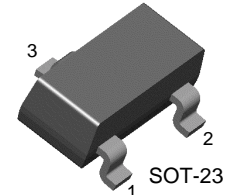


BC817/BC818

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}	DC Current Gain	$V_{CE} = 1\text{V}, I_C = 100\text{mA}$	100		630	
h_{FE2}		$V_{CE} = 1\text{V}, I_C = 300\text{mA}$	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 h_{FE} classification.
 Affix "-M" means the matte type package.
 Affix "-TF" means the tape & reel type packing.

Typical Performance Characteristics

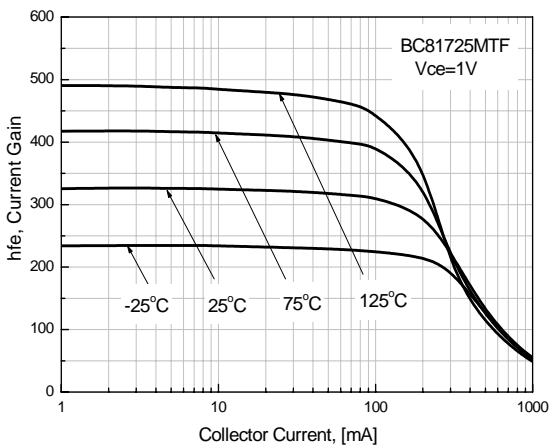


Figure 1. DC current Gain

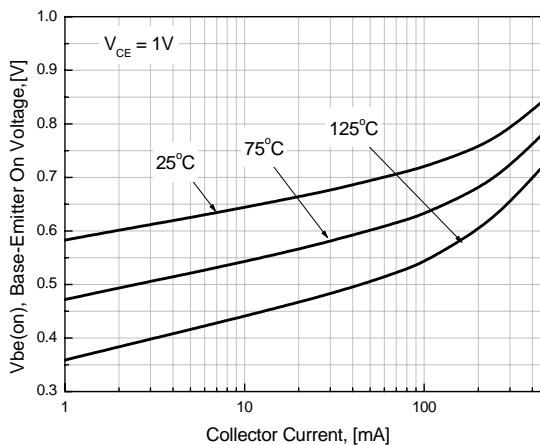


Figure 2. Base-Emitter On Voltage

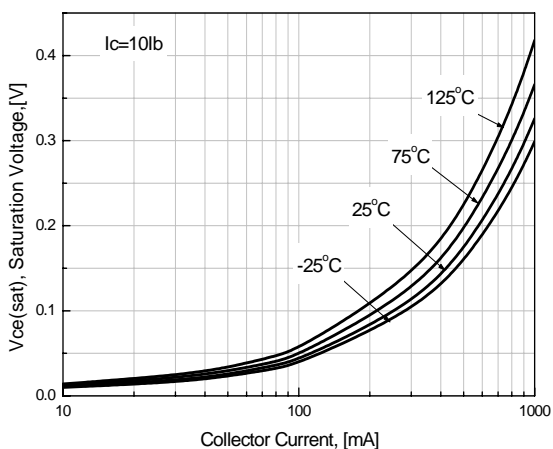


Figure 3. Collector-Emitter Saturation Voltage

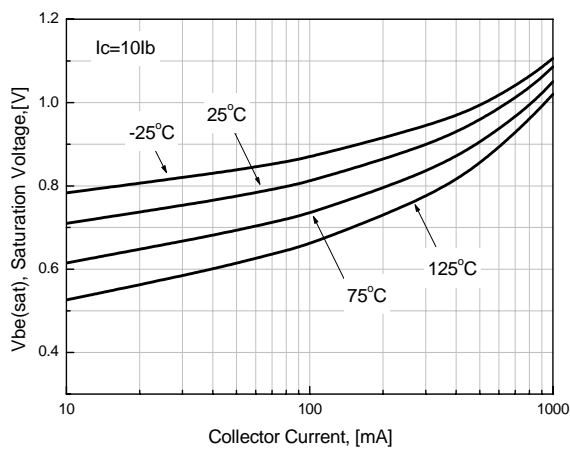


Figure 4. Base-Emitter Saturation Voltage

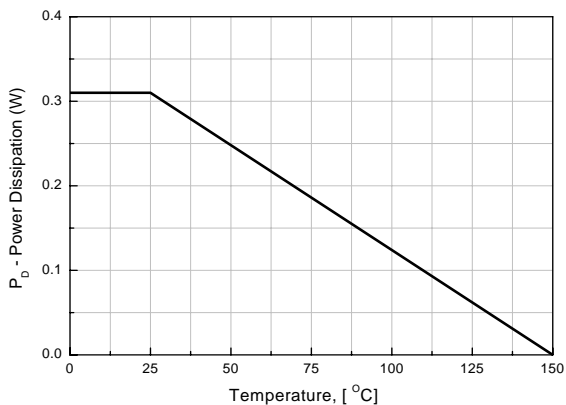
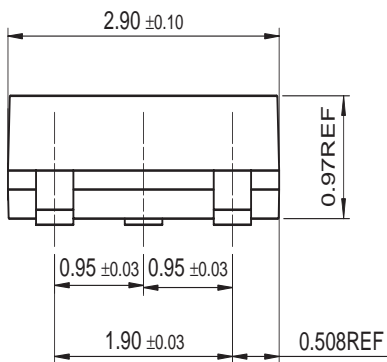
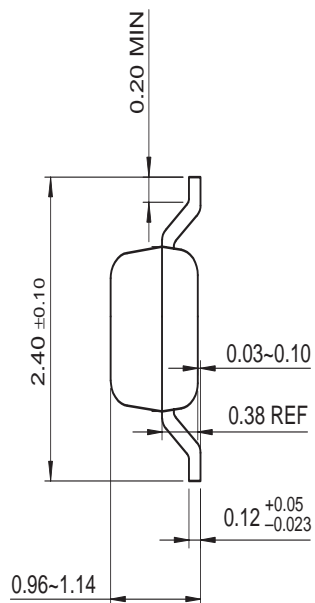
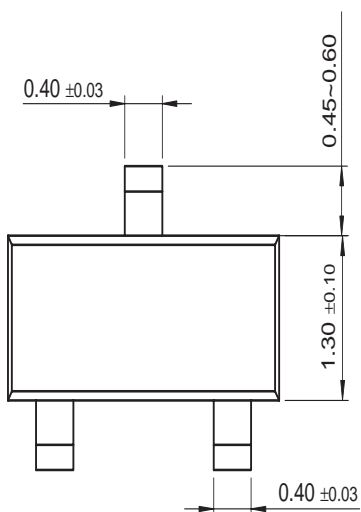


Figure 5. Power Dissipation vs Ambient Temperature

Mechanical Dimensions

SOT-23



Dimensions in Millimeters

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FAST®	MicroFET™	QS™	TinyBuck™	
FASTr™	MicroPak™	QT Optoelectronics™	TinyPWM™	
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