

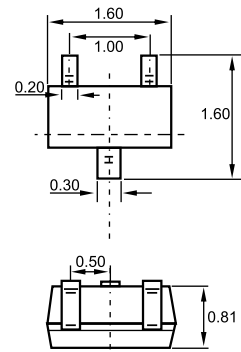
# 2SC4617

SOT-523 Transistor(NPN)



1. BASE
2. EMITTER
3. COLLECTOR

## SOT-523



Dimensions in inches and (millimeters)

## Features

- ✧ Low Cob:Cob=2.0pF(Typ)
- ✧ Complement to 2SA1774

## MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	50	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current -Continuous	150	mA
$P_C$	Collector Power Dissipation	150	mW
$T_J$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55-150	$^{\circ}\text{C}$

## ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=50\mu\text{A}$ , $I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}$ , $I_B=0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=50\mu\text{A}$ , $I_C=0$	7			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=60\text{V}$ , $I_E=0$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=7\text{V}$ , $I_E=0$			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	$V_{CE(sat)}$	$I_C=50\text{mA}$ , $I_B=5\text{mA}$			0.4	V
Transition frequency	$f_T$	$V_{CE}=12\text{V}$ , $I_C=2\text{mA}$ , $f=100\text{MHz}$		180		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=12\text{V}$ , $I_E=0$ , $f=1\text{MHz}$			3.5	pF

## CLASSIFICATION OF $h_{FE}$

Rank	Q	R	S
Range	120-270	180-390	270-560
Marking	BQ	BR	BS

**Typical characteristics**

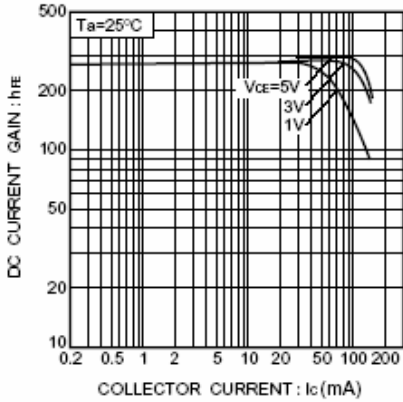


Fig.1 DC current gain vs. collector current

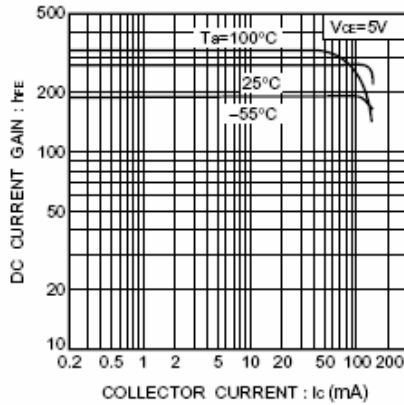


Fig.2 DC current gain vs. collector current

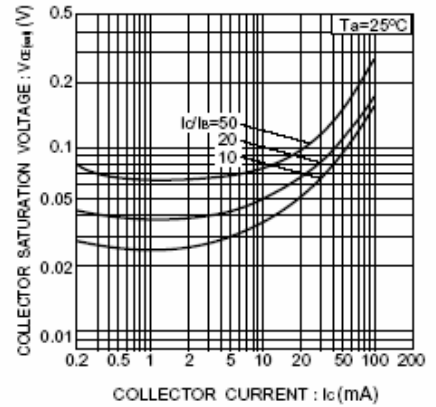


Fig. 3 Collector-emitter saturation voltage vs. collector current

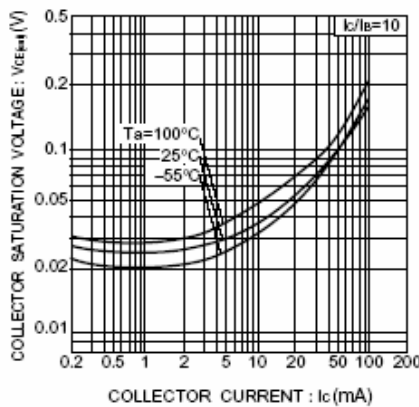


Fig.4 Collector-emitter saturation voltage vs. collector current

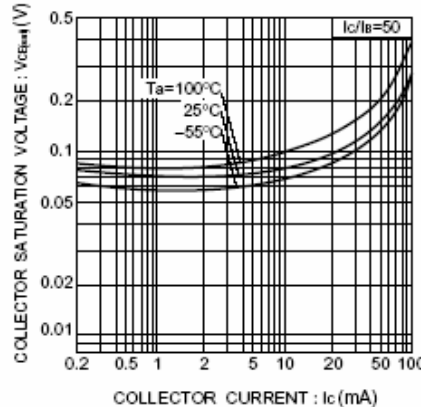


Fig.5 Collector-emitter saturation voltage vs. collector current

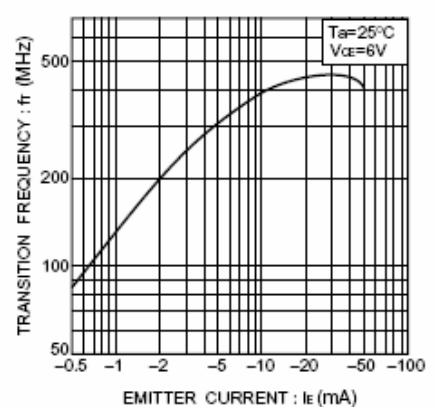


Fig.6 Gain bandwidth product vs. emitter current

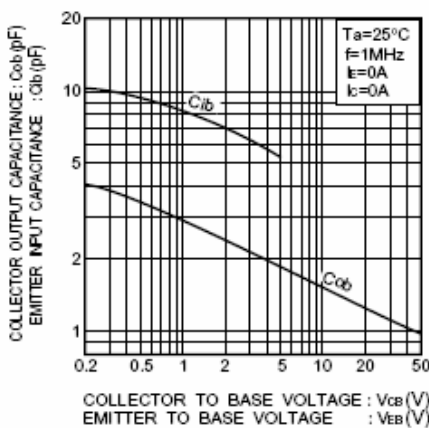


Fig.7 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

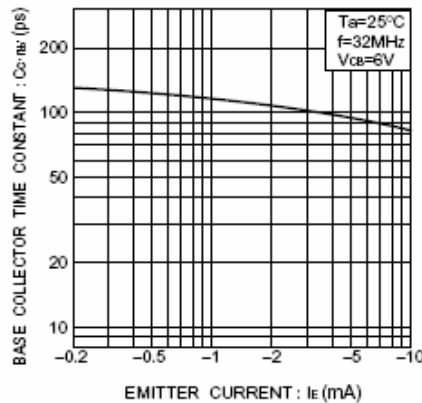


Fig.8 Base-collector time constant vs. emitter current

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