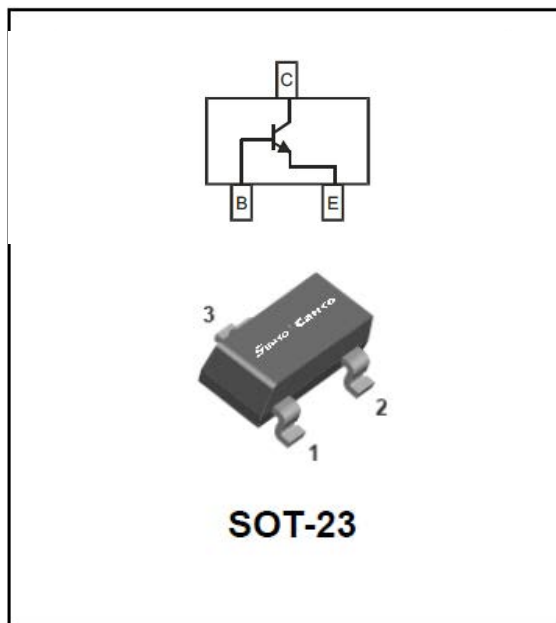


NPN General Purpose Amplifier



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_{CEO}	V	25
Collector-Base Voltage	V_{CBO}	V	30
Emitter –Base Voltage	V_{EBO}	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	$R_{\theta JA}$	$^{\circ}\text{C/W}$	417

■ Off Characteristics

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

BC818-16 THRU BC818-40

■ On Characteristics

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

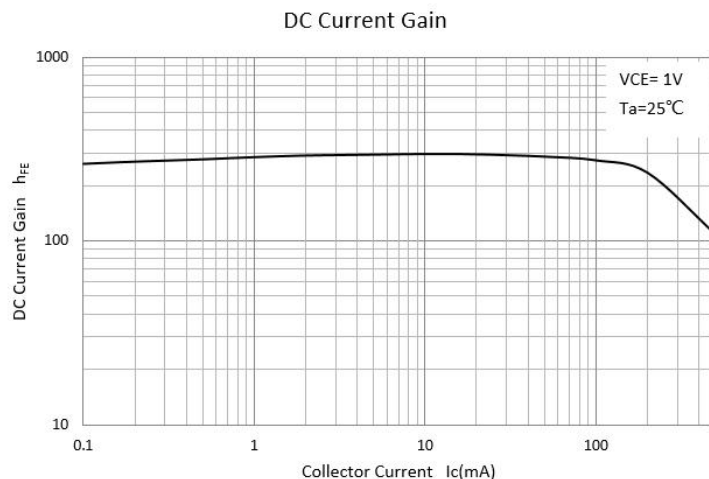
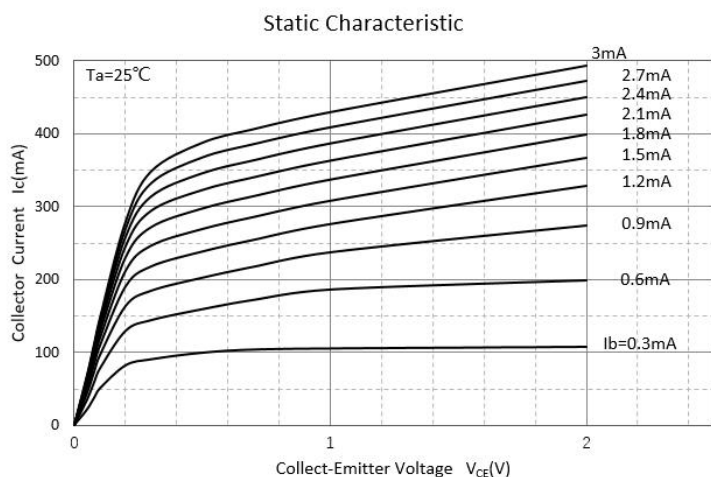
■ Small-signal Characteristics

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

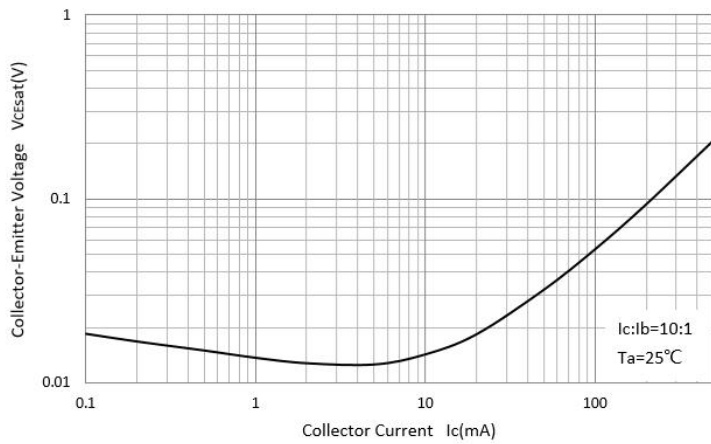
■ Ordering Information (Example)

PREFERRED 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

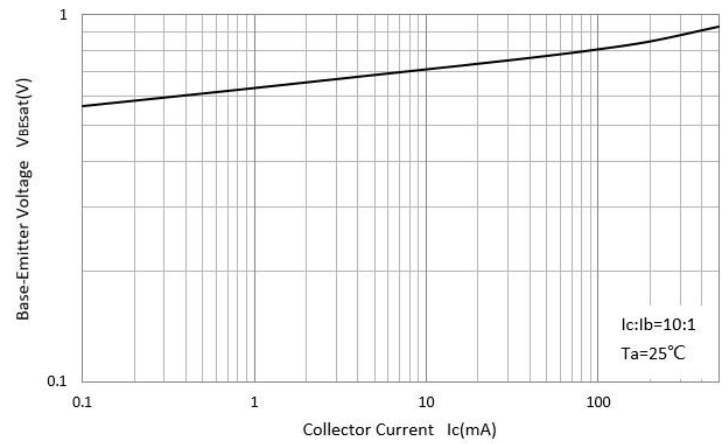
■ Characteristics (Typical)



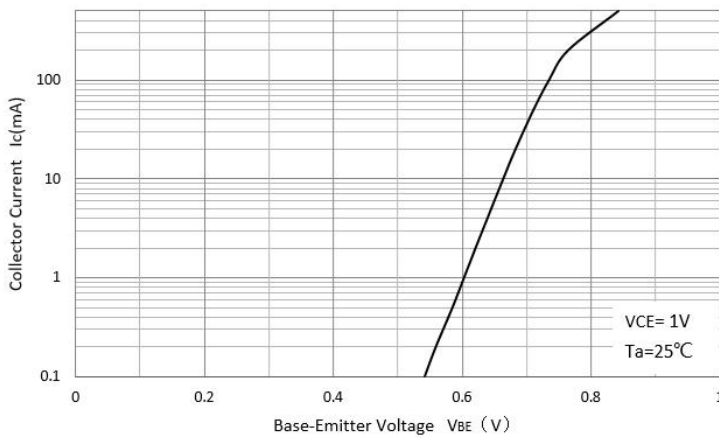
Collector-Emitter Saturation Voltage



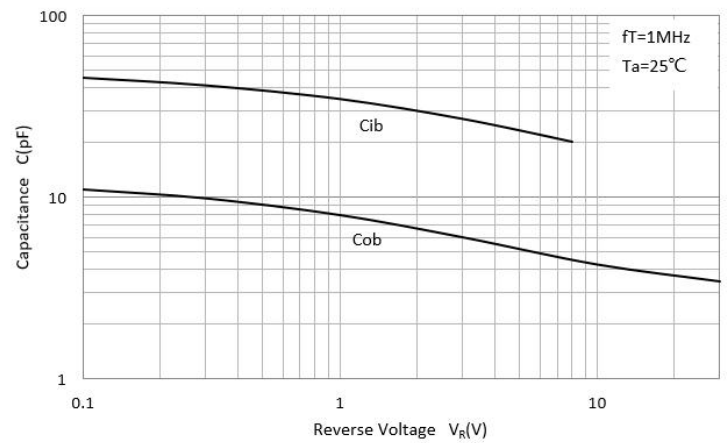
Base-Emitter Saturation Voltage



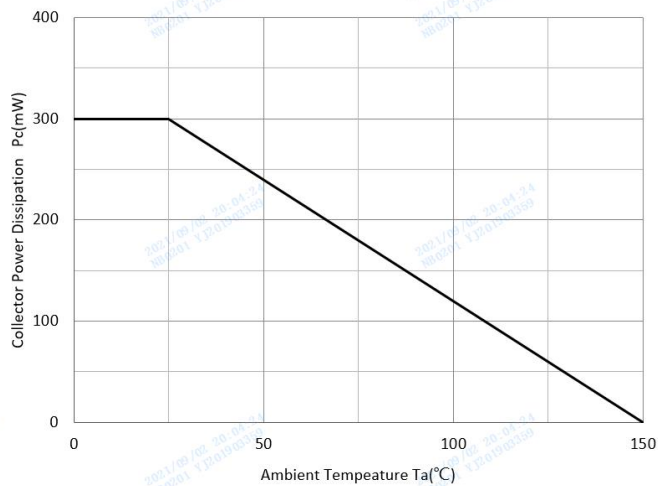
Base-Emitter On Voltage



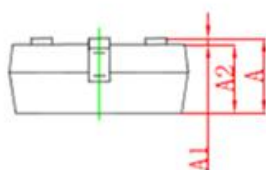
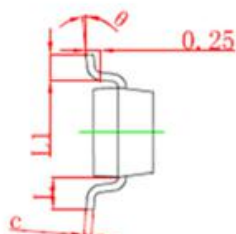
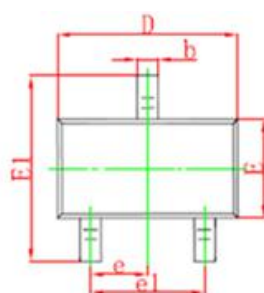
$C_{ob}/C_{ib}-V_{CB}/V_{EB}$



Collector Power Derating Curve

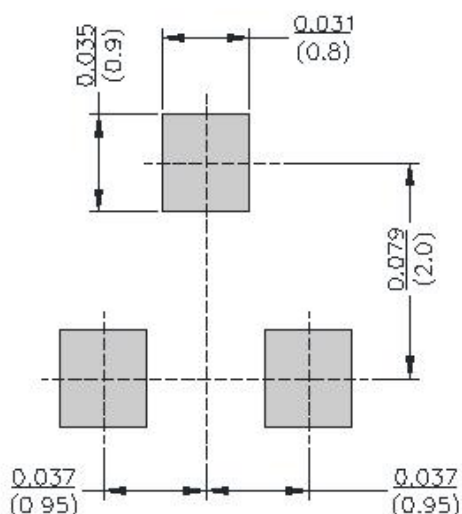


■SOT-23 Package Outline Dimensions



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
θ	0°	8°	0°	8°

■SOT-23 Soldering Footprint



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