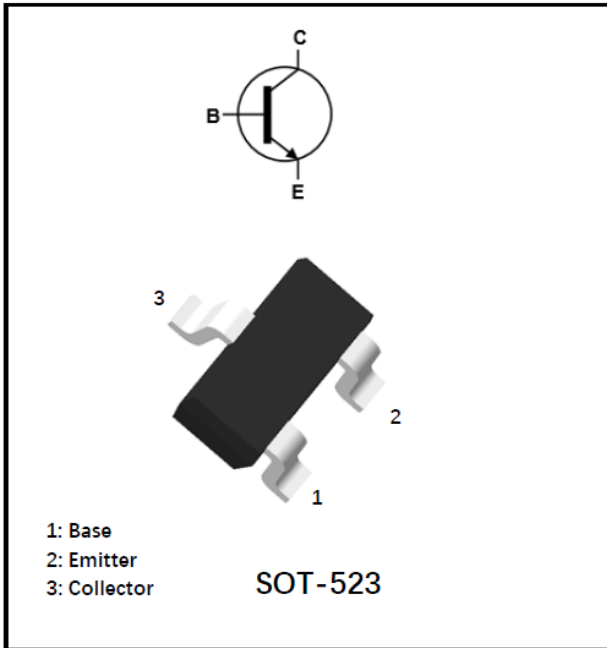


## NPN General Purpose Amplifier



### Features

- Moisture Sensitivity Level 1
- Surface mount package ideally Suited for Automatic Insertion
- Epoxy meets UL-94 V-0 flammability rating, halogen-free

### Mechanical Data

- **Package:** SOT-523
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:**
  - 2SC4617-Q: BQ
  - 2SC4617-R: BR
  - 2SC4617-S: BS

### ■Maximum Ratings (Ta=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Collector-Emitter Voltage	$V_{CEO}$	V	$I_C=1.0mA, I_B=0$	50
Collector-Base Voltage	$V_{CBO}$	V	$I_C=50\mu A, I_E=0$	50
Emitter-Base Voltage	$V_{EBO}$	V	$I_E=50\mu A, I_C=0$	5
Collector Current	$I_C$	mA		150
Collector Power Dissipation	$P_C$	mW		150
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	°C/W		833
Operation Junction Temperature	$T_J$	°C		-55 to +150
Storage Temperature	$T_{STG}$	°C		-55 to +150



# 2SC4617

## ■ Electrical Characteristics (Ta=25°C unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-Emitter Voltage	$V_{CE0}$	V	$I_C=1.0\text{mA}$ , $I_B=0$	50	-	--
Collector-Base Voltage	$V_{CBO}$	V	$I_C=50\mu\text{A}$ , $I_E=0$	50	-	-
Emitter-Base Voltage	$V_{EBO}$	V	$I_E=50\mu\text{A}$ , $I_C=0$	5	-	-
Collector-base Cut-off Current	$I_{CBO}$	$\mu\text{A}$	$V_{CB}=30\text{Vdc}$	-	-	0.5
Emitter-base cut-off current	$I_{EBO}$	$\mu\text{A}$	$V_{EB}=4\text{Vdc}$	-	-	0.5
DC Current Gain	$h_{FE}$		$I_C=1\text{mA}$ , $V_{CE}=6\text{Vdc}$	120	-	560
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=50\text{mA}$ , $I_B=5\text{mA}$	-	-	0.4
Collector-base Output Capacitance	Cobo	pF	$V_{CB}=12\text{Vdc}$ , $f=1.0\text{MHz}$ , $I_E=0$	-	-	3.5
Transition frequency	$f_T$	MHz	$I_C=2\text{mA}$ , $V_{CE}=12\text{V}$ , $f=100\text{MHz}$	-	180	-

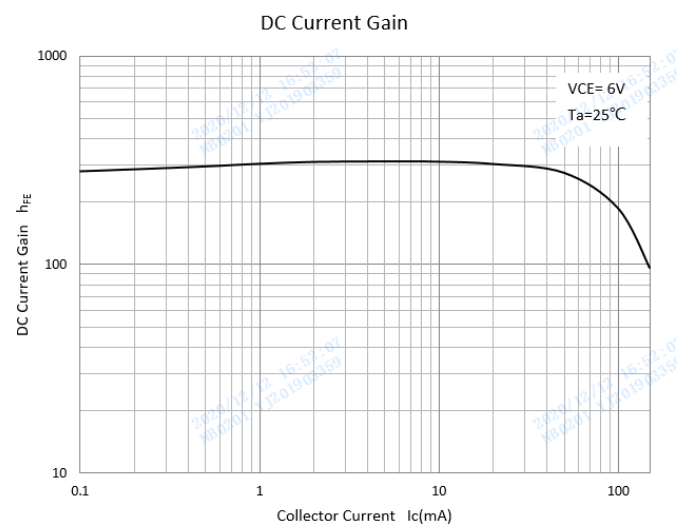
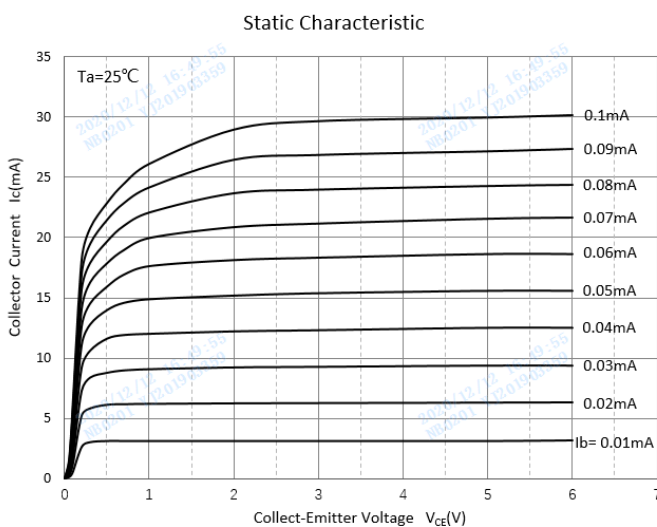
## ■ CLASSIFICATION OF HFE

Rank	Q	R	S
Range	120-270	180-390	270-560

## ■ Ordering Information (Example)

Preferred P/N	Packing Code	Unit Weight(G)	Minimum Package(Pcs)	Inner Box Quantity(Pcs)	Outer Carton Quantity(Pcs)	Delivery Mode
2SC4617	F2	Approximate 0.0027	3000	30000	120000	7" reel

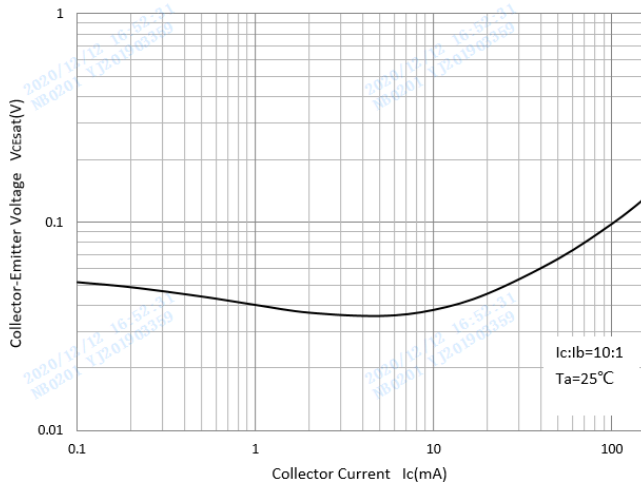
## ■ Characteristics (Typical)



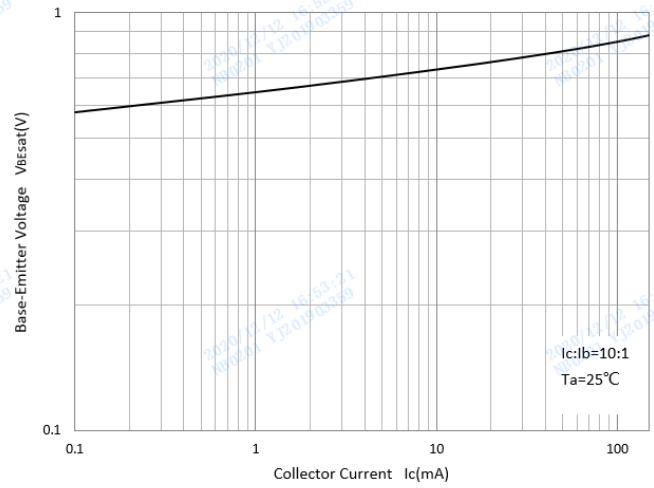


# 2SC4617

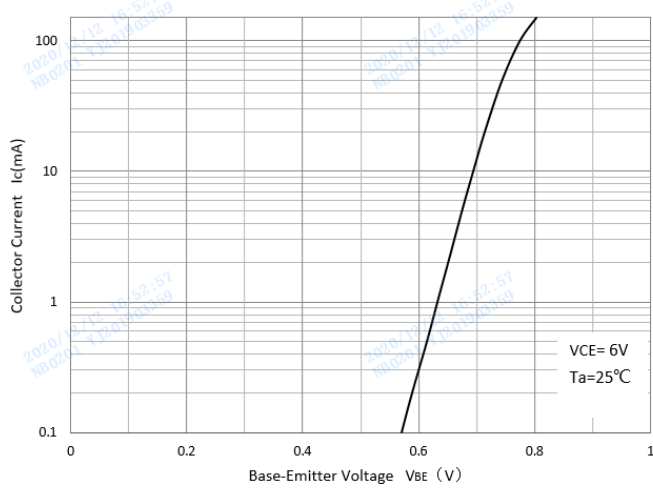
### Collector-Emitter Saturation Voltage



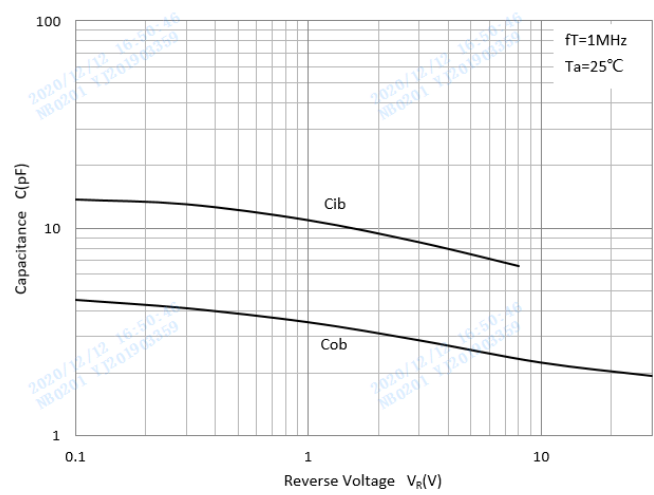
### Base-Emitter Saturation Voltage



### Base-Emitter On Voltage

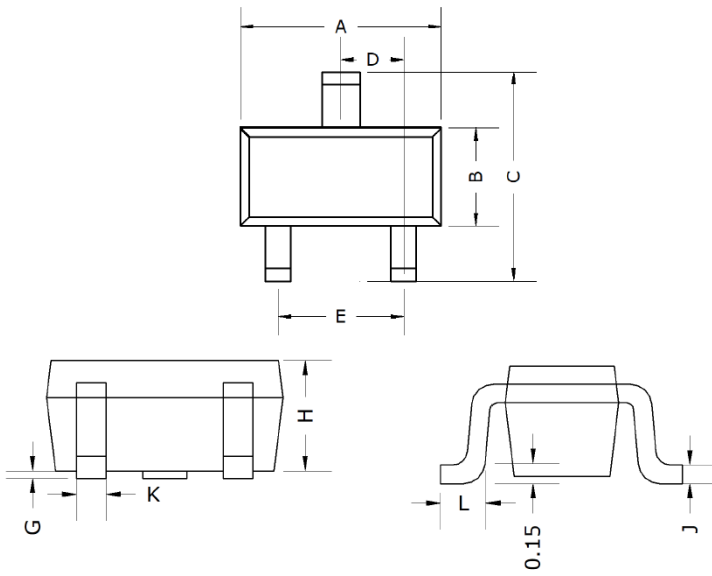


### $C_{ob}/C_{ib}-V_{CB}/V_{EB}$



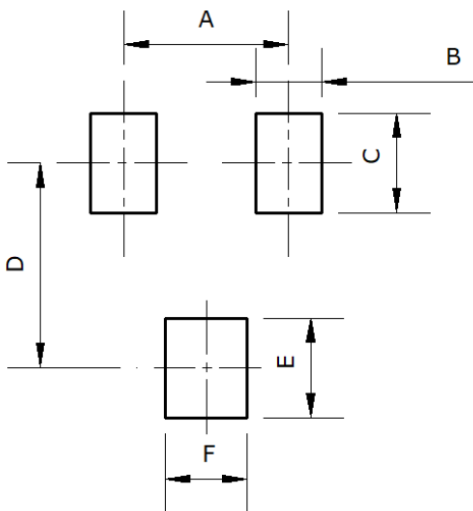


■ SOT-523 Package Outline Dimensions



DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.059	0.067	1.50	1.70
B	0.030	0.033	0.75	0.85
C	0.057	0.069	1.45	1.75
D	0.020TYP		0.50TYP	
E	0.035	0.043	0.90	1.10
G	0.000	0.004	0.00	0.10
H	0.024	0.031	0.60	0.80
J	0.004	0.008	0.10	0.20
K	0.006	0.014	0.15	0.35
L	0.010	0.018	0.26	0.46

■ SOT-523 Suggested Pad Layout



DIMENSIONS	
DIM	MM (TYP)
A	1.00
B	0.40
C	0.60
D	1.24
E	0.60
F	0.50



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