FAIRCHILD SEMICONDUCTOR®

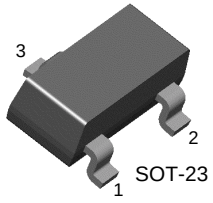
November 2006

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%

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

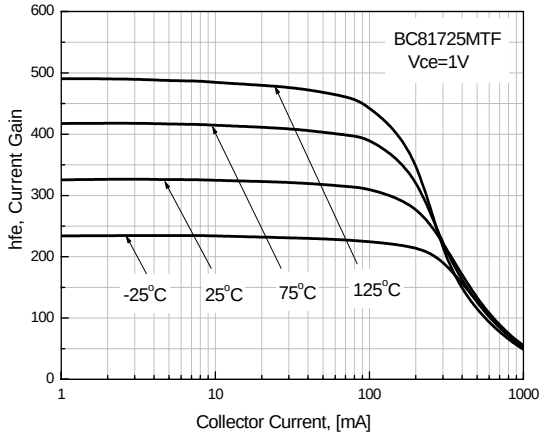


Figure 1. DC current Gain

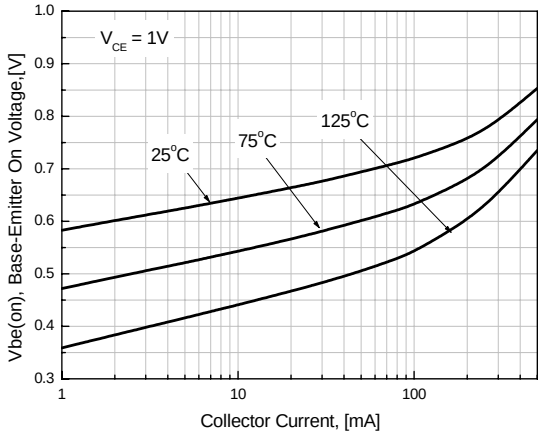


Figure 2. Base-Emitter On Voltage

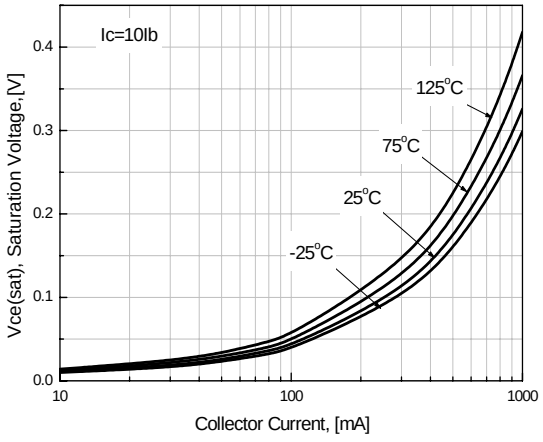


Figure 3. Collector-Emitter Saturation Voltage

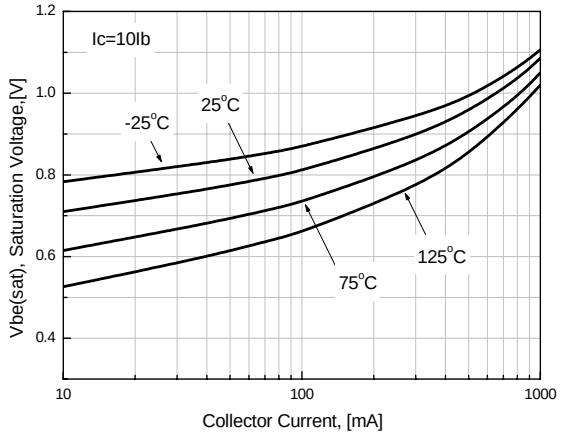


Figure 4. Base-Emitter Saturation Voltage

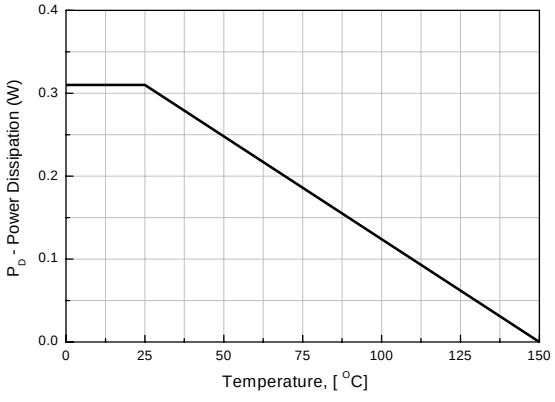
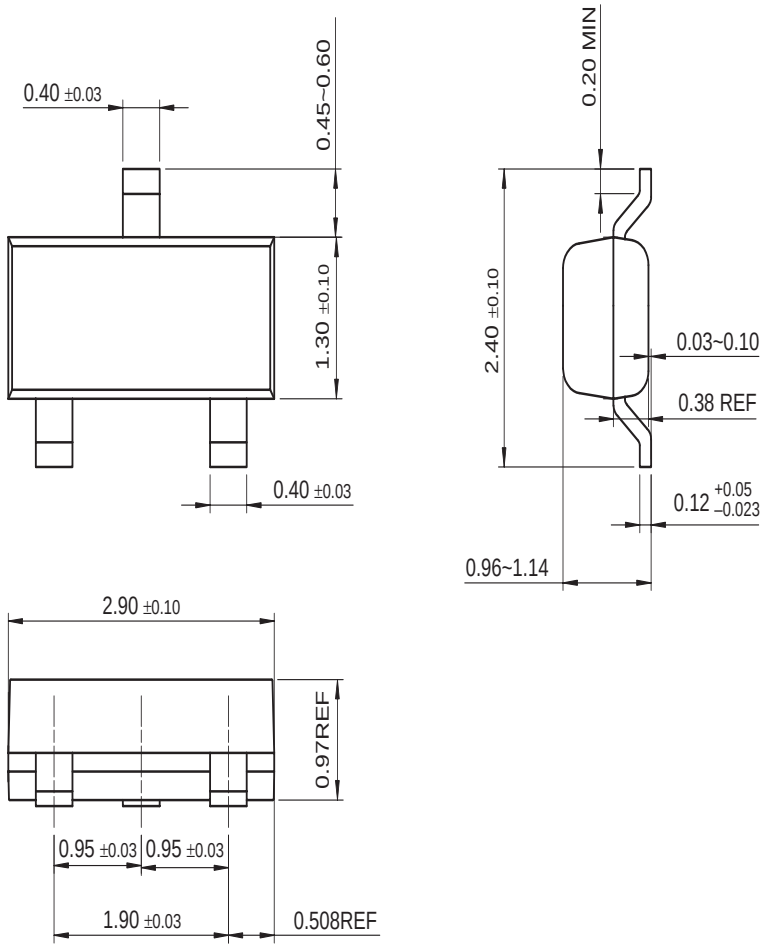


Figure 5. Power Dissipation vs Ambient Temperature

Mechanical Dimensions

SOT-23



Dimensions in Millimeters

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i-Lo™
ImpliedDisconnect™
IntelliMAX™
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PRODUCT STATUS DEFINITIONS

Definition of Terms

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