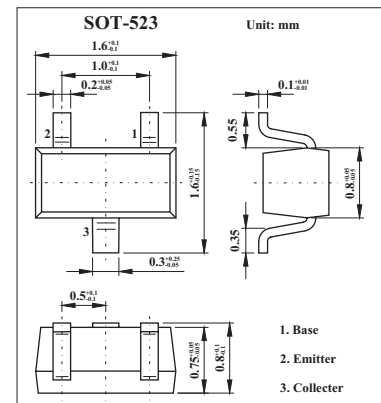


## General purpose transistor

## 2SC4617

## ■ Features

- Low  $C_{ob}$  :  $C_{ob}=2.0\text{pF}$  (Typ.)
- NPN silicon transistor

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	60	V
Collector-emitter voltage	$V_{CEO}$	50	V
Emitter-base voltage	$V_{EBO}$	7	V
Collector current	$I_c$	0.15	A
Collector power dissipation	$P_c$	0.15	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{CBO}$	$I_c=50\mu\text{A}$	60			V
Collector-emitter breakdown voltage	$V_{CEO}$	$I_c=1\text{mA}$	50			V
Emitter-base breakdown voltage	$V_{EBO}$	$I_E=50\mu\text{A}$	7			V
Collector cutoff current	$I_{CBO}$	$V_{CB}=60\text{V}$			0.1	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB}=7\text{V}$			0.1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE}=6\text{V}, I_c=1\text{mA}$	120		560	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c/I_B=50\text{mA}/5\text{mA}$			0.4	V
Output capacitance	$C_{ob}$	$V_{CE}=12\text{V}, I_E=0\text{A}, f=1\text{MHz}$		2	3.5	pF
Transition frequency	$f_T$	$V_{CE}=12\text{V}, I_E=-2\text{mA}, f=100\text{MHz}$		180		MHz

■  $h_{FE}$  Classification

Marking	BQ	BR	BS
Rank	Q	R	S
$h_{FE}$	120~270	180~390	270~560

# 2SC4617

## Typical Characteristics

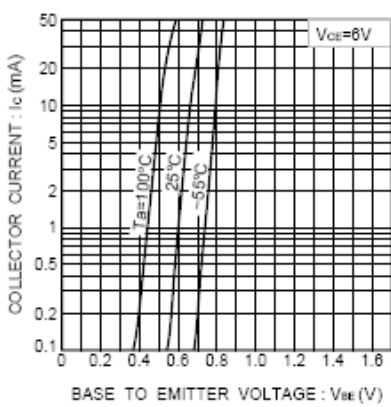


Fig.1 Grounded Emitter Propagation Characteristics

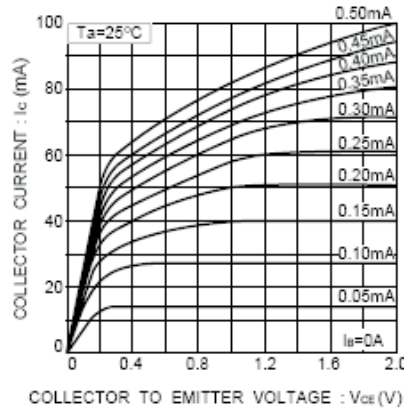


Fig.2 Grounded Emitter Output Characteristics

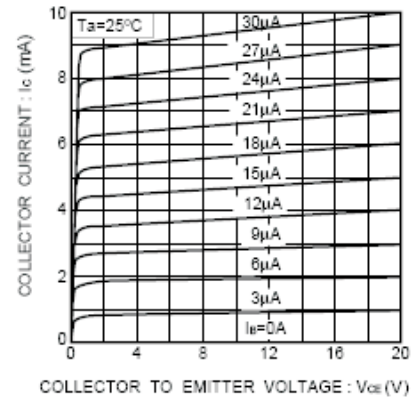


Fig.3 Grounded Emitter Output Characteristics

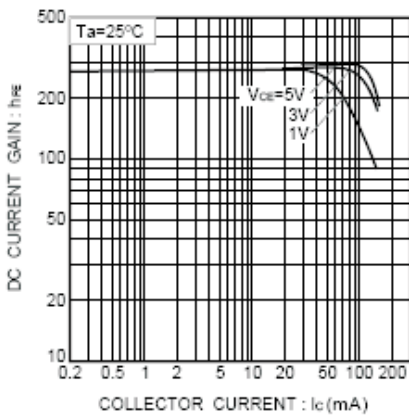


Fig.4 DC Current Gain vs. Collector Current

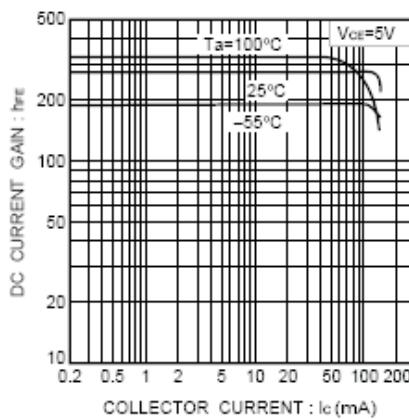


Fig.5 DC Current Gain vs. Collector Current

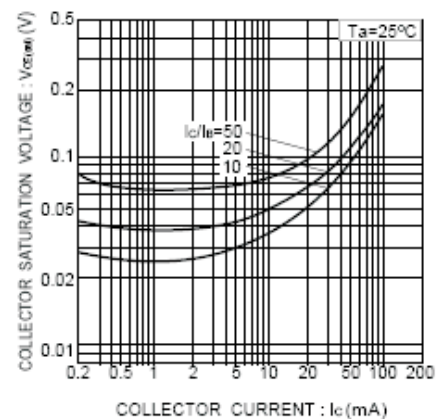


Fig.6 Collector Emitter Saturation Voltage vs. Collector Current

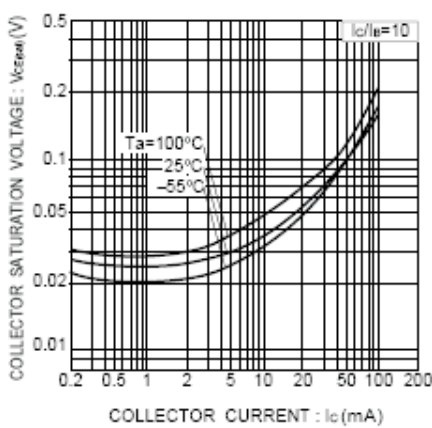


Fig.7 Collector Emitter Saturation Voltage vs. Collector Current

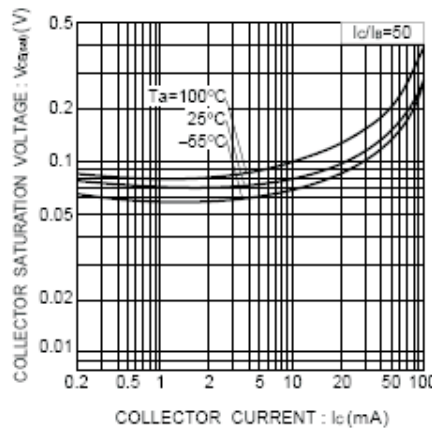


Fig.8 Collector Emitter Saturation Voltage vs. Collector Current

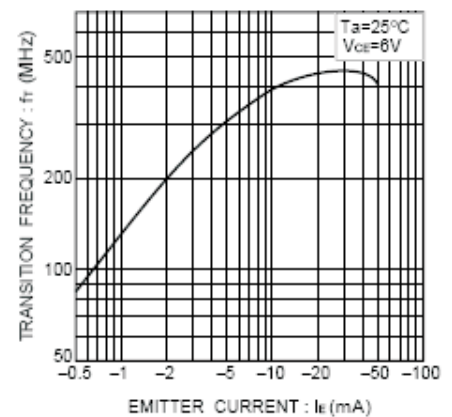


Fig.9 Gain Bandwidth Product vs. Emitter Current

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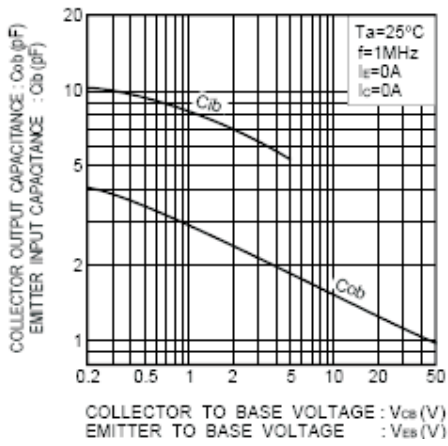


Fig.10 Collector Output Capacitance vs. Collector-Base Voltage  
Emitter Input Capacitance vs. Emitter-Base Voltage

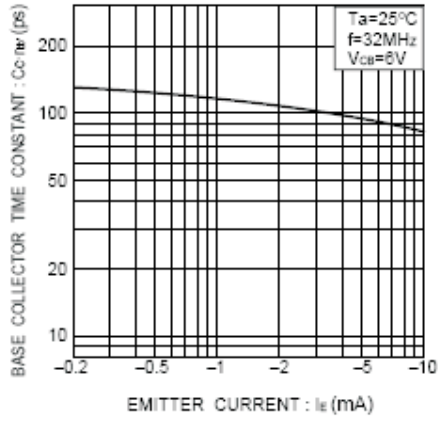


Fig.11 Base-Collector Time Constant vs. Emitter Current