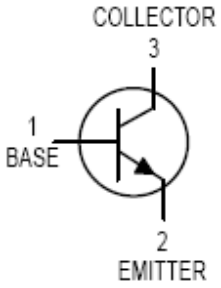
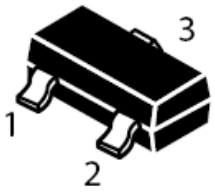
LITE-ON SEMICONDUCTORS

BC818

NPN General Purpose Transistor





FEATURES

- For general AF applications
- Low collector-emitter saturation voltage

MECHANICAL DATA

- Case: SOT-23 Plastic
- Case material: “Green” molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Lead Free in RoHS 2002/95/EC Compliant

Maximum Ratings @ T_A = 25℃

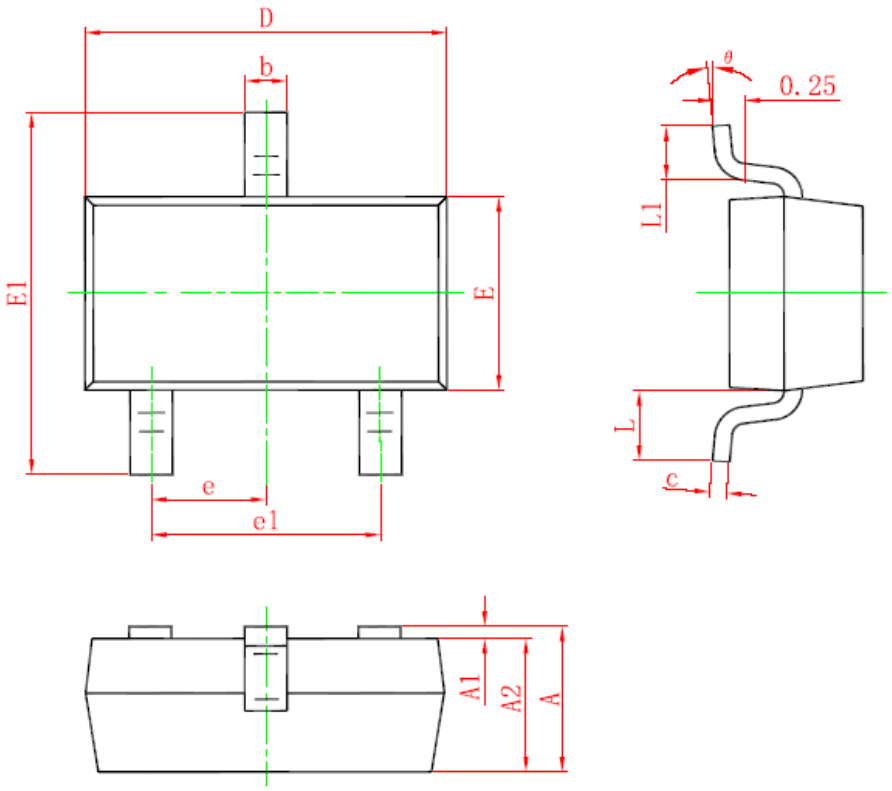
Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current -Continuous	I_C	0.5	A
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{STG}	-55~+150	℃

Electrical Characteristics @ T_A = 25℃ unless otherwise specified

Characteristic	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	I_C=10μA,I_E=0	V_{CBO}	30			V
Collector-emitter breakdown voltage	I_C=10mA,I_B=0	V_{CEO}	25			V
Emitter-base breakdown voltage	I_E=10μA,I_C=0	V_{EBO}	5			V
Collector-base cut-off current	V_{CB}=25V,I_E=0	I_{CBO}			0.1	uA
Emitter-base cut-off current	V_{EB}=4V,I_C=0	I_{EBO}			0.1	uA
DC current gain	V_{CE}=1V,I_C=100mA	h_{FE1}	100		630	
	V_{CE}=1V,I_C=300mA	h_{FE2}	60			
Collector-emitter saturation voltage	I_C=500mA,I_B=50mA	V_{CE}(sat)			0.7	V
Base-emitter saturation voltage	I_C=500mA,I_B=50mA	V_{BE}(sat)			1.2	V
Base-emitter voltage	V_{CE}=1V,I_C=500mA	V_{BE}			1.2	V
Collector output capacitance	V_{CB}=10V,f=1MHz	C_{ob}		6		pF
Transition frequency	V_{CE}=10V,I_C=10mA, f=100MHz	f_T		170		MHz

REV. 2, Jun-2012, KSNR02

SOT-23 Outline Dimension



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	0.080	0.150	0.003	0.006
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	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	6°

Device Marking :

Device P/N	Classification of h_{FE}	Marking code
BC818-16	100-250	6E
BC818-25	160-400	6F
BC818-40	250-600	6G

Electrical characteristic curves

Fig.1 DC Current Gain

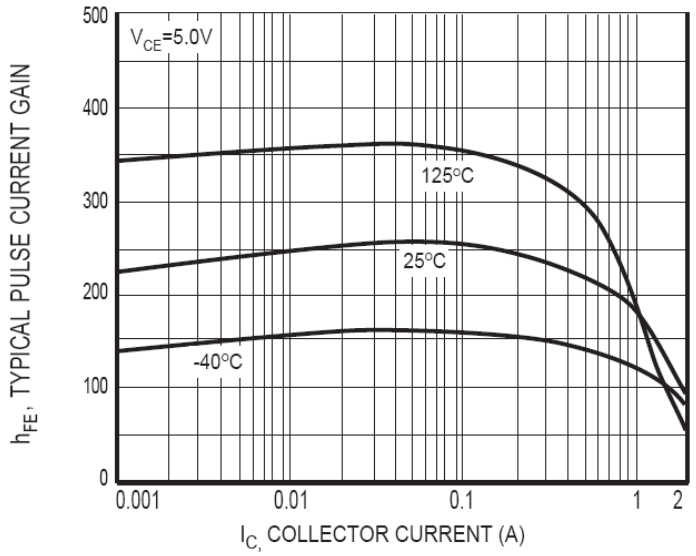


Fig.2 Collector Emitter Saturation Voltage vs. Collector Current

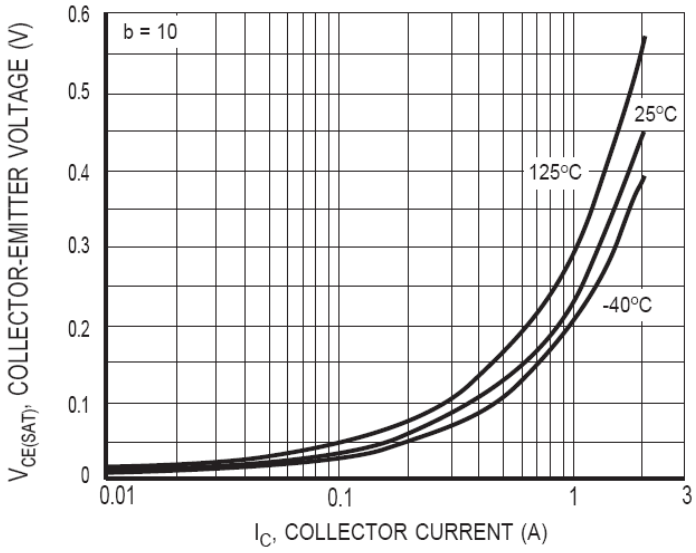


Fig.3 Base Emitter Saturation Voltage vs. Collector Current

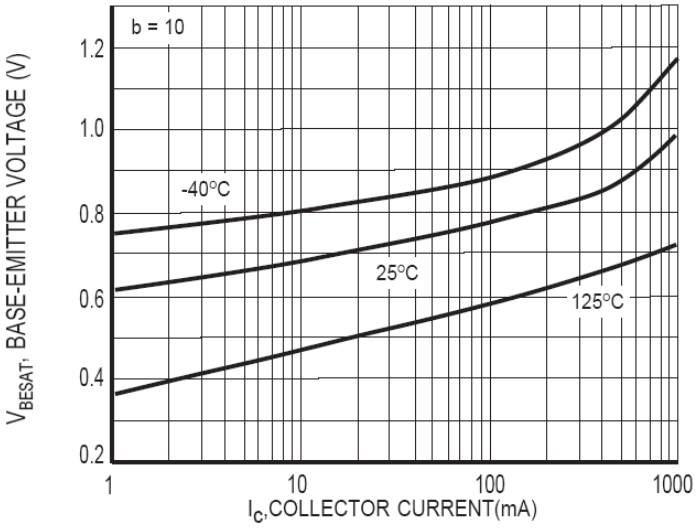


Fig.4 Base Emitter On Voltage vs. Collector Current

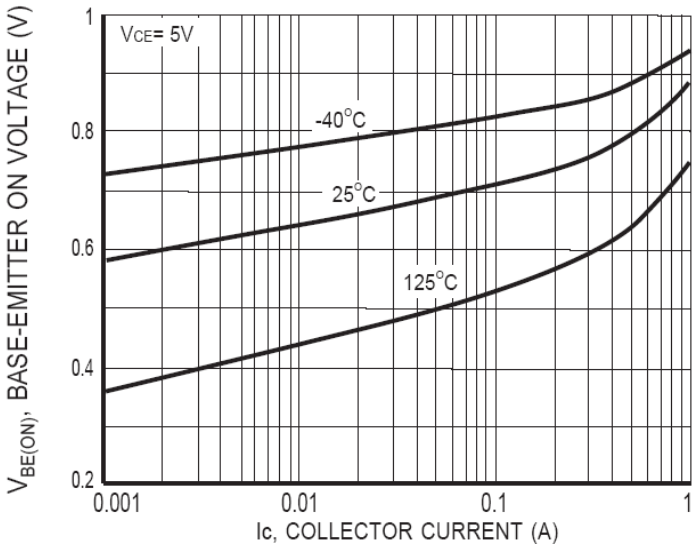


Fig.5 Collector-cut off Current vs. Ambient Temperature

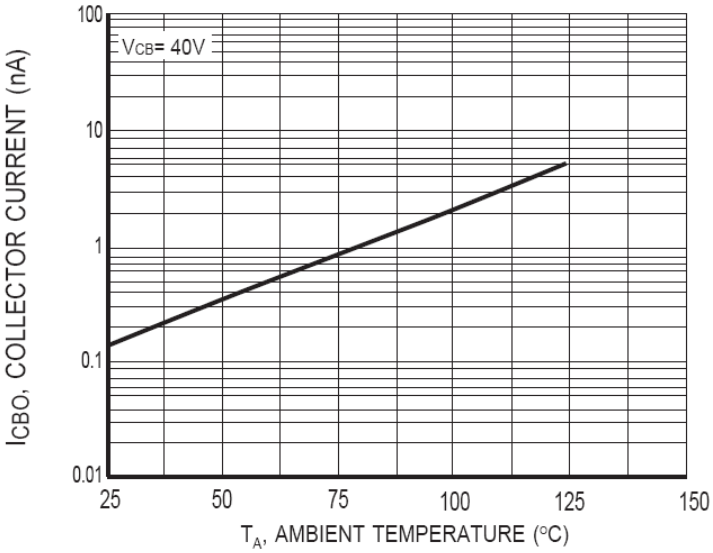
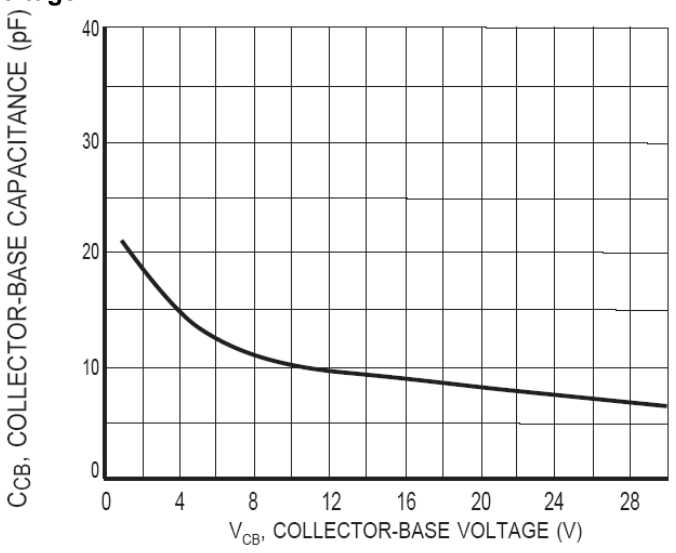


Fig.6 Collector output capacitance vs. collector-base voltage.



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