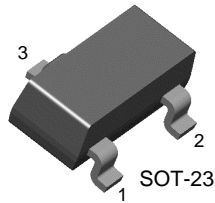


# FMMT549

## 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.



1. Base 2. Emitter 3. Collector

### 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 $R_{\theta JA}$ Derate above $25^\circ\text{C}$	500 4	mW mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	250	$^\circ\text{C}/\text{W}$

\* Device mounted on FR-4 PCB 4.5" X 5", mounting pad 0.02 in<sup>2</sup> of 2 oz copper.

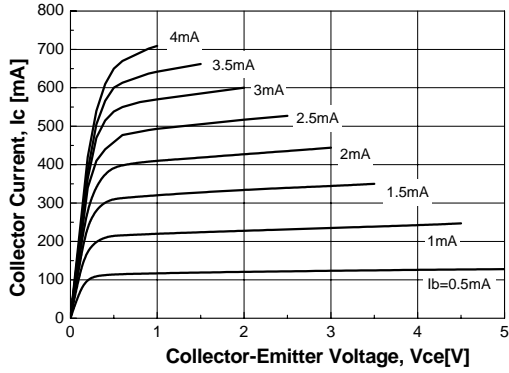
**Electrical Characteristics\*** T<sub>C</sub> = 25°C unless otherwise noted

Symbol	Parameter	Conditions	Min.	Max.	Units
<b>Off Characteristics</b>					
BV <sub>CEO</sub>	Collector-Emitter Breakdown Voltage *	I <sub>C</sub> = -10mA, I <sub>B</sub> = 0	-30		V
BV <sub>CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = -100μA, I <sub>E</sub> = 0	-35		V
BV <sub>EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = -100μA, I <sub>C</sub> = 0	-5.0		V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -30V, I <sub>E</sub> = 0 V <sub>CB</sub> = -30V, I <sub>E</sub> = 0, T <sub>a</sub> = 100°C		-100 -10	nA μA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = -4.0V, I <sub>C</sub> = 0		-100	nA
<b>On Characteristics *</b>					
h <sub>FE</sub>	DC Current Gain	V <sub>CE</sub> = -2.0V, I <sub>C</sub> = -50mA V <sub>CE</sub> = -2.0V, I <sub>C</sub> = -500mA V <sub>CE</sub> = -2.0V, I <sub>C</sub> = -1A V <sub>CE</sub> = -2.0V, I <sub>C</sub> = -2A	70 100 80 40	300	
V <sub>CE</sub> (sat)	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -1A, I <sub>B</sub> = -100mA I <sub>C</sub> = -2A, I <sub>B</sub> = -200mA		-500 -750	mV mV
V <sub>BE</sub> (sat)	Base-Emitter Saturation Voltage	I <sub>C</sub> = -1A, I <sub>B</sub> = -100mA		-1.25	V
V <sub>BE</sub> (on)	Base-Emitter On Voltage	I <sub>C</sub> = -1A, V <sub>CE</sub> = -2.0V		-1.0	V
<b>Small Signal Characteristics</b>					
f <sub>T</sub>	Current Gain Bandwidth Product	I <sub>C</sub> = -100mA, V <sub>CE</sub> = -5V, f = 100MHz	100		MHz
C <sub>ob</sub>	Output Capacitance	V <sub>CB</sub> = -10V, I <sub>E</sub> = 0, f = 1MHz		25	pF

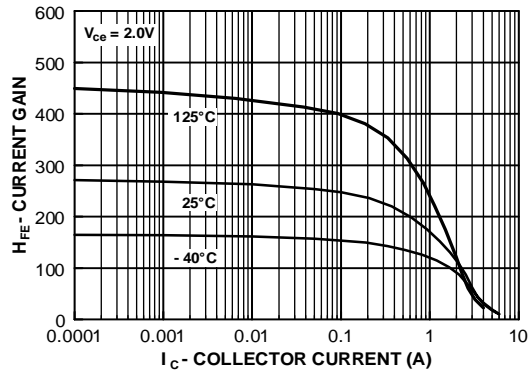
\* DC Item are tested by Pulse Test: Pulse Width ≤ 300us, Duty Cycle ≤ 2%

## Typical Characteristics

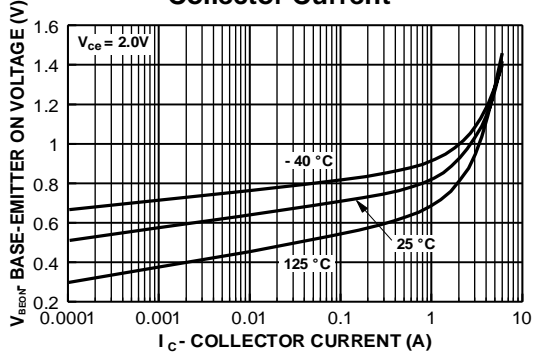
**Collector- Emitter Voltage vs Collector current**



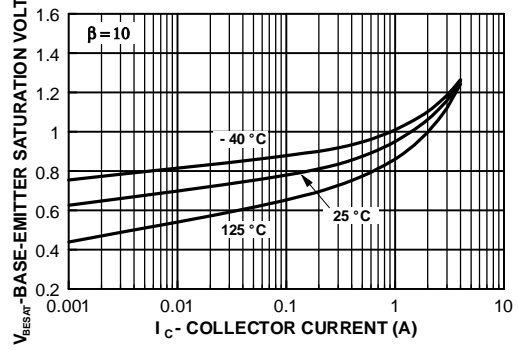
**Current Gain vs Collector Current**



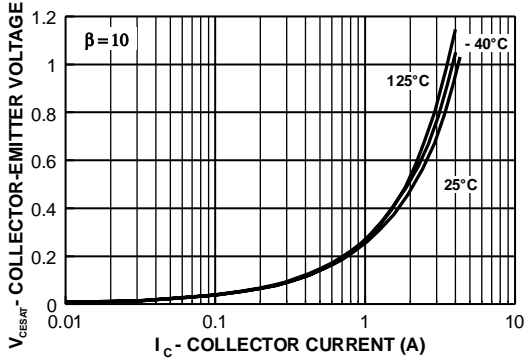
**Base-Emitter On Voltage vs Collector Current**



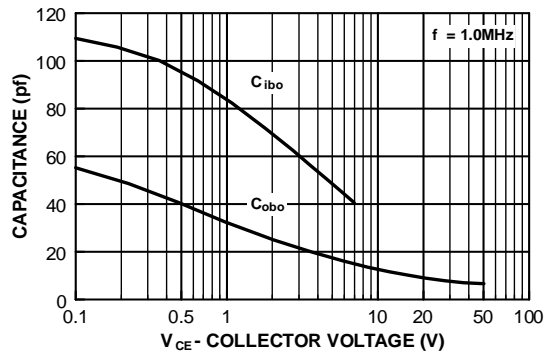
**Base-Emitter Saturation Voltage vs Collector Current**



**Collector-Emitter Saturation Voltage vs Collector Current**

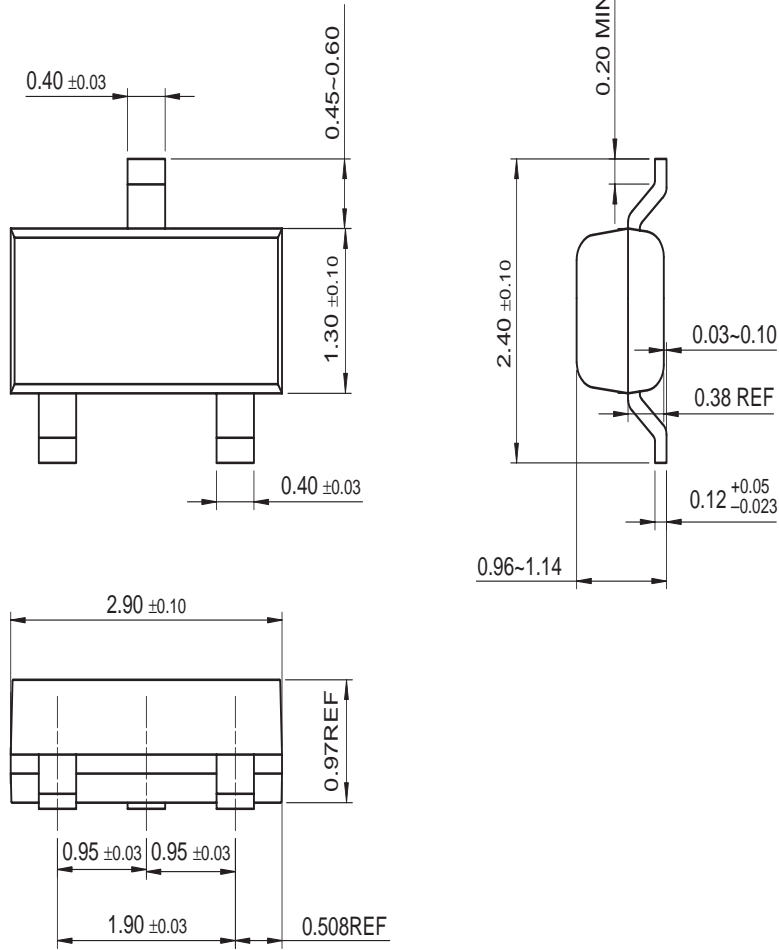


**Input/Output Capacitance vs Reverse Bias Voltage**



# Package Dimensions

## SOT-23



Dimensions in Millimeters

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Build it Now™	HiSeC™	OPTOPLANAR™	Stealth™	Wire™
CoolFET™	I <sup>2</sup> C™	PACMAN™	SuperFET™	
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DOME™	ImpliedDisconnect™	Power247™	SuperSOT™-6	
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FAST®	MicroFET™	QS™	TinyBuck™	
FASTr™	MicroPak™	QT Optoelectronics™	TinyPWM™	
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**Definition of Terms**

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