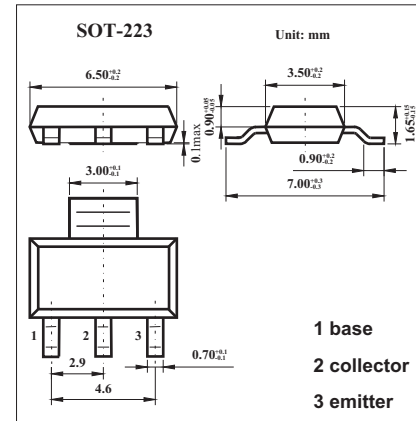


## NPN Medium Power Transistor

### BCP56-16

#### ■ Features

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



#### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
collector-base voltage	$V_{CB0}$	100	V
collector-emitter voltage	$V_{CE0}$	80	V
emitter-base voltage	$V_{EB0}$	5	V
collector current (DC)	$I_C$	1	A
peak collector current ( $t_P < 5\text{ms}$ )	$I_{CM}$	1.5	A
power dissipation	$P_D$	1.5	W
thermal resistance from junction to ambient	$R_{\theta JA}$	94	$^\circ\text{C}/\text{W}$
junction temperature	$T_j$	150	$^\circ\text{C}$
storage temperature	$T_{stg}$	-65 to +150	$^\circ\text{C}$

#### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

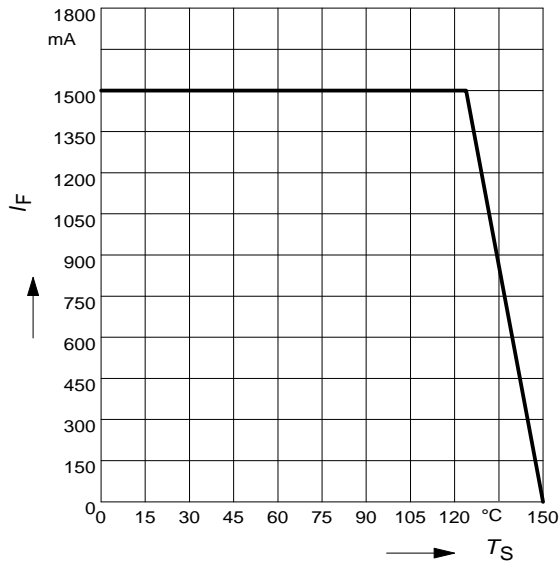
Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 0.1\text{mA}, I_E = 0$	100			
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}, I_B = 0$	80			
Base-emitter breakdown voltage	$V_{(BR)EBO}$	$I_C = 10\mu\text{A}, I_E = 0$	5			
Collector cut-off current	$I_{CBO}$	$I_E = 0\text{A}; V_{CB} = 30\text{V}$			100	nA
Emitter cut-off current	$I_{EBO}$	$I_C = 0\text{A}; V_{EB} = 5\text{V}$			100	nA
DC current gain	$h_{FE}$	$I_C = 5\text{mA}; V_{CE} = 2\text{V}$	25			
		$I_C = 150\text{mA}; V_{CE} = 2\text{V}$	100		250	
		$I_C = 500\text{mA}; V_{CE} = 2\text{V}$	25			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}; I_B = 50\text{mA}$			0.5	V
Transition frequency	$f_T$	$I_C = 10\text{mA}; V_{CE} = 5\text{V}; f = 100\text{MHz}$		130		MHz

#### ■ Marking

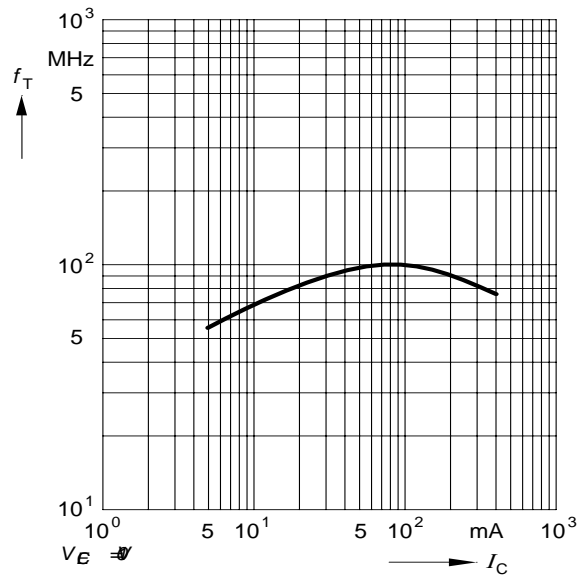
Marking	BCP 56
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### BCP56-16

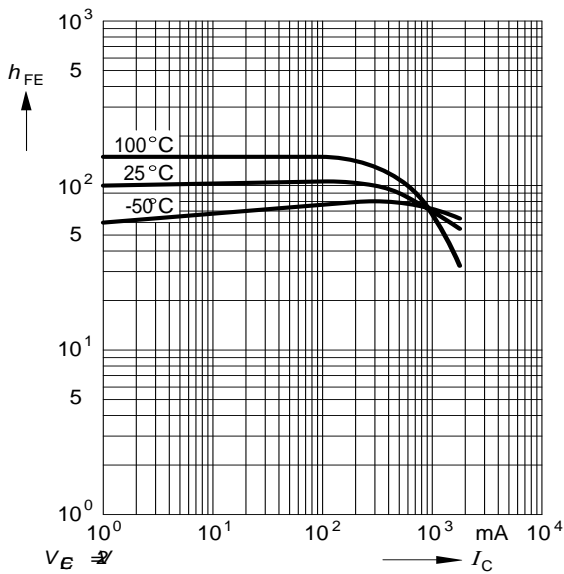
■ Typical Characteristics



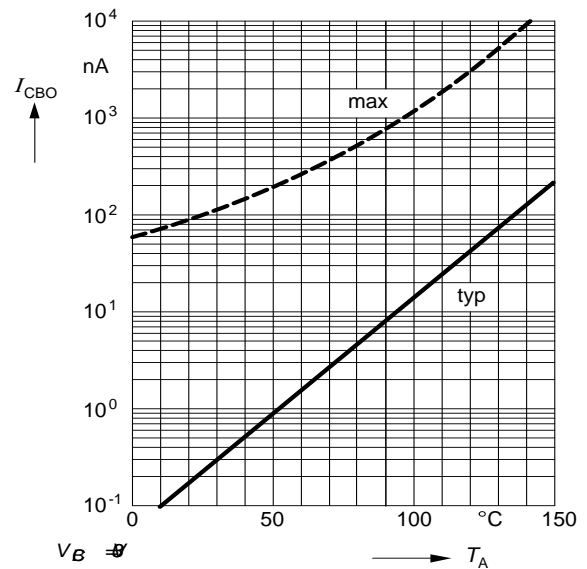
Total power dissipation  $P_{tot} = f(T_S)$



Transition frequency  $f_T = f(I_C)$

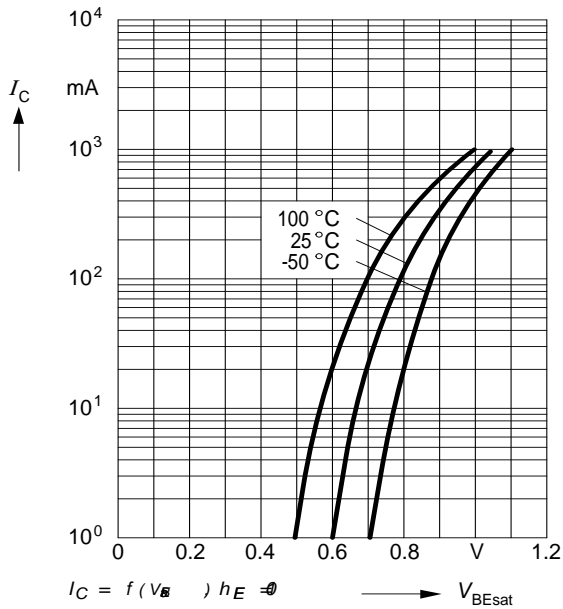


DC current gain  $h_{FE} = f(I_C)$

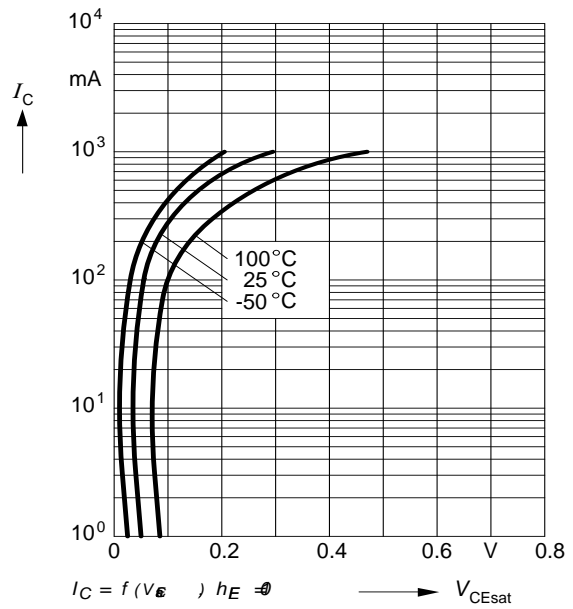


Collector cutoff current  $I_{CBO} = f(T_A)$

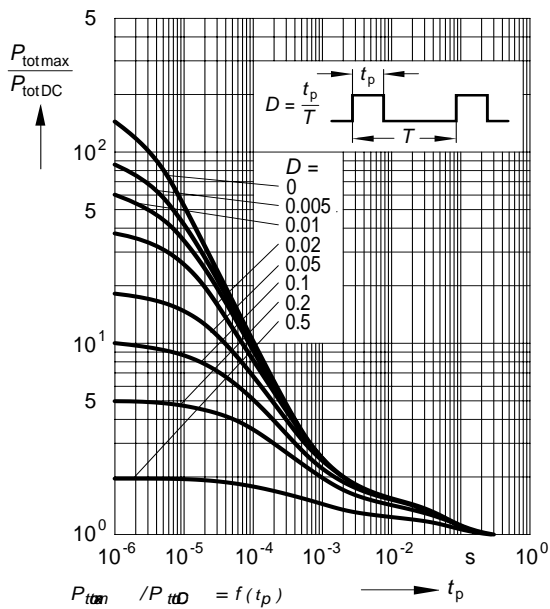
### BCP56-16



Base-emitter saturation voltage



Collector-emitter saturation voltage



Permissible pulse load