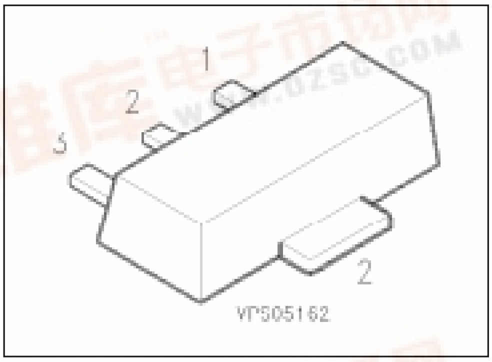
SIEMENS

PNP Silicon High Voltage Transistors

SXTA 92
SXTA 93

- High breakdown voltage
- Low collector-emitter saturation voltage



Type	Marking	Ordering Code (tape and reel)	Pin Configuration 1	2	3	Package[1)]
SXTA 92 SXTA 93	2D 2E	Q68000-A8393 Q68000-A8651	B	C	E	SOT-89

Maximum Ratings

Parameter	Symbol	Values SXTA 92	SXTA 93	Unit
Collector-emitter voltage	V_{CE0}	300	200	V
Collector-base voltage	V_{CB0}	300	200	
Emitter-base voltage	V_{EB0}	5		
Collector current	I_C	500		mA
Total power dissipation, T_S = 130 ˚C	P_{tot}	1		W
Junction temperature	T_j	150		˚C
Storage temperature range	T_{stg}	– 65 … + 150		

Thermal Resistance

Junction - ambient[2)]	$R_{th\ JA}$	$\leq$ 75	K/W
Junction - soldering point	$R_{th\ JS}$	$\leq$ 20	

[1)] For detailed information see chapter Package Outlines.

[2)] Package mounted on epoxy pcb 40 mm × 40 mm × 1.5 mm/6 cm^2 Cu.

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

DC characteristics

Parameter	Symbol	min.	typ.	max.	Unit
Collector-emitter breakdown voltage	$V_{(BR)CE0}$				V
I_C = 1 mA SXTA 92		300	–	–	
SXTA 93		200	–	–	
Collector-base breakdown voltage	$V_{(BR)CB0}$				
I_C = 100 µA SXTA 92		300	–	–	
SXTA 93		200	–	–	
Emitter-base breakdown voltage I_E = 100 µA	$V_{(BR)EB0}$	5	–	–	
Collector-base cutoff current	I_{CB0}				
V_{CB} = 200 V, I_E = 0 SXTA 92		–	–	250	nA
V_{CB} = 160 V, I_E = 0 SXTA 93		–	–	250	nA
V_{CB} = 200 V, I_E = 0, T_A = 125 °C SXTA 92		–	–	20	µA
V_{CB} = 160 V, I_E = 0, T_A = 125 °C SXTA 93		–	–	20	µA
Emitter-base cutoff current V_{EB} = 4 V, I_C = 0	I_{EB0}	–	–	100	nA
DC current gain	h_{FE}				–
I_C = 1 mA, V_{CE} = 10 V		25	–	–	
I_C = 10 mA, V_{CE} = 10 V		40	–	–	
I_C = 30 mA, V_{CE} = 10 V SXTA 92		25	–	–	
SXTA 93		25	–	–	
Collector-emitter saturation voltage1)	V_{CEsat}				V
I_C = 20 mA, I_B = 2 mA SXTA 92		–	–	0.5	
SXTA 93		–	–	0.4	
Base-emitter saturation voltage1) I_C = 20 mA, I_B = 2 mA	V_{BEsat}	–	–	0.9	

AC characteristics

Parameter	Symbol	min.	typ.	max.	Unit
Transition frequency I_C = 10 mA, V_{CE} = 20 V, f = 100 MHz	f_T	50	–	–	MHz
Output capacitance	C_{obo}				pF
V_{CB} = 20 V, f = 1 MHz SXTA 92		–	–	6	
SXTA 93		–	–	8	

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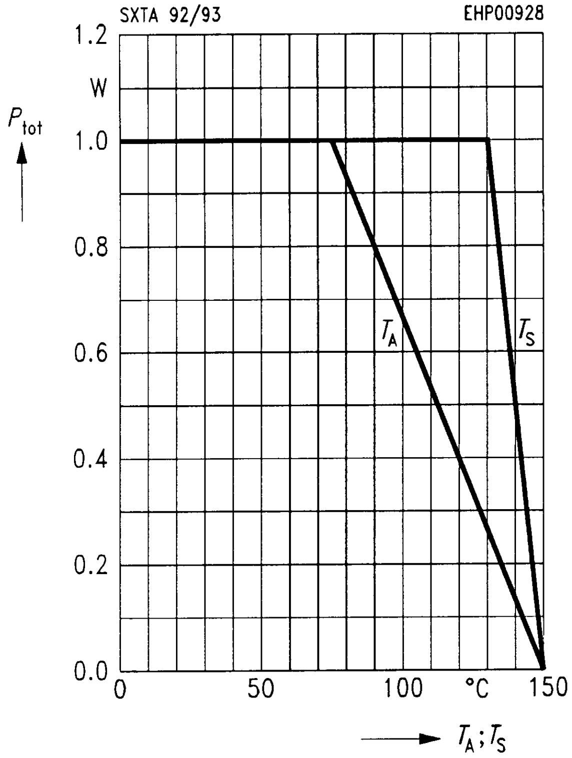
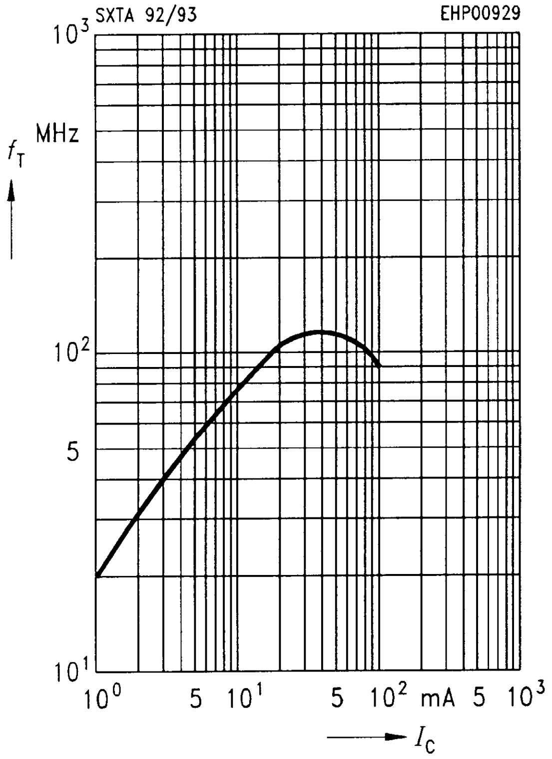
1) Pulse test conditions: $t \leq 300$ µs, $D \leq 2$ %.

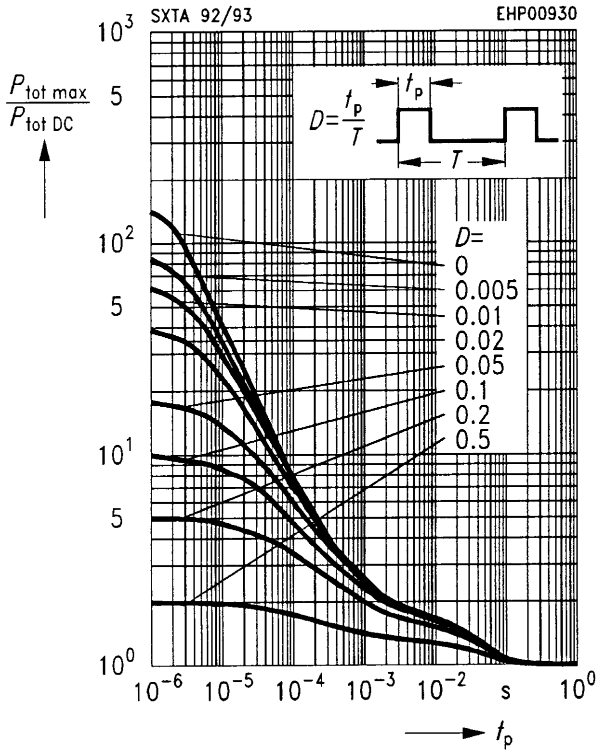
Total power dissipation $P_{tot} = f\,(T_A{}^*;\ T_S)$
* Package mounted on epoxy



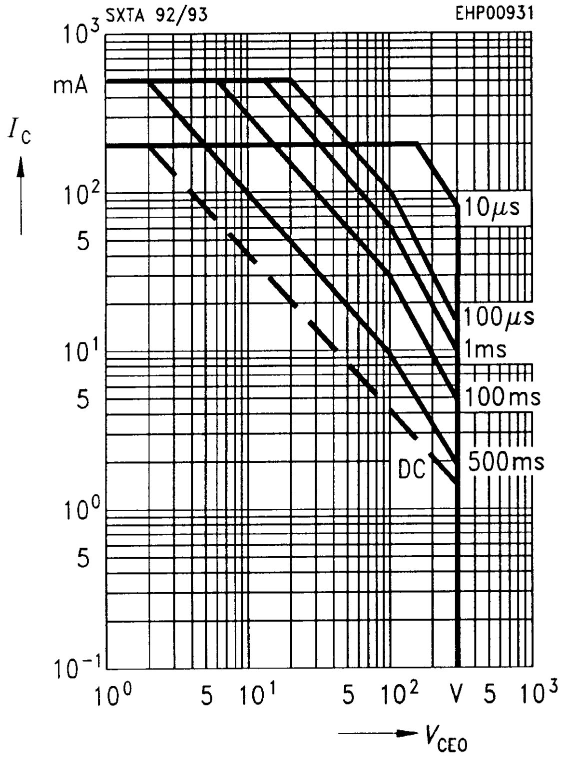
Transition frequency $f_T = f\,(I_C)$
V_{CE} = 20 V, f = 100 MHz



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

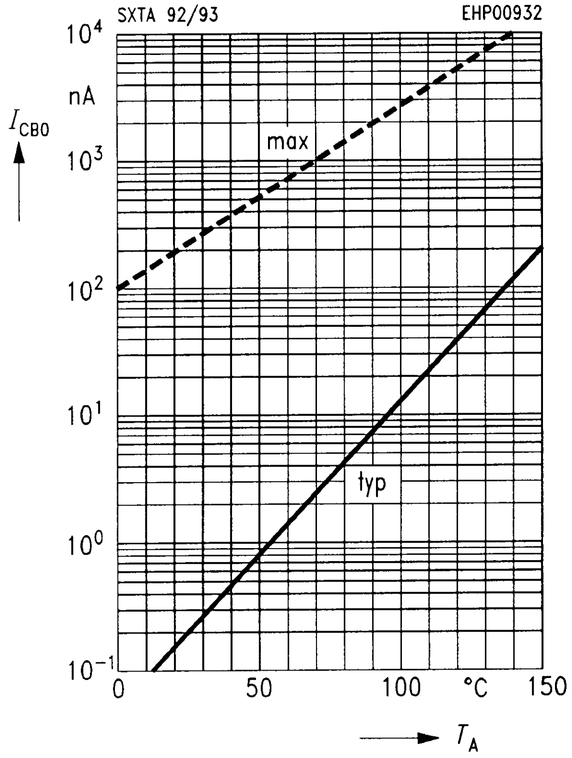


Operating range $I_C = f\,(V_{CE0})$
T_A = 25 ˚C, D = 0



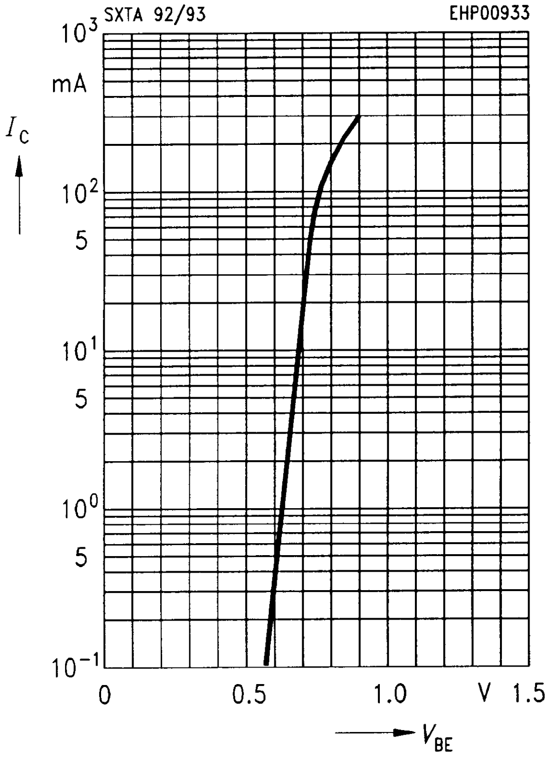
Collector cutoff current $I_{CB0} = f(T_A)$

V_{CB} = 160 V



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

V_{CE} = 10 V



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

V_{CE} = 10 V