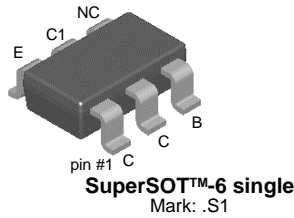


FMBS549

PNP Low Saturation Transistor

Features

- This device is designed with high current gain and low saturation voltage with collector currents up to 2A continuous.
- Sourced from process PB.



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

Symbol	Parameter	Value	Unit
V_{CEO}	Collector-Emitter Voltage	-30	V
V_{CBO}	Collector-Base Voltage	-35	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current - Continuous - Peak Pulse Current	-1 -2	A A
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range	- 55 ~ 150	$^\circ\text{C}$

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

NOTES:

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations

Thermal Characteristics *

Symbol	Parameter	Value	Unit
P_D	Total Device Dissipation, by $R_{\theta JA}$	700	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	180	$^\circ\text{C}/\text{W}$

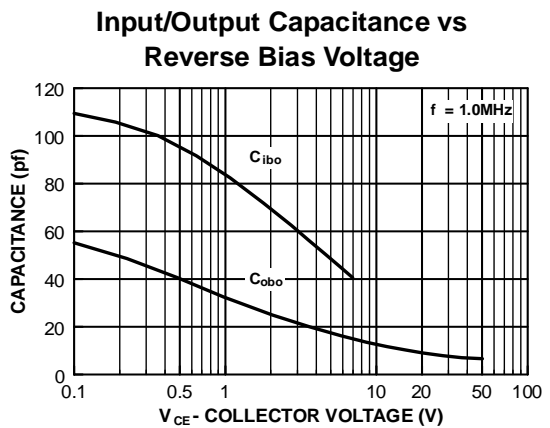
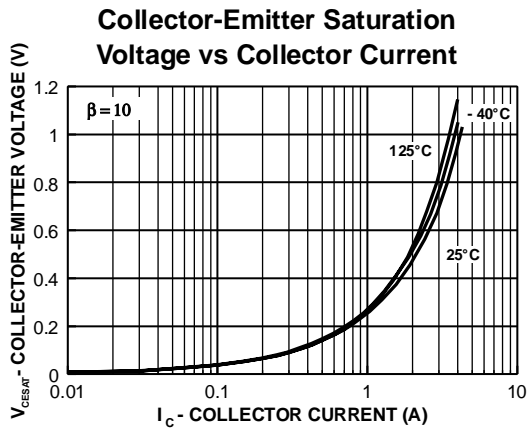
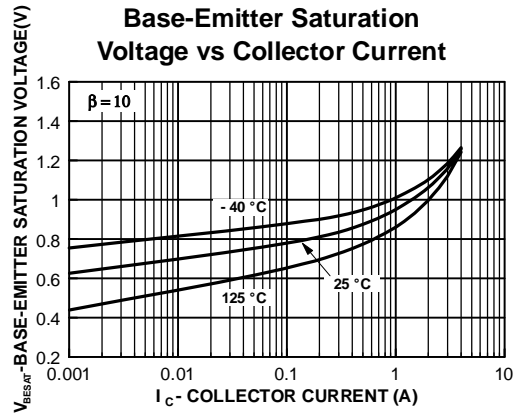
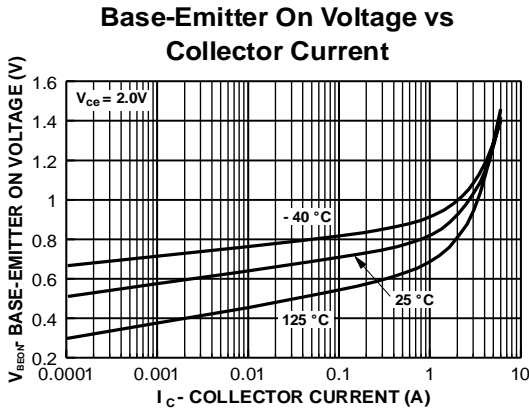
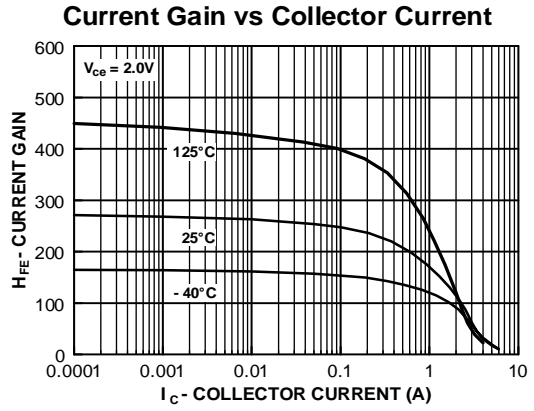
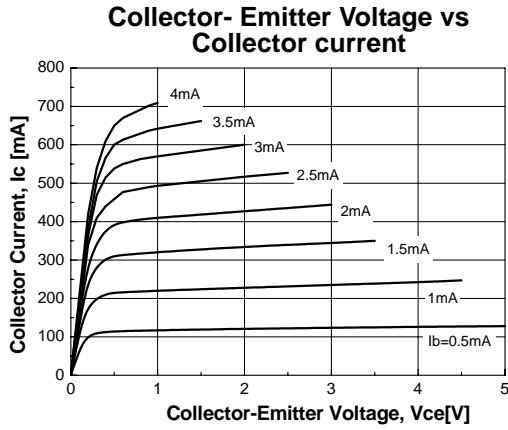
* Device mounted on a 1 in² pad of 2 oz copper.

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

Symbol	Parameter	Conditions	Min.	Max.	Units
Off Characteristics					
BV_{CEO}	Collector-Emitter Breakdown Voltage *	$I_C = -10\text{mA}, I_B = 0$	-30		V
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = -100\mu\text{A}, I_E = 0$	-35		V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = -100\mu\text{A}, I_C = 0$	-5.0		V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -30\text{V}, I_E = 0$ $V_{CB} = -30\text{V}, I_E = 0, T_a = 100^\circ\text{C}$		-100 -10	nA μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -4.0\text{V}, I_C = 0$		-100	nA
On Characteristics *					
h_{FE}	DC Current Gain	$V_{CE} = -2.0\text{V}, I_C = -50\text{mA}$ $V_{CE} = -2.0\text{V}, I_C = -500\text{mA}$ $V_{CE} = -2.0\text{V}, I_C = -1\text{A}$ $V_{CE} = -2.0\text{V}, I_C = -2\text{A}$ $V_{CE} = -0.8\text{V}, I_C = -500\text{mA}$	70 100 80 40 100	300	
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C = -250\text{mA}, I_B = -25\text{mA}$ $I_C = -500\text{mA}, I_B = -50\text{mA}$ $I_C = -1\text{A}, I_B = -100\text{mA}$ $I_C = -2\text{A}, I_B = -200\text{mA}$		-200 -350 -500 -750	mV mV mV mV
$V_{BE}(\text{sat})$	Base-Emitter Saturation Voltage	$I_C = -1\text{A}, I_B = -100\text{mA}$		-1.25	V
$V_{BE}(\text{on})$	Base-Emitter On Voltage	$I_C = -1\text{A}, V_{CE} = -2.0\text{V}$		-1.0	V
Small Signal Characteristics					
f_T	Current Gain Bandwidth Product	$I_C = -100\text{mA}, V_{CE} = -5\text{V},$ $f = 100\text{MHz}$	100		MHz
C_{ob}	Output Capacitance	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$		25	pF

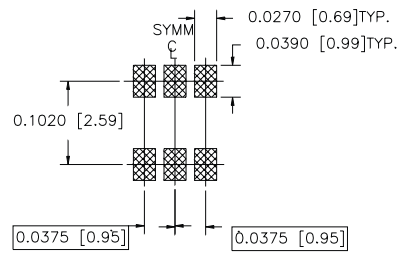
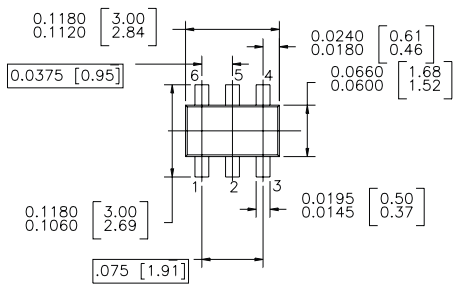
* DC Item are tested by Pulse Test: Pulse Width \leq 300us, Duty Cycle \leq 2%

Typical Characteristics



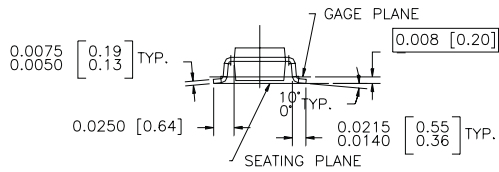
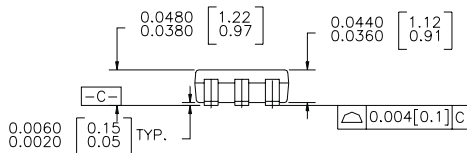
Package Dimensions

SuperSOT™-6



LAND PATTERN RECOMMENDATION

CONTROLLING DIMENSION IS INCH
VALUES IN [] ARE MILLIMETERS



SUPER SOT 6 LEADS

NOTES : UNLESS OTHERWISE SPECIFIED

1.0 STANDARD LEAD FINISH : 150 MICRINCHES 93.81 MICROMETERS)
MINIMUM TIN / LEAD (SOLDER) ON COPPER.

2.0 NO JEDEC REGISTRATION AS OF JULY 1996

Dimensions in Millimeters

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Bottomless™	GTO™	OPTOLOGIC®	SPM™	VCX™
Build it Now™	HiSeC™	OPTOPLANAR™	Stealth™	Wire™
CoolFET™	I ² C™	PACMAN™	SuperFET™	
CROSSVOLT™	i-Lo™	POPT™	SuperSOT™-3	
DOME™	ImpliedDisconnect™	Power247™	SuperSOT™-6	
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E ² CMOS™	ISOPLANAR™	PowerSaver™	SyncFET™	
EnSigna™	LittleFET™	PowerTrench®	TCM™	
FACT™	MICROCOUPLER™	QFET®	TinyBoost™	
FAST®	MicroFET™	QS™	TinyBuck™	
FASTr™	MicroPak™	QT Optoelectronics™	TinyPWM™	
FPS™	MICROWIRE™	Quiet Series™	TinyPower™	
FRFET™	MSX™	RapidConfigure™	TinyLogic®	
	MSXPro™	RapidConnect™	TINYOPTO™	
Across the board. Around the world.™		μSerDes™	TruTranslation™	
The Power Franchise®		ScalarPump™	UHC™	
Programmable Active Droop™				

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- 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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Definition of Terms

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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.
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