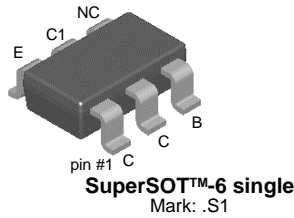


# FMBS549

## 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	$^\circ\text{C}/\text{W}$

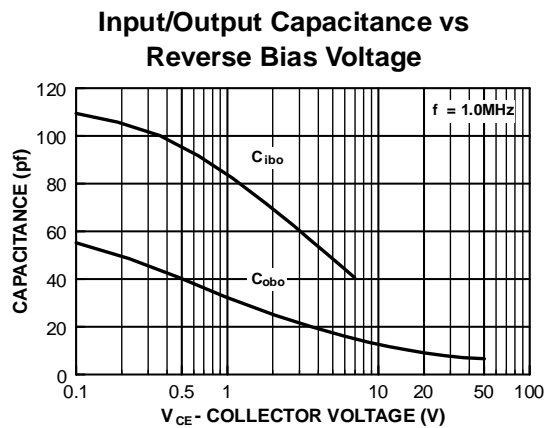
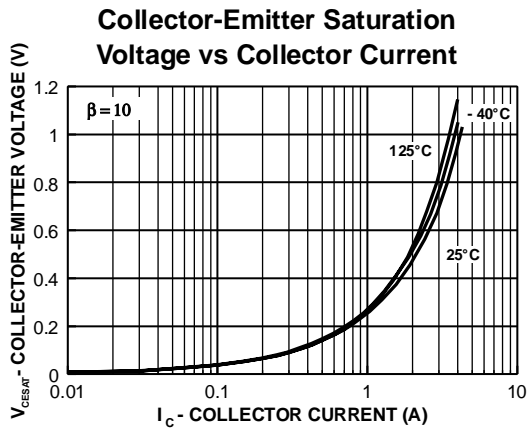
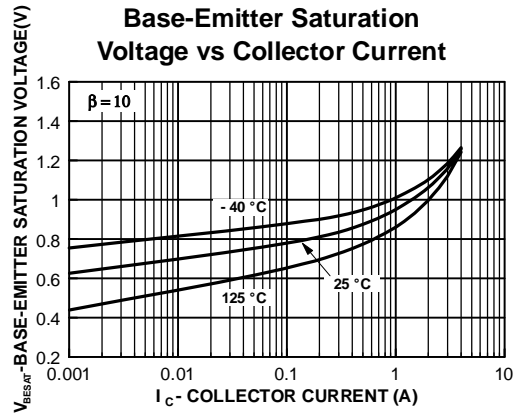
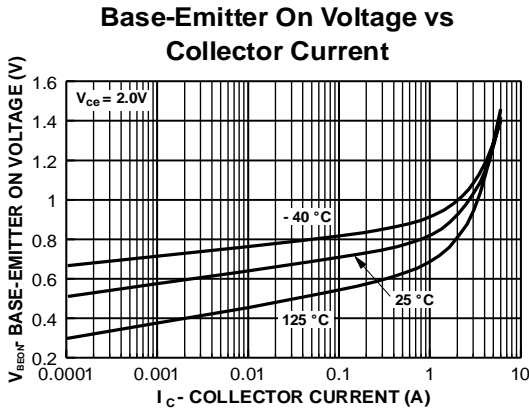
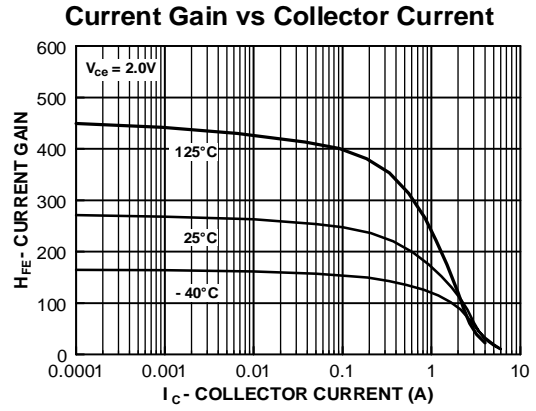
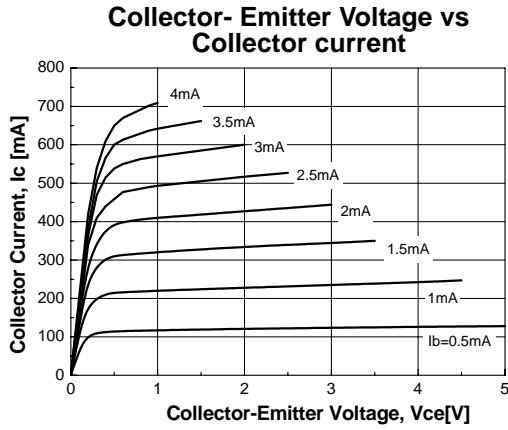
\* Device mounted on a 1 in<sup>2</sup> pad of 2 oz copper.

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

Symbol	Parameter	Conditions	Min.	Max.	Units
<b>Off Characteristics</b>					
$BV_{CEO}$	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 $\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = -4.0\text{V}, I_C = 0$		-100	nA
<b>On Characteristics *</b>					
$h_{FE}$	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
<b>Small Signal Characteristics</b>					
$f_T$	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

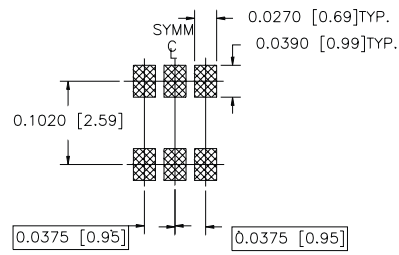
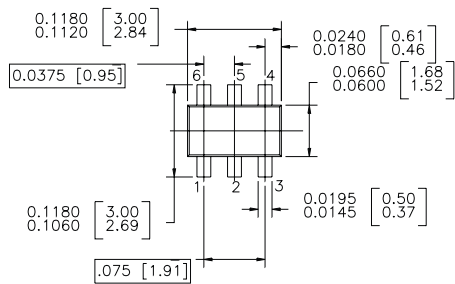
\* DC Item are tested by Pulse Test: Pulse Width $\leq$ 300us, Duty Cycle $\leq$ 2%

## Typical Characteristics

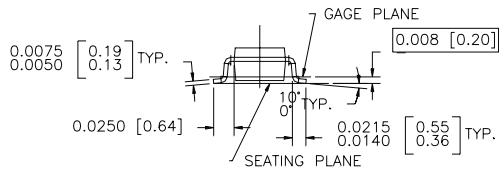
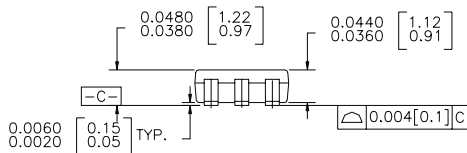


## Package Dimensions

### SuperSOT™-6



CONTROLLING DIMENSION IS INCH  
VALUES IN [ ] ARE MILLIMETERS



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

SUPER SOT 6 LEADS

Dimensions in Millimeters

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Bottomless™	GTO™	OPTOLOGIC®	SPM™	VCX™
Build it Now™	HiSeC™	OPTOPLANAR™	Stealth™	Wire™
CoolFET™	I <sup>2</sup> C™	PACMAN™	SuperFET™	
CROSSVOLT™	i-Lo™	POPT™	SuperSOT™-3	
DOMETM	ImpliedDisconnect™	Power247™	SuperSOT™-6	
EcoSPARK™	IntelliMAX™	PowerEdge™	SuperSOT™-8	
E <sup>2</sup> 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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