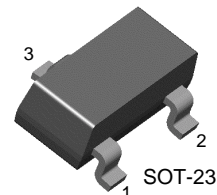


BC817/BC818

NPN Epitaxial Silicon Transistor

Features

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



1. Base 2. Emitter 3. Collector

Absolute Maximum Ratings* $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage		
	: BC817	50	V
	: BC818	30	V
V_{CEO}	Collector-Emitter Voltage		
	: BC817	45	V
	: BC818	25	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	$^\circ\text{C}$
T_{STG}	Storage Temperature	-65 ~ 150	$^\circ\text{C}$

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

Electrical Characteristics* $T_a = 25^\circ\text{C}$ unless otherwise noted

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

* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

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

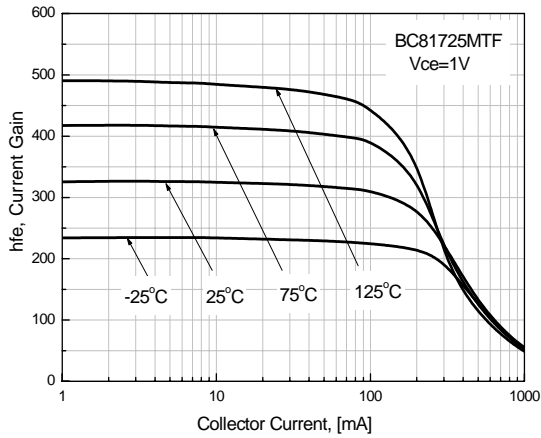


Figure 1. DC current Gain

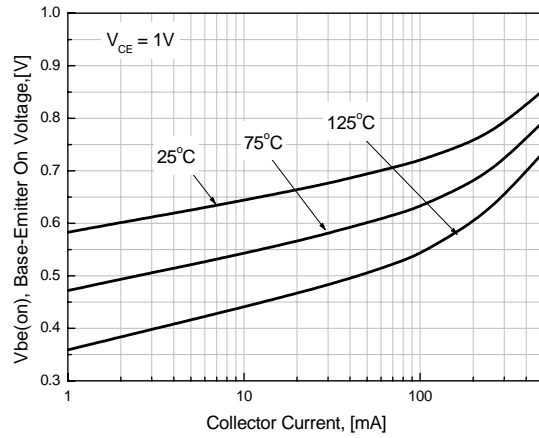


Figure 2. Base-Emitter On Voltage

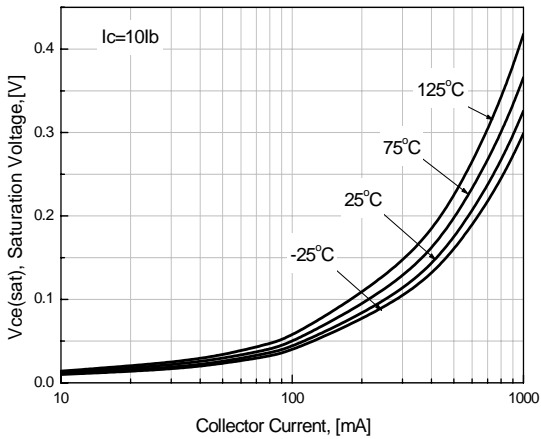


Figure 3. Collector-Emitter Saturation Voltage

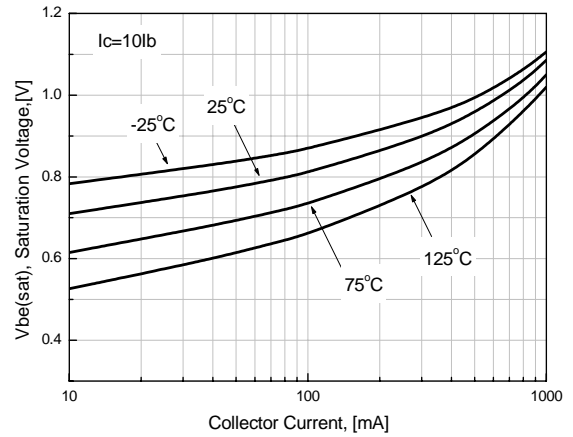


Figure 4. Base-Emitter Saturation Voltage

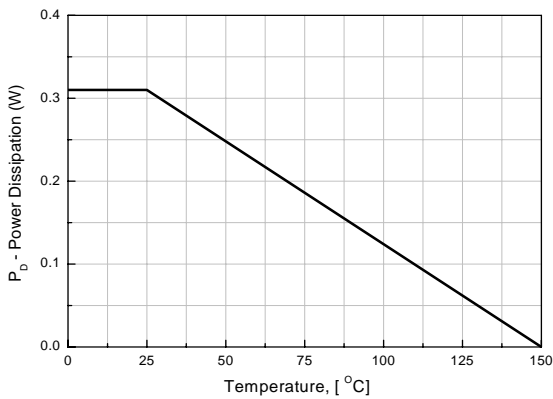
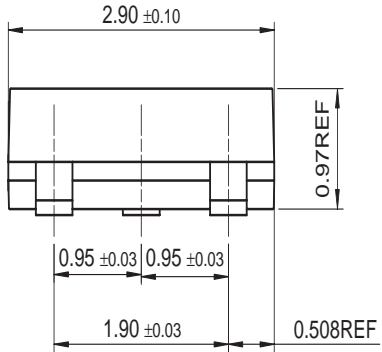
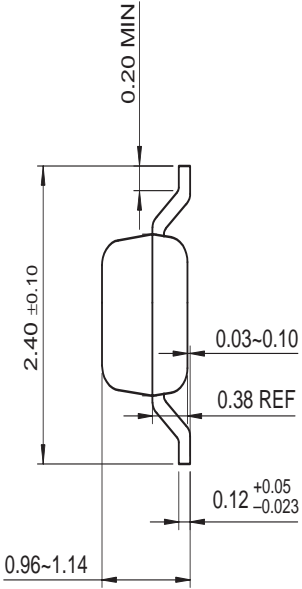
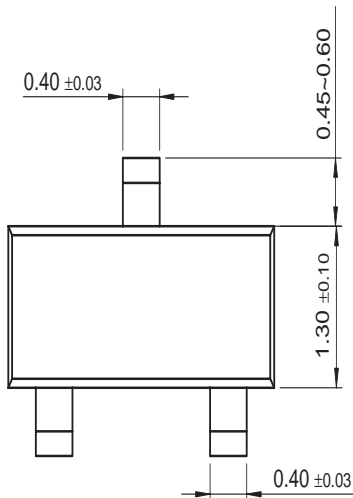


Figure 5. Power Dissipation vs Ambient Temperature

Mechanical Dimensions

SOT-23



Dimensions in Millimeters

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CoolFET™	I ² C™	PACMAN™	SuperFET™	
CROSSVOLT™	i-Lo™	POP™	SuperSOT™-3	
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FRFET™	MSX™	RapidConfigure™	TinyLogic®	
	MSXPro™	RapidConnect™	TINYOPTO™	
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Programmable Active Droop™				

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PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

Rev. I21

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BC817

NPN Epitaxial Silicon Transistor

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Features

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

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Product status/pricing/packageing

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Product	Product status	Pb-free Status	Pricing*	Package type	Leads	Packing method	Package Marking Convention**
BC817	Lifetime Buy		N/A	SOT-23	3	TAPE REEL	N/A
BC81716MTF	Full Production		\$0.0332	SOT-23	3	TAPE REEL	Line 1: 8FA
BC81725MTF	Full Production		\$0.0332	SOT-23	3	TAPE REEL	Line 1: 8FB
BC81725MTF_NL	Full Production		N/A	SOT-23	3	TAPE REEL	Line 1: 8FB

BC81740MTF	Full Production	 Full Production	\$0.0332	SOT-23	3	TAPE REEL	Line 1: 8FC
BC81740NMMTF	Full Production	 Full Production	\$0.0332	SOT-23	3	TAPE REEL	N/A

* Fairchild 1,000 piece Budgetary Pricing

** A sample button will appear if the part is available through Fairchild's on-line samples program. If there is no sample button, please contact a [Fairchild distributor](#) to obtain samples



Indicates product with Pb-free second-level interconnect. For more information [click here](#).

Package marking information for product BC817 is available. [Click here for more information](#).

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Qualification Support

Click on a product for detailed qualification data

Product
BC817
BC81716MTF
BC81725MTF
BC81725MTF_NL
BC81740MTF
BC81740NMMTF

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