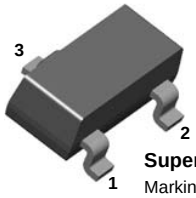
FAIRCHILD SEMICONDUCTOR®

August 2009

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.



SuperSOT-23
Marking : 549

1. Base 2. Emitter 3. Collector

Absolute Maximum Ratings* T_A = 25°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	°C
T_{STG}	Storage Temperature Range	-55 to +150	°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°C	500 4	mW mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	250	°C/W

* Device mounted on FR-4 PCB 4.5” X 5”, mounting pad 0.02 in^2 of 2 oz copper.

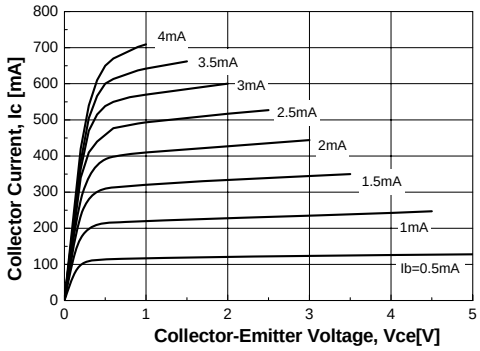
Electrical Characteristics T_A = 25°C unless otherwise noted

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

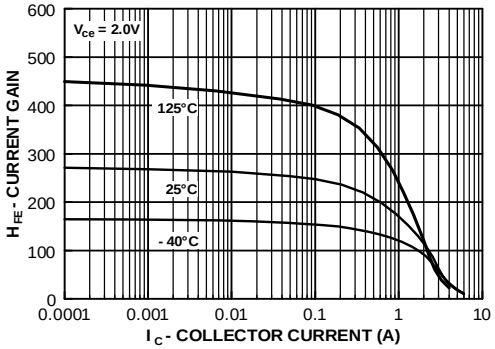
* DC Item are tested by Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%

Typical Performance Characteristics

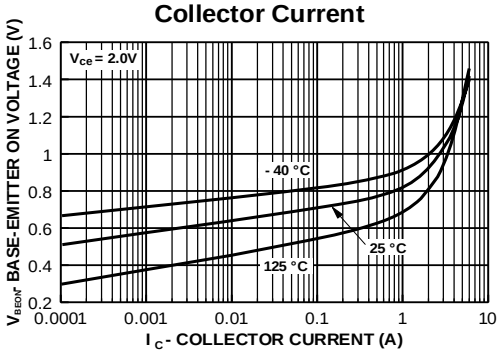
Collector- Emitter Voltage vs Collector current



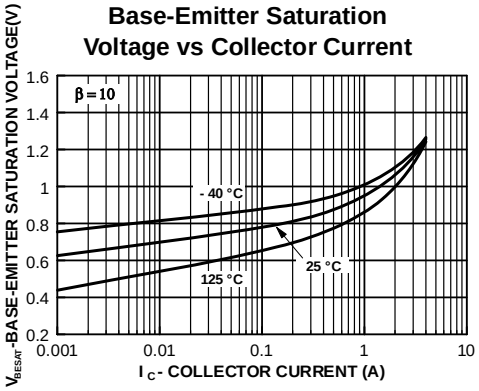
Current Gain vs Collector Current



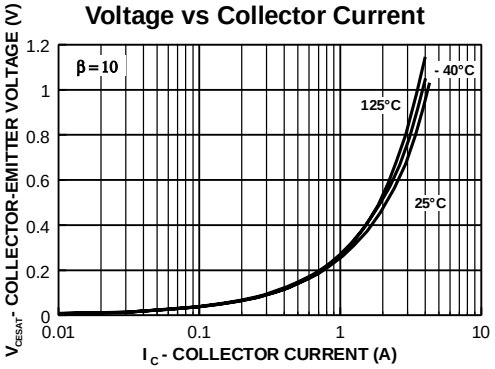
Base-Emitter On Voltage vs Collector Current



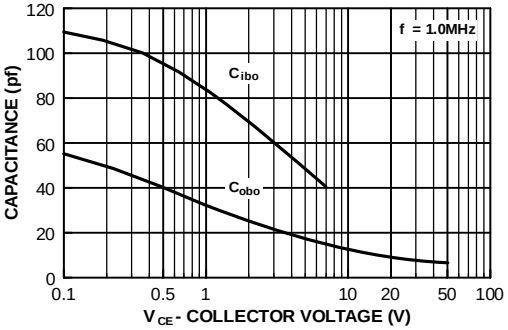
Base-Emitter Saturation Voltage vs Collector Current



Collector-Emitter Saturation Voltage vs Collector Current

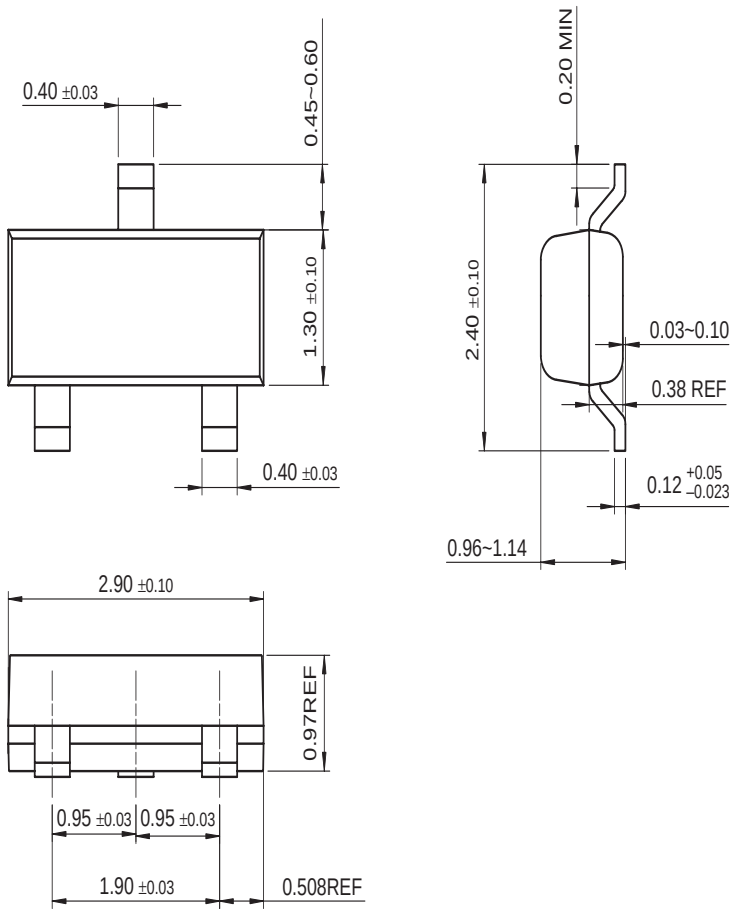


Input/Output Capacitance vs Reverse Bias Voltage



Physical Dimensions

SOT-23



Dimensions in Millimeters

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