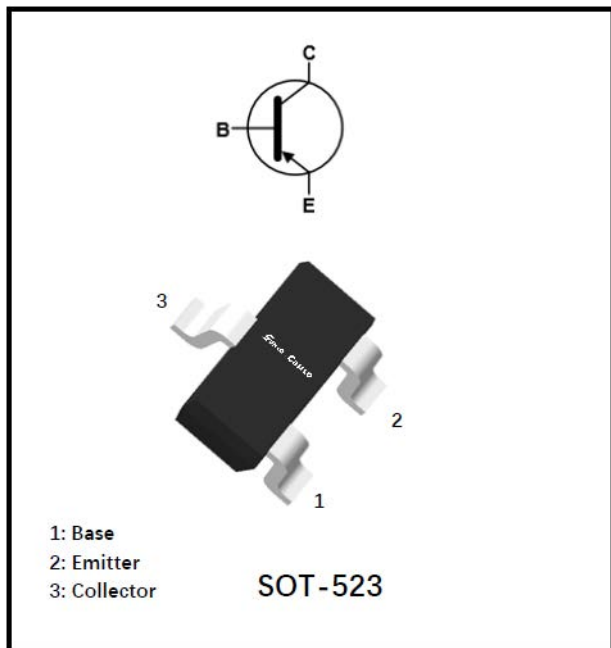


NPN General Purpose Amplifier



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

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

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

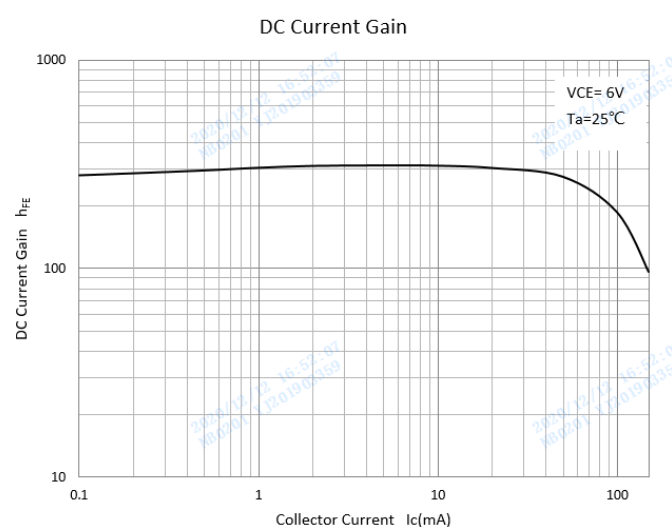
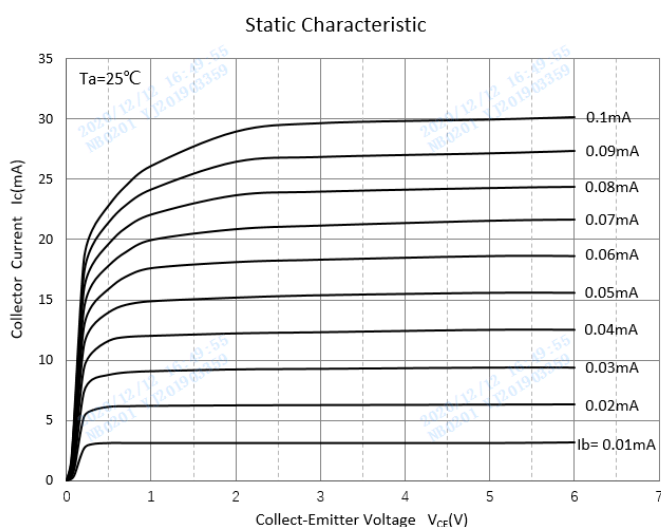
■ CLASSIFICATION OF HFE

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

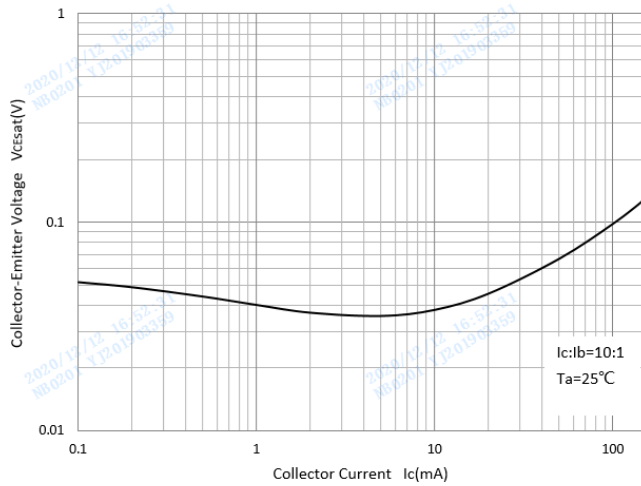
■ Ordering Information (Example)

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

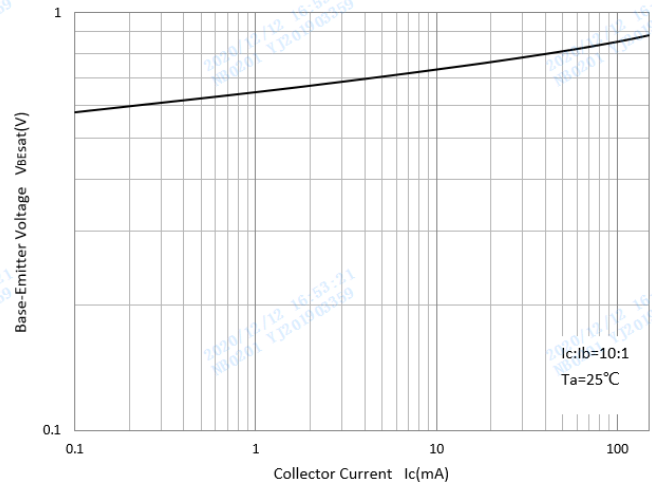
■ Characteristics (Typical)



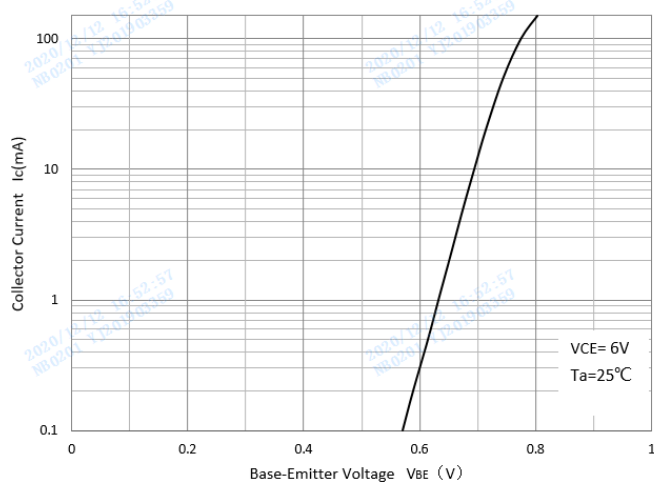
Collector-Emitter Saturation Voltage



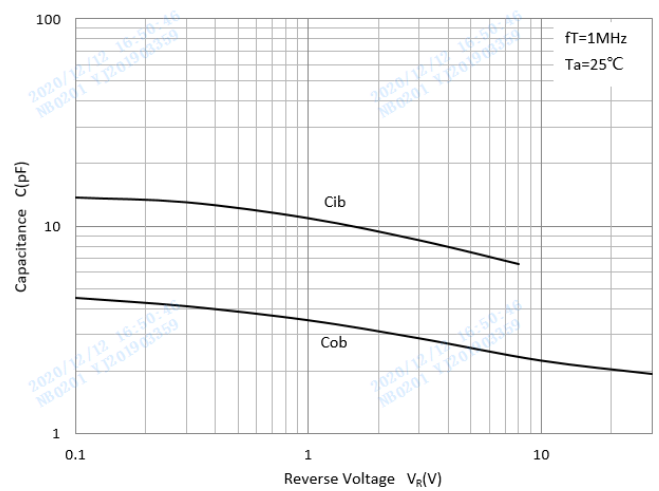
Base-Emitter Saturation Voltage



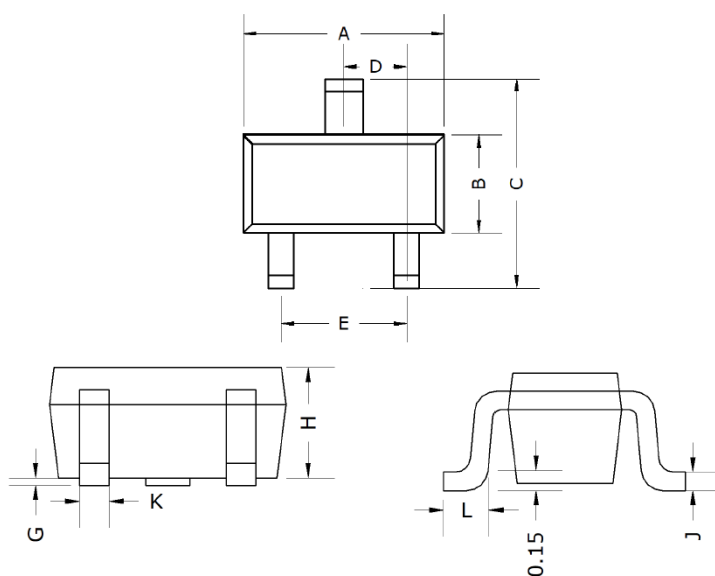
Base-Emitter On Voltage



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

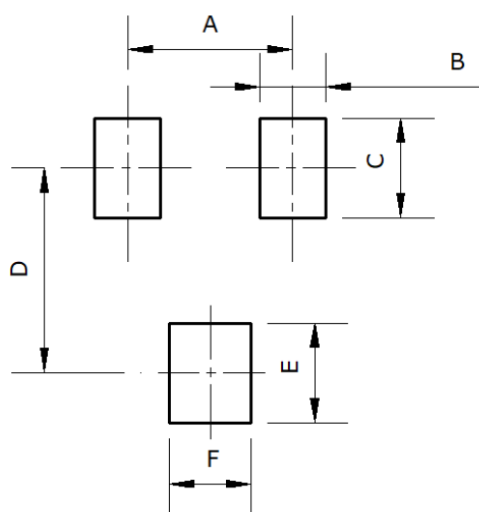


■ **SOT-523 Package Outline Dimensions**



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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