FAIRCHILD SEMICONDUCTOR®

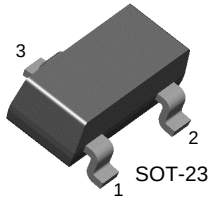
November 2006

BC817/BC818

NPN Epitaxial Silicon Transistor

Features

- Switching and Amplifier Applications
- Suitable for AF-Driver stages and low power output stages
- Complement to BC807/ BC808



SOT-23

1. Base 2. Emitter 3. Collector

Absolute Maximum Ratings* T_a = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage : BC817 : BC818	 50 30	 V V
V_{CEO}	Collector-Emitter Voltage : BC817 : BC818	 45 25	 V V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current (DC)	800	mA
P_C	Collector Power Dissipation	310	mW
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-65 ~ 150	°C

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Electrical Characteristics* T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CEO}	Collector-Emitter Breakdown Voltage : BC817 : BC818	I_C=10mA, I_B=0	 45 25			 V V
BV_{CES}	Collector-Emitter Breakdown Voltage : BC817 : BC818	I_C=0.1mA, V_{BE}=0	 50 30			 V V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E=0.1mA, I_C=0	5			V
I_{CES}	Collector Cut-off Current	V_{CE}=25V, V_{BE}=0			100	nA
I_{EBO}	Emitter Cut-off Current	V_{EB}=4V, I_C=0			100	nA
h_{FE1} h_{FE2}	DC Current Gain	V_{CE}=1V, I_C=100mA V_{CE}=1V, I_C=300mA	100 60		630	
V_{CE} (sat)	Collector-Emitter Saturation Voltage	I_C=500mA, I_B=50mA			0.7	V
V_{BE} (on)	Base-Emitter On Voltage	V_{CE}=1V, I_C=300mA			1.2	V
f_T	Current Gain Bandwidth Product	V_{CE}=5V, I_C=10mA f=50MHz		100		MHz
C_{ob}	Output Capacitance	V_{CB}=10V, f=1MHz			12	pF

* Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%

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h_{FE} Classification

Classification	16	25	40
h_{FE1}	110 ~ 250	160 ~ 400	250 ~ 630
h_{FE2}	60~	100~	170~

Ordering Information

Device(note1)	Device Marking	Package	Packing Method	Qty(pcs)	Pin Difinitions
BC81716MTF	8FA	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC81725MTF	8FB	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC81740MTF	8FC	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC81816MTF	8GA	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC81825MTF	8GB	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector
BC81840MTF	8GC	SOT-23	Tape & Reel	3000	1.Base 2.Emitter 3.Collector

Note1 : Affix “-16,-25,-40” means hFE classification.
Affix “-M” means the matte type package.
Affix “-TF” means the tape & reel type packing.

Typical Performance Characteristics

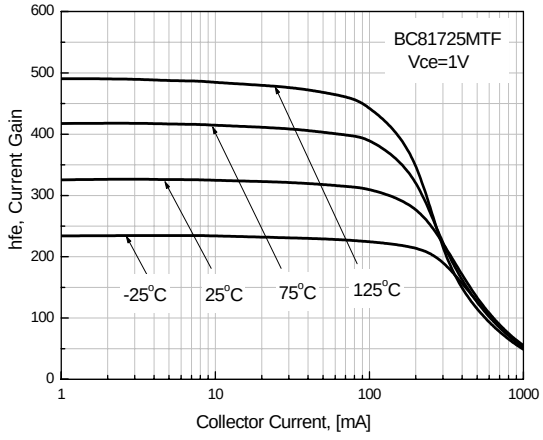


Figure 1. DC current Gain

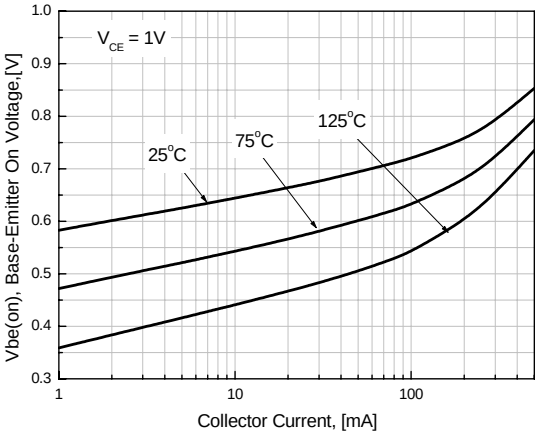


Figure 2. Base-Emitter On Voltage

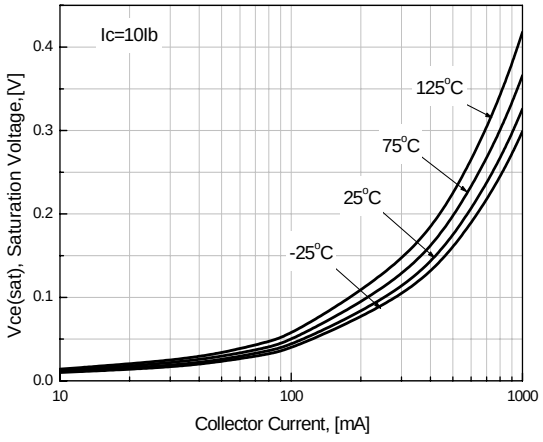


Figure 3. Collector-Emitter Saturation Voltage

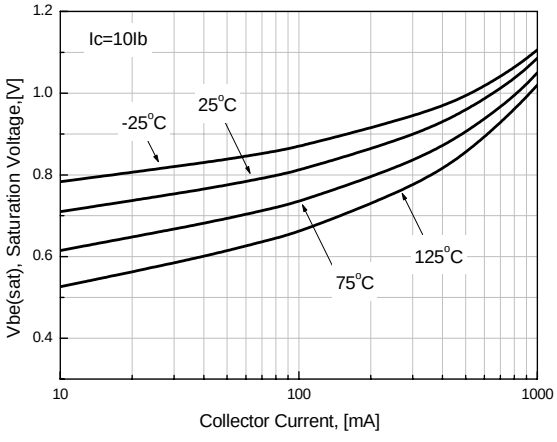


Figure 4. Base-Emitter Saturation Voltage

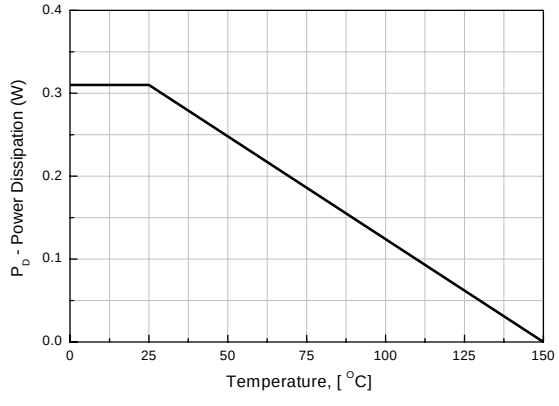
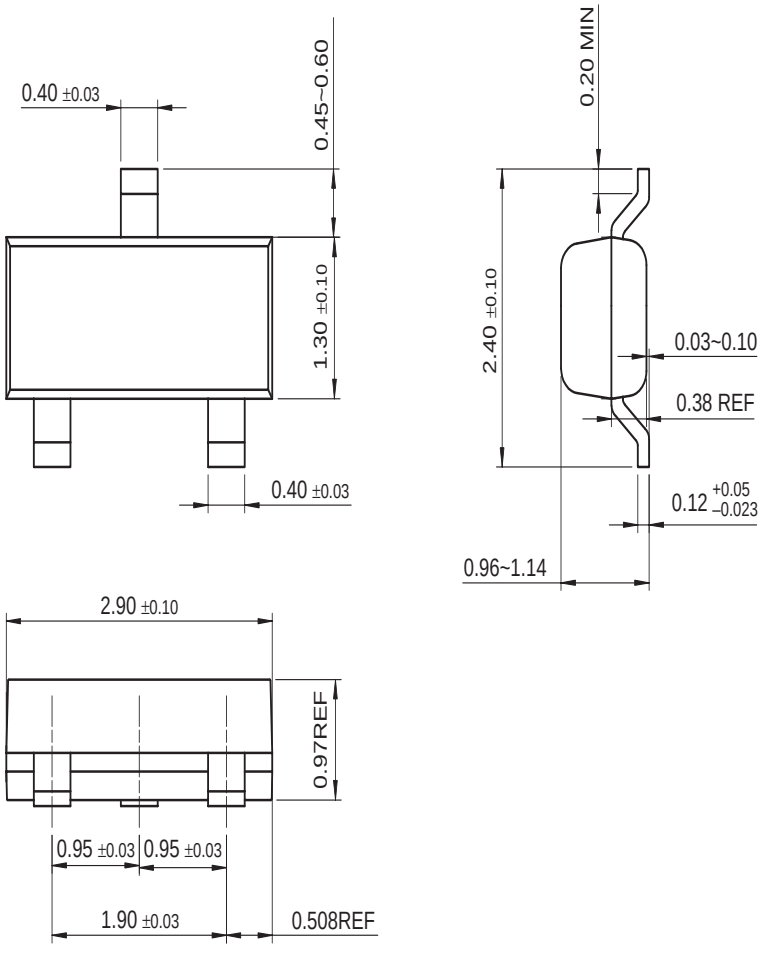


Figure 5. Power Dissipation vs Ambient Temperature

Mechanical Dimensions

SOT-23



Dimensions in Millimeters

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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