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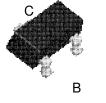
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Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

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FMMT449



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SuperSOT[™]-3

NPN Low Saturation Transistor

These devices are designed with high current gain and low saturation voltage with collector currents up to 2A continuous. Sourced from Process NB.

Absolute Maximum Ratings* TA = 25°C unless otherwise noted

Symbol	Parameter	FMMT449	Units
V _{CEO}	Collector-Emitter Voltage	30	V
V _{CBO}	Collector-Base Voltage	50	V
V _{EBO}	Emitter-Base Voltage	5	V
IC	Collector Current - Continuous - Peak Pulse Current	1 2	A
T _{J,} T _{stg}	Operating and Storage Junction 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°C.

2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics TA = 25°C unless otherwise noted

Symbol	Characteristic	Мах	Units
		FMMT449	
PD	Total Device Dissipation* Derate above 25°C	500 4	mW mW/°C
R _{0JA} Thermal Resistance, Junction to Ambient250°C/W			
*Device mou	nted on FR-4 PCB 4.5" X 5"; mounting pad 0.02 in ² of 2oz copper.		

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NPN Low Saturation Transistor

(continued)

Electrical Characteristics

Electrical Characteristics T _{A = 25°C unless otherwise noted}						
Symbol	Parameter		Test Conditions	Min	Max	Units

OFF CHARACTERISTICS

BV _{CEO}	Collector-Emitter Breakdown Voltage	I _C = 10 mA	30		V
BV _{CBO}	Collector-Base Breakdown Voltage	I _C = 1mA	50		V
BV _{EBO}	Emitter-Base Breakdown Voltage	I _E = 100 μA	5		V
I _{CBO}	Collector Cutoff Current	V _{CB} = 40 V V _{CB} = 40 V, Ta=100°C		100 10	nA uA
I _{EBO}	Emitter Cutoff Current	$V_{EB} = 4V$		100	nA

ON CHARACTERISTICS*

h _{FE}	DC Current Gain	I _C = 50 mA, V _{CE} = 2V	70		-
		$I_{C} = 500 \text{ mA}, V_{CE} = 2V$	100	300	
		$I_C = 1A$, $V_{CE} = 2V$ $I_C = 2A$, $V_{CE} = 2V$	80		
		$I_C = 2A, V_{CE} = 2V$	40		
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 1 A, I _B = 100 mA		500	mV
		$I_{C} = 1 \text{ A}, I_{B} = 100 \text{ mA}$ $I_{C} = 2 \text{ A}, I_{B} = 200 \text{ mA}$		1.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 1 A, I _B = 100 mA		1.25	V
V _{BE(on)}	Base-Emitter On Voltage	$I_{C} = 1 \text{ A}, V_{CE} = 2 \text{ V}$		1	V

SMALL SIGNAL CHARACTERISTICS

C _{obo}	Output Capacitance	V _{CB} = 10 V, I _E = 0, f = 1MHz		15	pF
fT	Transition Frequency	$I_{C} = 50 \text{mA}, V_{CE} = 10 \text{ V}, \text{ f}=100 \text{MHz}$	150		MHz

*Pulse Test: Pulse Width $\leq 300~\mu s,$ Duty Cycle $\leq 2.0\%$

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Definition of Terms

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