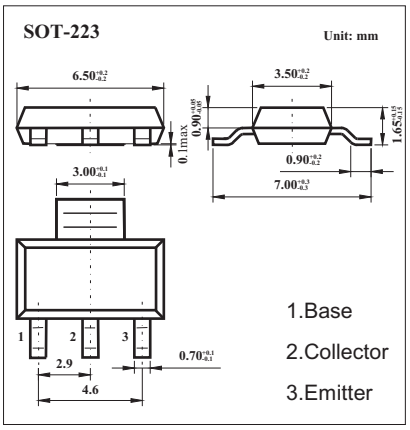
TY Semicondutor®

Product specification

KCP53-16

■ Features

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



■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage (open emitter)	V_{CBO}	-100	V
Collector-emitter voltage(open base)	V_{CEO}	-80	V
Emitter-base voltage(open collector)	V_{EBO}	-5	V
Collector current	I_C	-1	A
power dissipation	P_D	1.5	W
thermal resistance from junction to ambient	$R_{\theta JA}$	83.3	℃/W
Junction temperature	T_j	150	℃
Storage temperature	T_{stg}	-65 to +150	℃

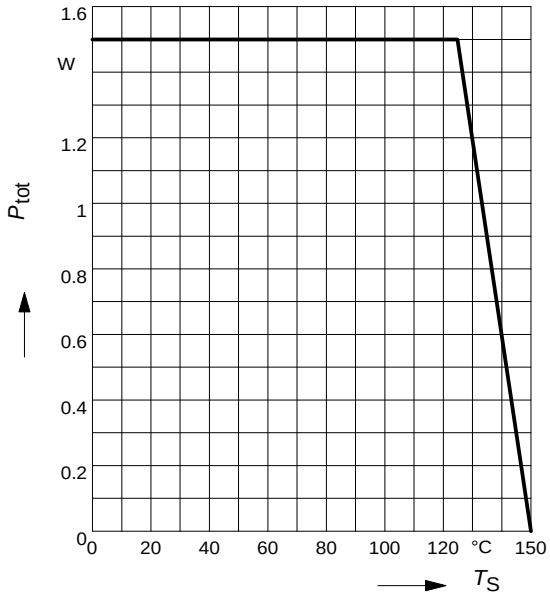
■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=- 0.1mA,I_E=0	-100			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= -10mA,I_B=0	-80			V
Base-emitter breakdown voltage	$V_{(BR)EBO}$	I_C= -10μA,I_E=0	-5			V
Collector cutoff current	I_{CBO}	V_{CB} = -30 V, I_E = 0			-100	nA
Emitter cutoff current	I_{EBO}	V_{EB} = -5 V, I_C = 0			-100	nA
DC current gain	h_{FE}	I_C = -5 mA; V_{CE} = -2 V	25			
		I_C = -150 mA; V_{CE} = -2 V	100		250	
		I_C = -500 mA; V_{CE} = -2 V	25			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = -500 mA; I_B = -50 mA			-0.5	V
Base to emitter voltage	V_{BE}	I_C = -500 mA; V_{CE} = -2 V			-1	V
Transition frequency	f_T	I_C = -50 mA; V_{CE} = -10 V; f = 100 MHz	100			MHz

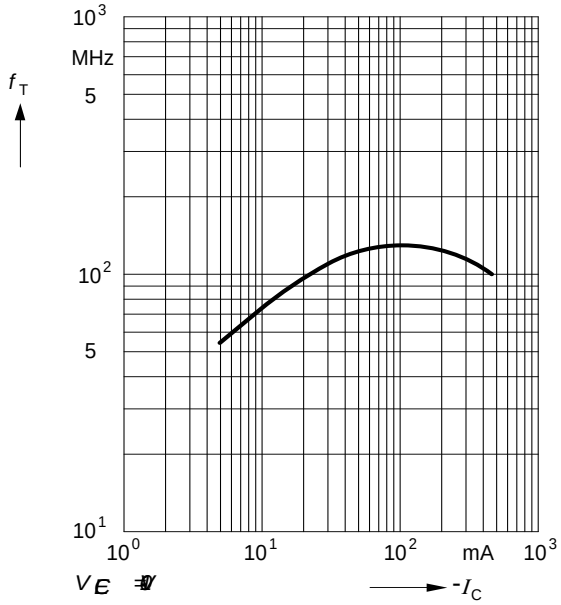
■ Marking

Marking	BCP53

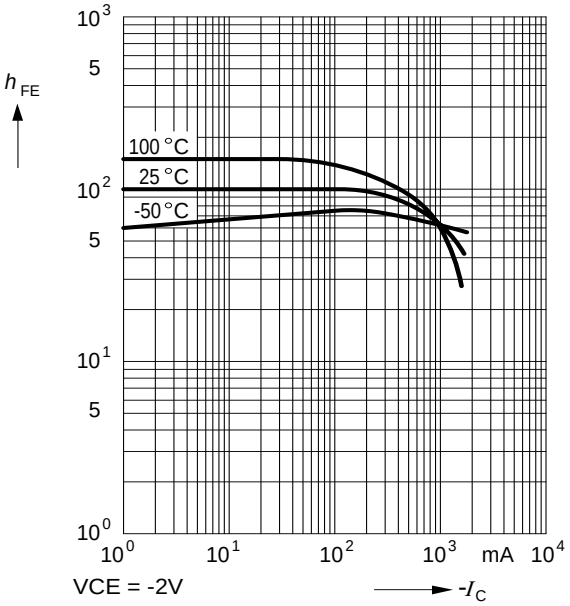
■ Typical Characteristics



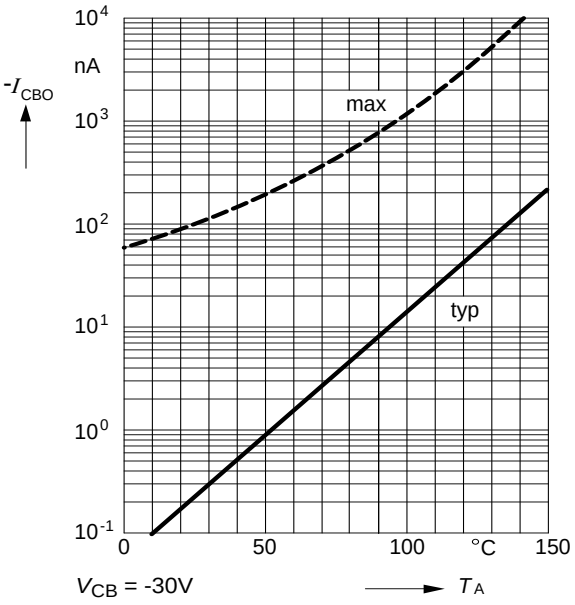
Total power dissipation $P_{tot} = f(T_S)$



Transition frequency $f_T = f(-I_C)$



DC current gain hFE = $f(-I_C)$



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

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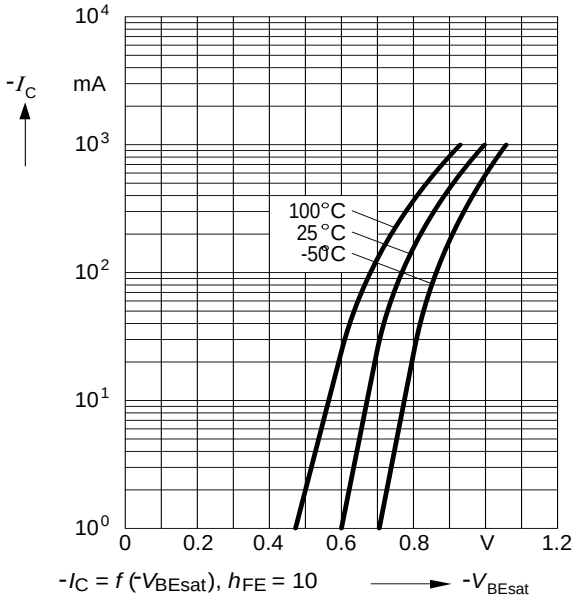
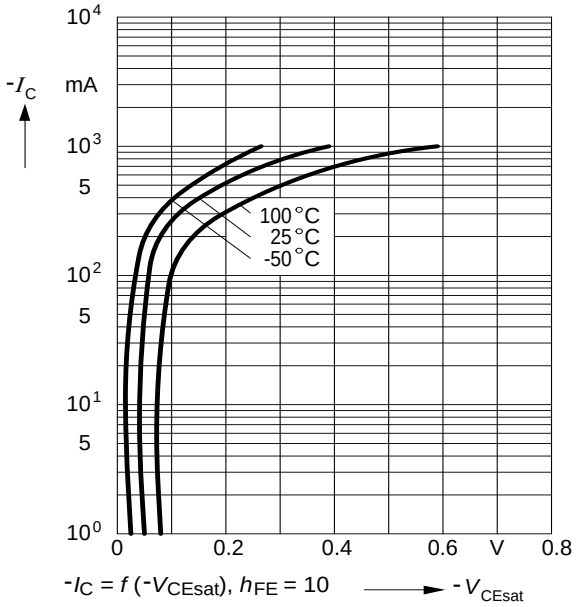
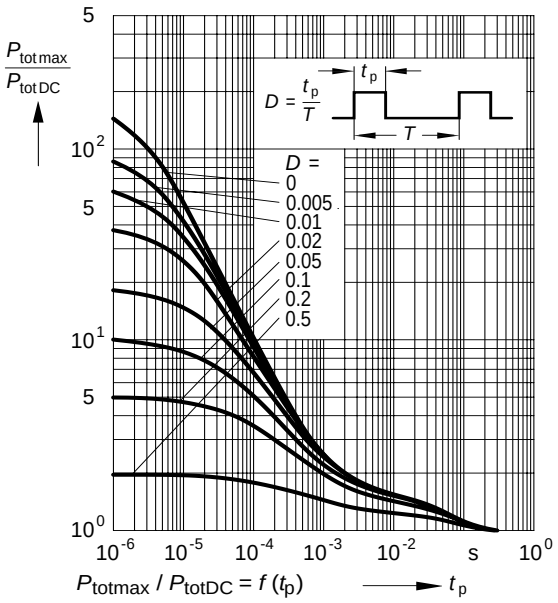


Base-emitter saturation voltage



Collector-emitter saturation voltage



Permissible pulse load