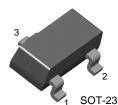# FAIRCHILD

SEMICONDUCTOR®

BC817/BC818

Switching and Amplifier Applications

• Suitable for AF-Driver stages and low power output stages
• Complement to BC807/BC808

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1 SOT-23

1. Base 2. Emitter 3. Collector

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_a=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CES}	Collector Emitter 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

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

h_{FE} Classification

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

Marking Code

Type	817-16	817-25	817-40	818-16	818-25	818-40
Marking	8FA	8FB	8FC	8GA	8GB	8GC

Package Dimensions

SOT-23

0.40 ±0.03

0.45~0.60

0.20 MIN

1.30 ±0.10

2.40 ±0.10

0.03~0.10

0.38 REF

0.40 ±0.03

0.12 $^{+0.05}_{-0.023}$

0.96~1.14

2.90 ±0.10

0.97REF

0.95 ±0.03

0.95 ±0.03

1.90 ±0.03

0.508REF

Dimensions in Millimeters

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Bottomless™	FAST®	LittleFET™	Power247™	SuperSOT™-3
CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E^2CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I^2C™	OCX™	RapidConfigure™	UHC™
Across the board. Around the world.™		OCXPro™	RapidConnect™	UltraFET®
The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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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.

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.