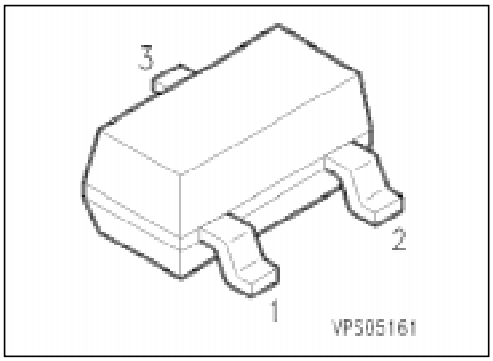
SIEMENS

PNP Silicon Switching Transistor — SMBT 4126

- High current gain: 0.1 mA to 100 mA
- Low collector-emitter saturation voltage



Type	Marking	Ordering Code (tape and reel)	Pin Configuration 1	2	3	Package[1]
SMBT 4126	sC3	Q68000-A8549	B	E	C	SOT-23

Maximum Ratings

Parameter	Symbol	Values	Unit
Collector-emitter voltage	V_{CE0}	25	V
Collector-base voltage	V_{CB0}	25	
Emitter-base voltage	V_{EB0}	4	
Collector current	I_C	200	mA
Total power dissipation, T_S = 71 °C	P_{tot}	330	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	– 65 … + 150	

Thermal Resistance

Junction - ambient[2]	$R_{th\ JA}$	≤ 310	K/W
Junction - soldering point	$R_{th\ JS}$	≤ 240	

1) For detailed information see chapter Package Outlines.

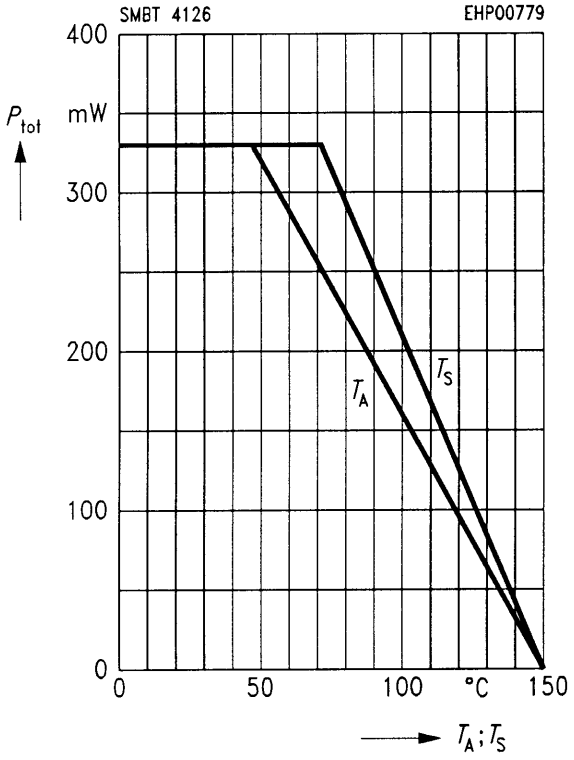
2) Package mounted on epoxy pcb 40 mm × 40 mm × 1.5 mm/6 cm² Cu.

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

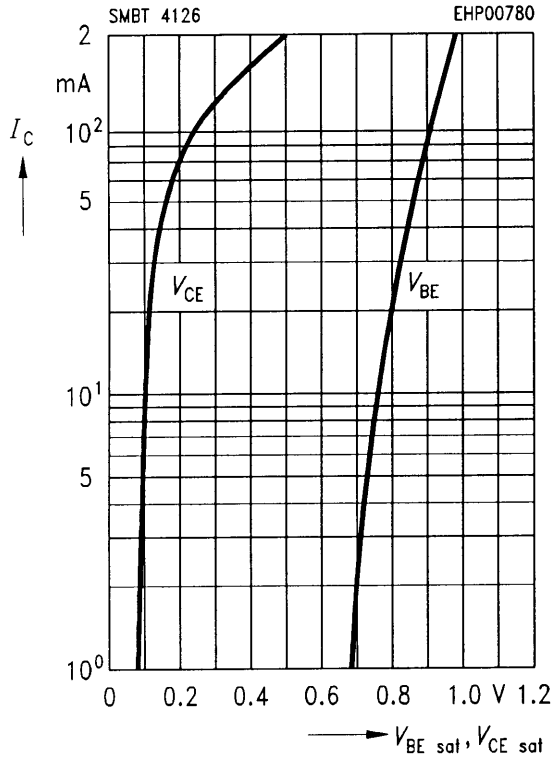
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Collector-emitter breakdown voltage I_C = 1 mA	$V_{(BR)CE0}$	25	–	–	V
Collector-base breakdown voltage I_C = 10 µA	$V_{(BR)CB0}$	25	–	–	
Emitter-base breakdown voltage I_E = 10 µA	$V_{(BR)EB0}$	4	–	–	
Collector-base cutoff current V_{CB} = 20 V, I_E = 0	I_{CB0}	–	–	50	nA
Emitter-base cutoff current V_{EB} = 3 V, I_C = 0	I_{EB0}	–	–	50	
DC current gain I_C = 2 mA, V_{CE} = 1 V I_C = 50 mA, V_{CE} = 1 V	h_{FE}	 120 60	 – –	 360 –	–
Collector-emitter saturation voltage[1)] I_C = 50 mA, I_B = 5 mA	V_{CEsat}	–	–	0.4	V
Base-emitter saturation voltage[1)] I_C = 50 mA, I_B = 5 mA	V_{BEsat}	–	–	0.95	
AC characteristics					
Transition frequency I_C = 10 mA, V_{CE} = 20 V, f = 100 MHz	f_T	250	–	–	MHz
Output capacitance V_{CB} = 5 V, f = 1 MHz	C_{obo}	–	–	4.5	pF
Input capacitance V_{EB} = 0.5 V, f = 1 MHz	C_{ibo}	–	–	10	
Small-signal current gain I_C = 1 mA, V_{CE} = 5 V, f = 1 kHz	h_{fe}	120	–	480	–
Noise figure I_C = 0.1 mA, V_{CE} = 5 V, f = 10 Hz to 15 kHz R_S = 1 kΩ	NF	–	–	4	dB

1) Pulse test conditions: $t \leq 300$ µs, $D \leq 2$ %.

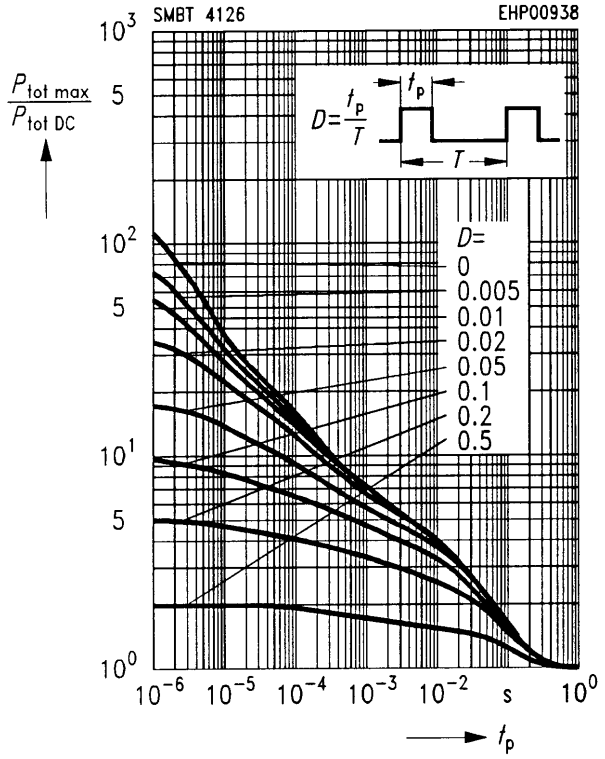
Total power dissipation $P_{tot} = f(T_A^*; T_S)$
* Package mounted on epoxy



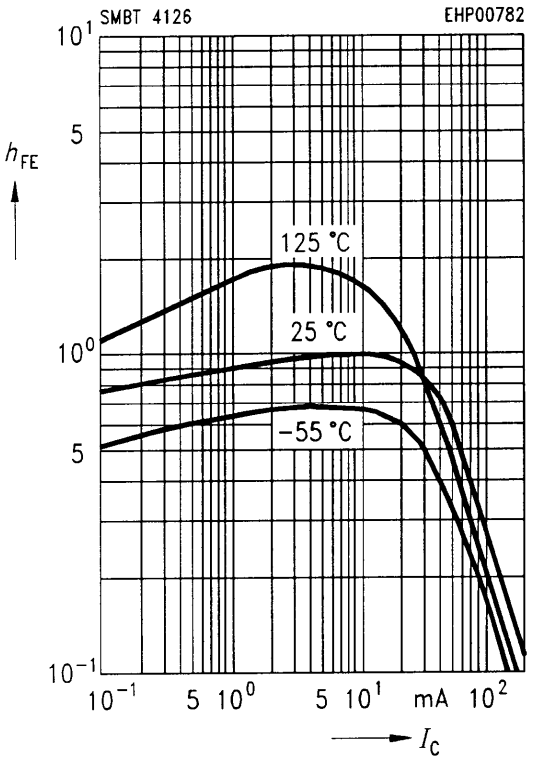
Saturation voltage $I_C = f(V_{BE\,sat}, V_{CE\,sat})$



Permissible pulse load $P_{tot\,max} / P_{tot\,DC} = f(t_p)$



DC current gain $h_{FE} = f(I_C)$
V_{CE} = 1 V, normalized



Small-signal current gain $h_{fe} = f(I_C)$
V_{CE} = 10 V, f = 1 MHz