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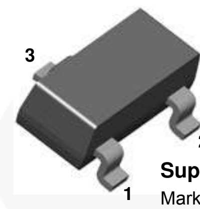
October 2014

FMMT549
PNP Low-Saturation Transistor

Features

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



SuperSOT-23
Marking : 549

1. Base 2. Emitter 3. Collector

Ordering Information

Part Number	Marking	Package	Packing Method
FMMT549	549	SSOT 3L	Tape and Reel

Absolute Maximum Ratings[(1),(2)]

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at 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	-1	A
		Peak Pulse Current	-2	
T_J	Junction Temperature		150	°C
T_{STG}	Storage Temperature Range		-55 to +150	°C

Notes:
1. These ratings are based on a maximum junction temperature of 150°C.
2. These are steady-state limits. Fairchild Semiconductor should be consulted on applications involving pulsed or low-duty-cycle operations.

Thermal Characteristics

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Max.	Unit
P_D	Total Device Dissipation, by $R_{\theta JA}$	500	mW
	Derate Above 25°C	4	mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	250	°C/W

Note:

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

Electrical Characteristics

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Max.	Unit
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = -10 mA, I_B = 0	-30		V
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = -100 µA, I_E = 0	-35		V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = -100 µA, I_C = 0	-5.0		V
I_{CBO}	Collector Cut-Off Current	V_{CB} = -30 V, I_E = 0		-100	nA
		V_{CB} = -30 V, I_E = 0, T_A = 100°C		-10	µA
I_{EBO}	Emitter Cut-Off Current	V_{EB} = -4.0 V, I_C = 0		-100	nA
h_{FE}	DC Current Gain(4)	V_{CE} = -2.0 V, I_C = -50 mA	70		
		V_{CE} = -2.0 V, I_C = -500 mA	100	300	
		V_{CE} = -2.0 V, I_C = -1 A	80		
		V_{CE} = -2.0 V, I_C = -2 A	40		
$V_{CE}(sat)$	Collector-Emitter Saturation Voltage(4)	I_C = -1 A, I_B = -100 mA		-500	mV
		I_C = -2 A, I_B = -200 mA		-750	
$V_{BE}(sat)$	Base-Emitter Saturation Voltage(4)	I_C = -1 A, I_B = -100 mA		-1.25	V
$V_{BE}(on)$	Base-Emitter On Voltage(4)	I_C = -1 A, V_{CE} = -2.0 V		-1.0	V
f_T	Current Gain Bandwidth Product	I_C = -100 mA, V_{CE} = -5 V, f = 100 MHz	100		MHz
C_{obo}	Output Capacitance	V_{CB} = -10 V, I_E = 0, f = 1 MHz		25	pF

Note:

4. Pulse test: pulse width ≤ 300 µs, duty cycle ≤ 2.0%

Typical Performance Characteristics

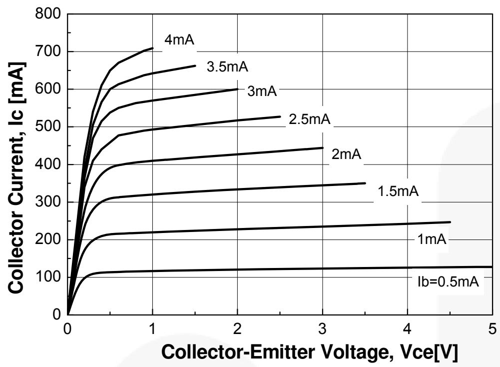


Figure 1. Collector-Emitter Voltage vs. Collector Current

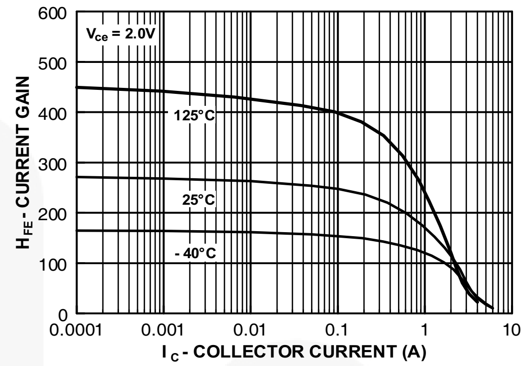


Figure 2. Current Gain vs. Collector Current

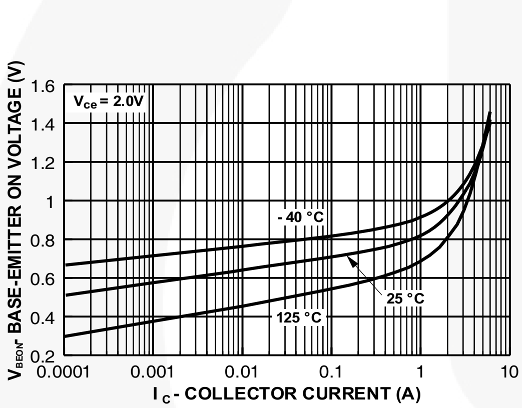


Figure 4. Base-Emitter On Voltage vs. Collector Current

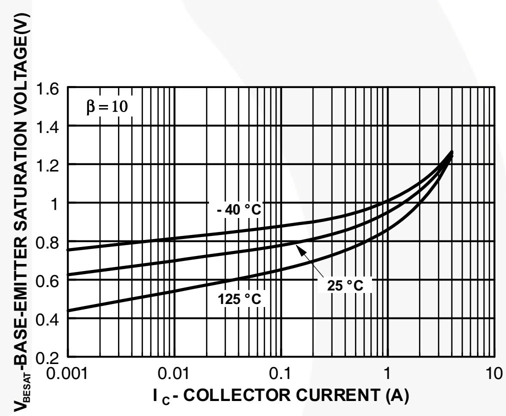


Figure 5. Base-Emitter Saturation Voltage vs. Collector Current

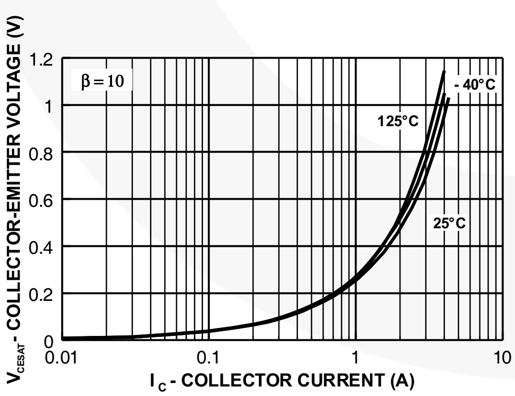


Figure 5. Collector-Emitter Saturation Voltage vs. Collector Current

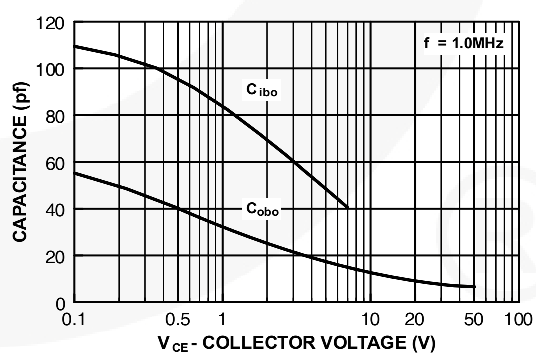


Figure 6. Input / Output Capacitance vs. Reverse Bias Voltage

Physical Dimensions

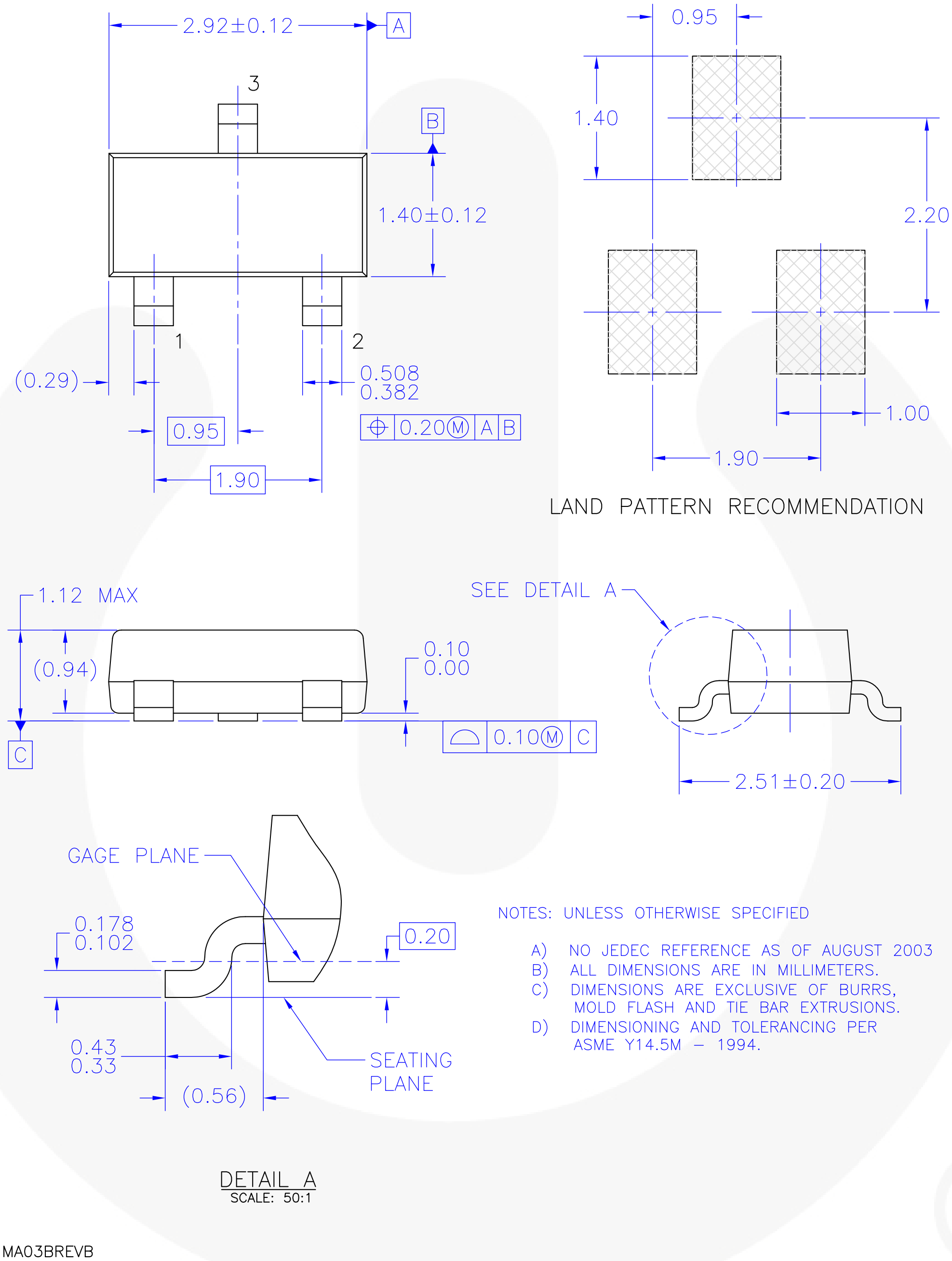


Figure 7. MOLDED PACKAGE, SUPERSOT, 3-LEAD

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Preliminary	First Production	Datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
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Obsolete	Not In Production	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.

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