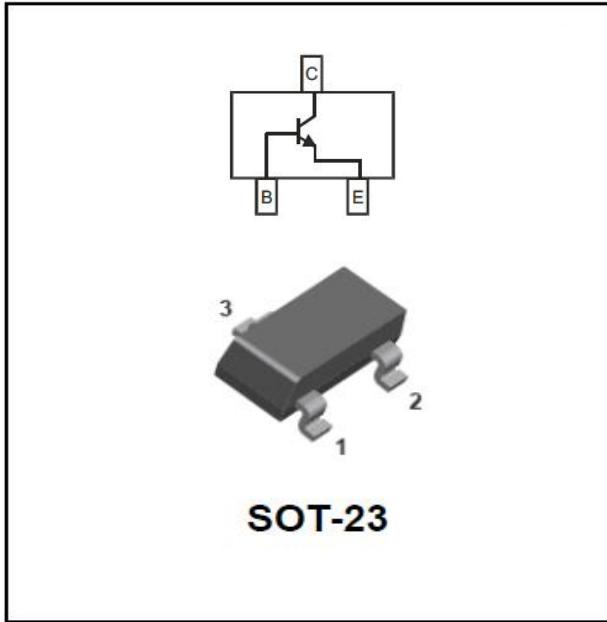


## NPN General Purpose Amplifier



### Features

- Capable of 0.3Watts( $T_A=25^{\circ}\text{C}$ ) of Power Dissipation
- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisture Sensitivity Level 1
- Device Marking:

BC818-16	6E
BC818-25	6F
BC818-40	6G

### ■ Maximum Rating

Item	Symbol	Unit	Value
Collector-Emitter Voltage	$V_{CE0}$	V	25
Collector-Base Voltage	$V_{CB0}$	V	30
Emitter -Base Voltage	$V_{EB0}$	V	5
Collector Current	$I_C$	mA	500
Collector Power Dissipation	$P_C$	mW	300
Operation Junction Temperature	$T_j$	$^{\circ}\text{C}$	-55 to +150
Storage Temperature	$T_{stg}$	$^{\circ}\text{C}$	-55 to +150
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	$^{\circ}\text{C}/\text{W}$	417

### ■ Off Characteristics

Item	Symbol	Unit	Conditions	MIN	MAX
Collector-Emitter Voltage	$V_{CE0}$	V	$I_C=10\text{mA}, I_B=0$	25	
Collector-Base Voltage	$V_{CB0}$	V	$I_C=10\mu\text{A}, I_E=0$	30	
Emitter-Base Voltage	$V_{EB0}$	V	$I_E=10\mu\text{A}, I_C=0$	5	
Emitter-base Cut-off Current	$I_{EBO}$	$\mu\text{A}$	$V_{EB}=4\text{Vdc}, I_C=0$		0.1
Collector-base Cut-off Current	$I_{CBO}$	$\mu\text{A}$	$V_{CB}=25\text{Vdc}, I_E=0$		0.1



# BC818-16 THRU BC818-40

## ■ On Characteristics

Item		Symbol	Unit	Conditions	Min	Max
DC Current Gain	BC818-16	$h_{FE}$		$I_C=100mA_{dc}, V_{CE}=1V_{dc}$	100	250
	BC818-25				160	400
	BC818-40				250	600
DC Current Gain		$h_{FE}$		$I_C=300mA_{dc}, V_{CE}=1V_{dc}$	60	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	V	$I_C=500mA_{dc}, I_B=50mA_{dc}$		0.7
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	V	$I_C=500mA_{dc}, I_B=50mA_{dc}$		1.2
Base-Emitter Voltage		$V_{BE(on)}$	V	$I_C=500mA_{dc}, V_{CE}=1V_{dc}$		1.2

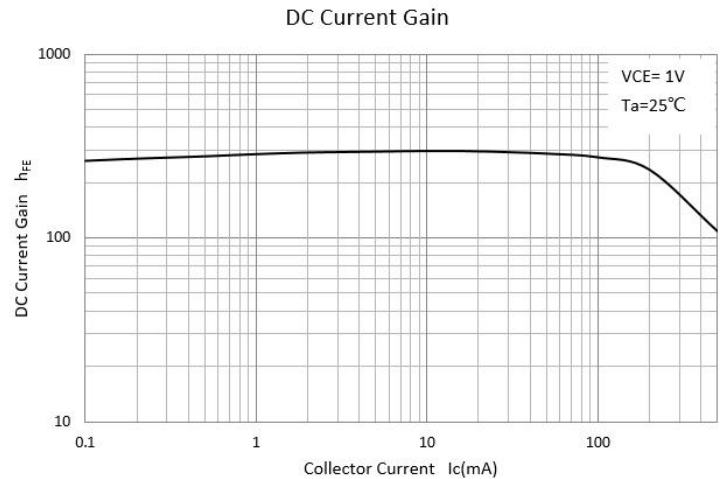
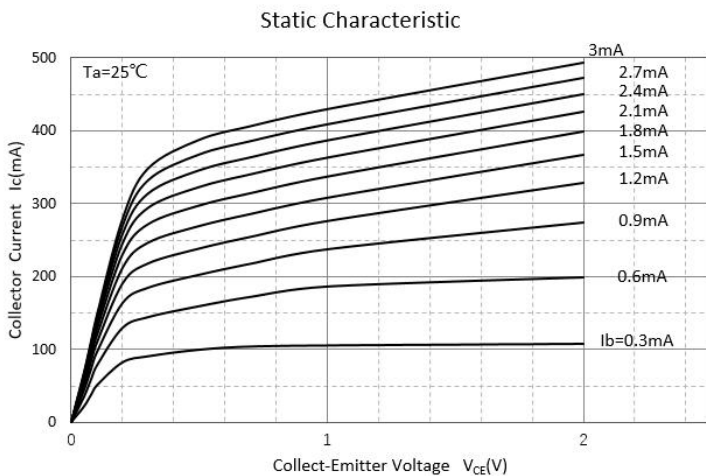
## ■ Small-signal Characteristics

Item	Symbol	Unit	Conditions	Min	Typ	Max
Transition frequency	$f_T$	MHz	$I_C=50mA_{dc}, V_{CE}=5V_{dc}, f=100MHz$		170	
Collector-base output capacitance	$C_{ob}$	pF	$V_{CB}=10V, f=1MHz$		6	

## ■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BC818-16 Thru BC818-40	F2	Approximate 0.008	3000	30000	120000	7" reel

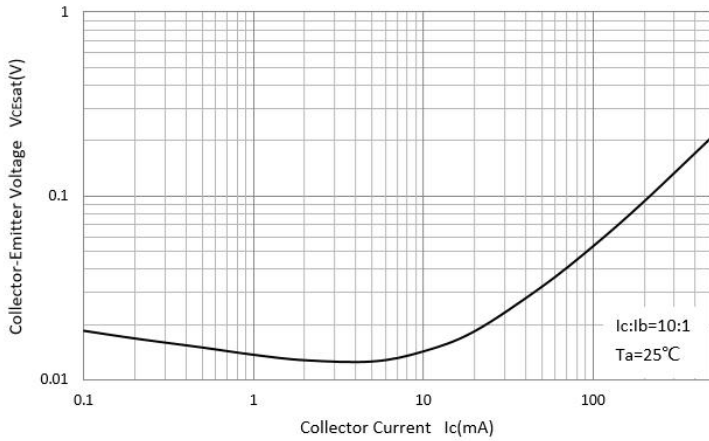
## ■ Characteristics (Typical)



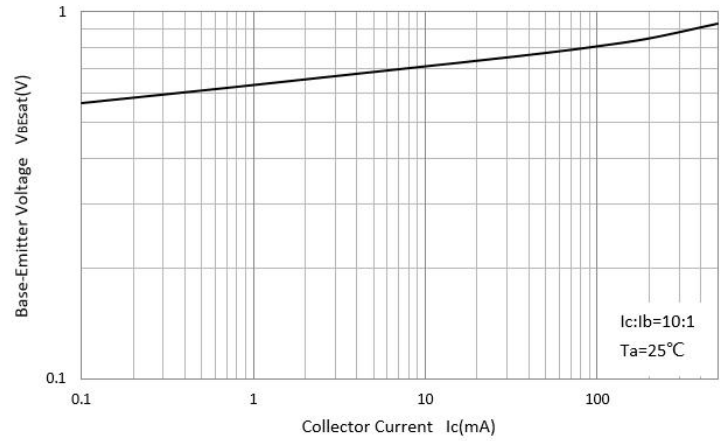


# BC818-16 THRU BC818-40

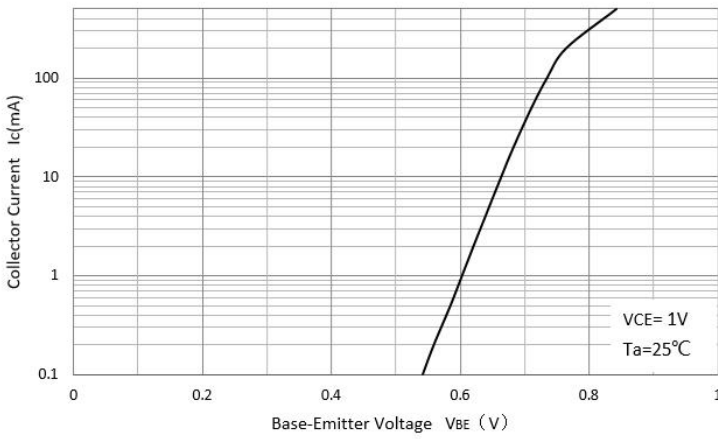
### Collector-Emitter Saturation Voltage



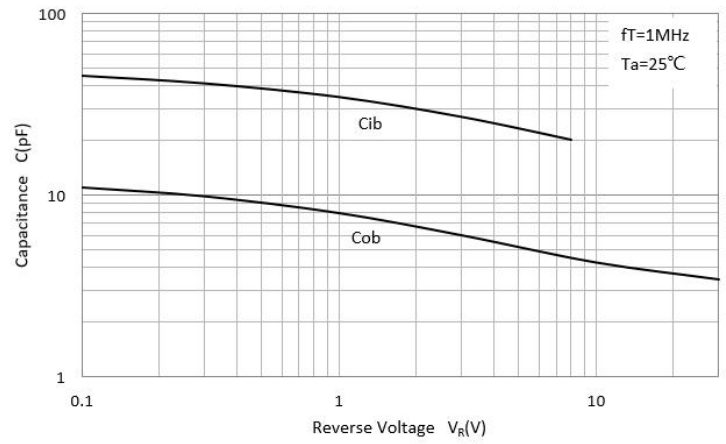
### Base-Emitter Saturation Voltage



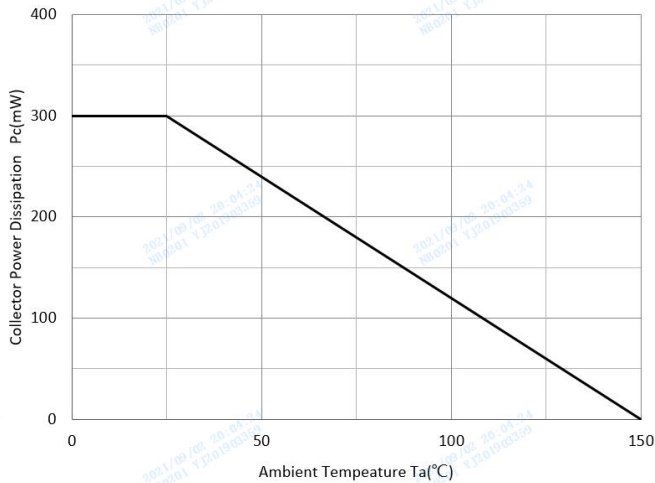
### Base-Emitter On Voltage



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



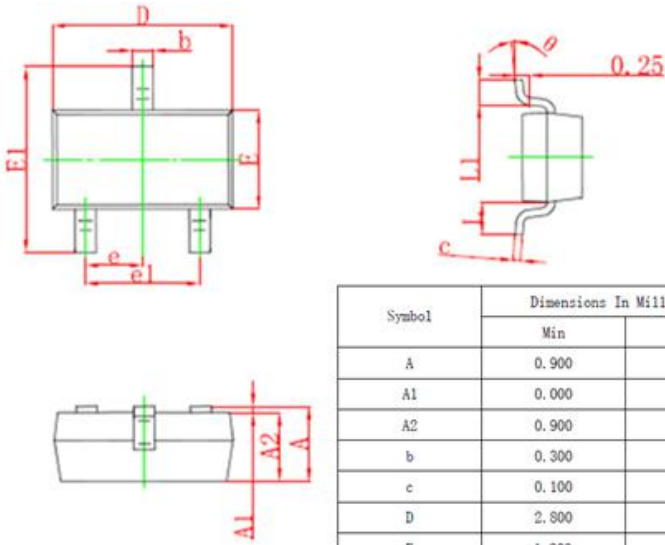
### Collector Power Derating Curve





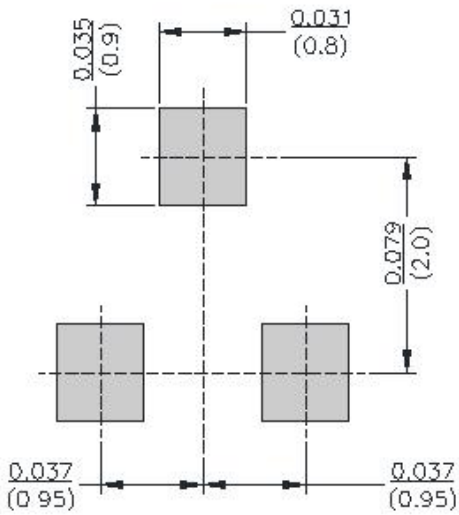
# BC818-16 THRU BC818-40

## ■SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
ø	0°	8°	0°	8°

## ■SOT-23 Soldering Footprint





## BC818-16 THRU BC818-40

---

### Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.