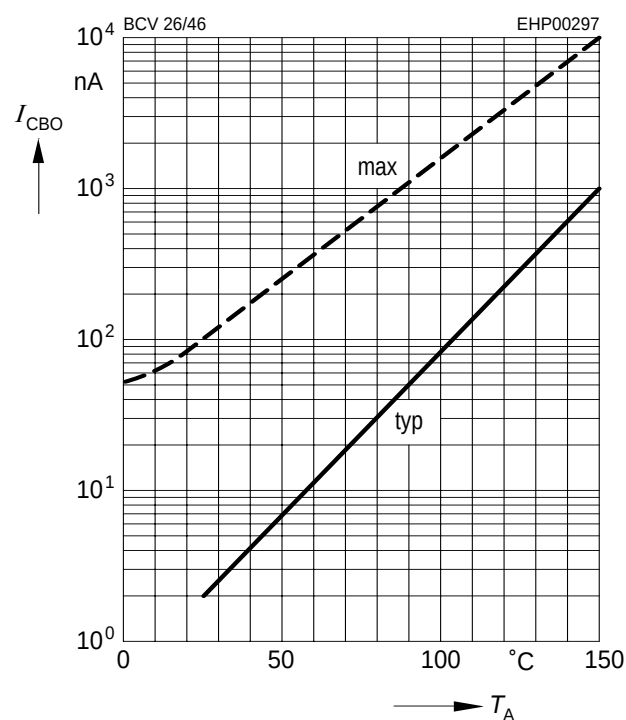
$$I_C = f(V_{CEsat}), h_{FE} = 1000$$

**Base-emitter saturation voltage**

$$I_C = f(V_{BEsat}), h_{FE} = 1000$$

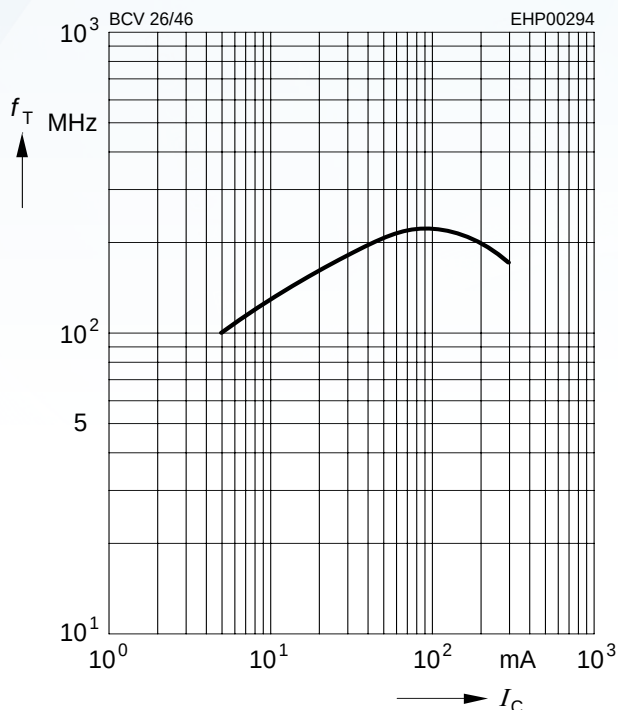
**Collector cutoff current $I_{CBO} = f(T_A)$**

$$V_{CB} = V_{CEmax}$$



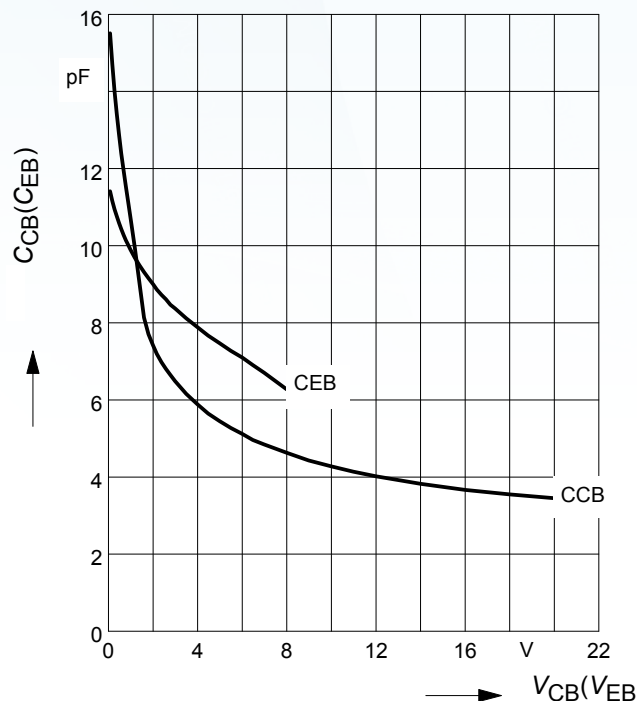
Transition frequency $f_T = f(I_C)$

$V_{CE} = 5\text{ V}$

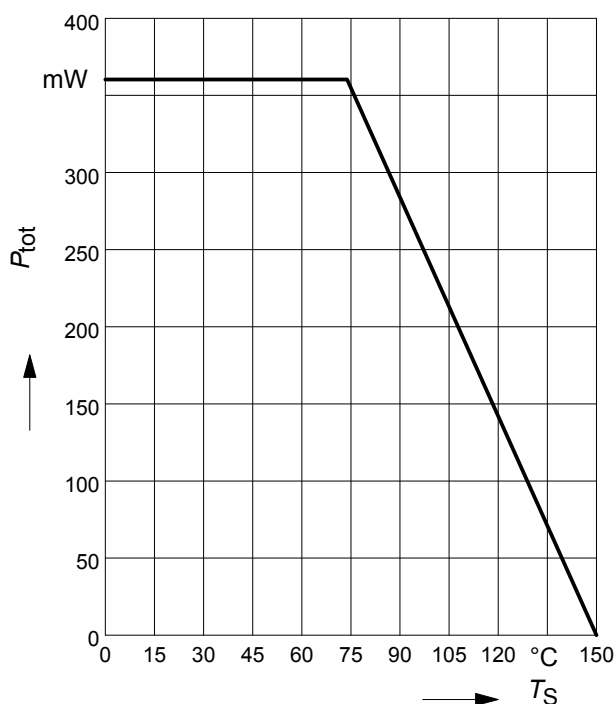


Collector-base capacitance $C_{cb} = f(V_{CB})$

Emitter-base capacitance $C_{eb} = f(V_{EB})$

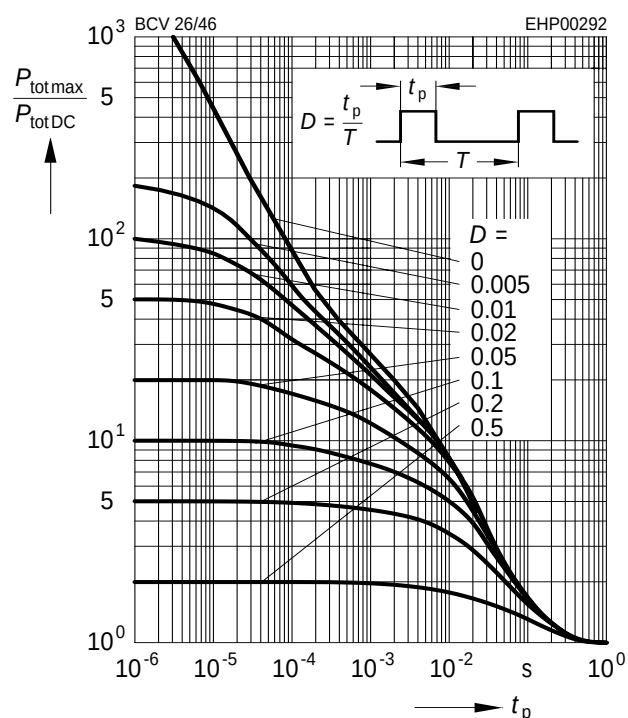


Total power dissipation $P_{tot} = f(T_S)$



Permissible Pulse Load

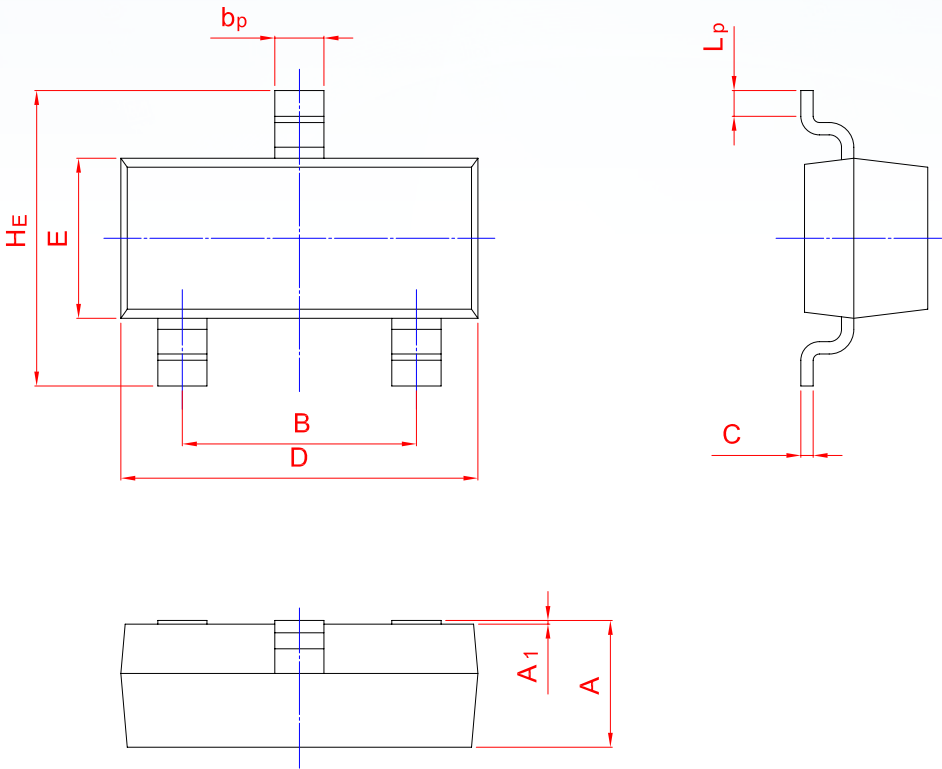
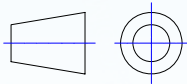
$P_{totmax}/P_{totDC} = f(t_p)$



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20

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