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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.

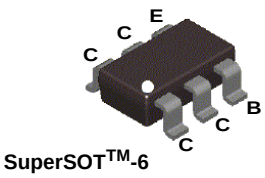
FAIRCHILD SEMICONDUCTOR®

April 2011

FMBS2383
NPN Epitaxial Silicon Transistor

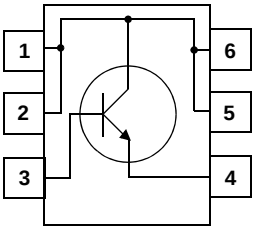
Features

- Power Amplifier
- Collector-Emitter Voltage : V_{CEO}=160V
- Current Gain Bandwidth Product : f_T=120MHz



SuperSOT™-6

Marking : 2383



Absolute Maximum Ratings T_a = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	160	V
V_{CEO}	Collector-Emitter Voltage	160	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	800	mA
I_B	Base Current	160	mA
P_D	Power Dissipation	630	mW
$R_{\theta JA}$*	Thermal Resistance, Junction to Ambient	200	°C/W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 to +150	°C

* note1) : Minimum land pattern size

Electrical Characteristics T_a = 25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = 10μA, I_B = 0	160			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 10mA, I_B = 0	160			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 1mA, I_C = 0	5			V
I_{CBO}	Collector Cut-off Current	V_{CB} = 120V, I_E = 0			100	nA
I_{EBO}	Emitter Cut-off Current	V_{BE} = 5V, I_C = 0			100	nA
h_{FE}	DC Current Gain	V_{CE} = 5V, I_C = 100mA	80		160	
V_{CE} (sat)	Collector-Emitter Saturation Voltage	I_C = 500mA, I_B = 50mA			1.0	V
V_{BE} (on)	Base-Emitter On Voltage	V_{CE} = 5V, I_C = 500mA			1.0	V
f_T	Current Gain Bandwidth Product	V_{CE} = 5V, I_C = 100mA		120		MHz
C_{ob}	Output Capacitance	V_{CB} = 10V, I_E = 0, f = 1MHz			30	pF

Typical Performance Characteristics

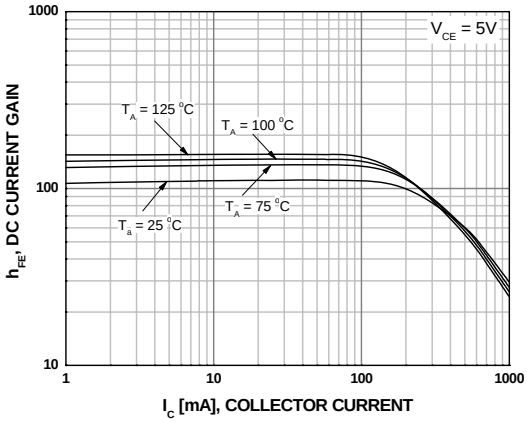


Figure 1. DC Current Gain

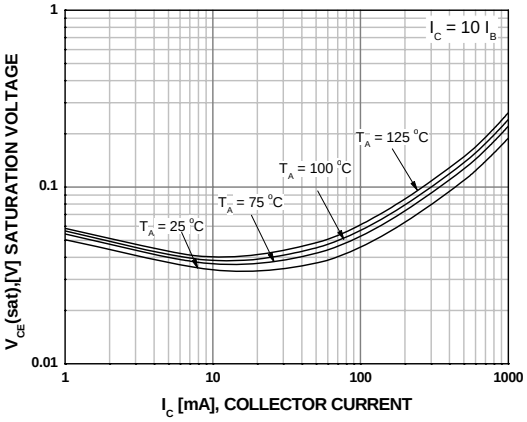


Figure 2. Collector-Emitter Saturation Voltage

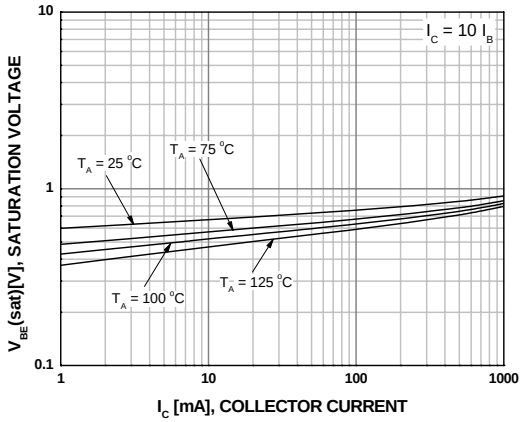


Figure 3. Base-Emitter Saturation Voltage

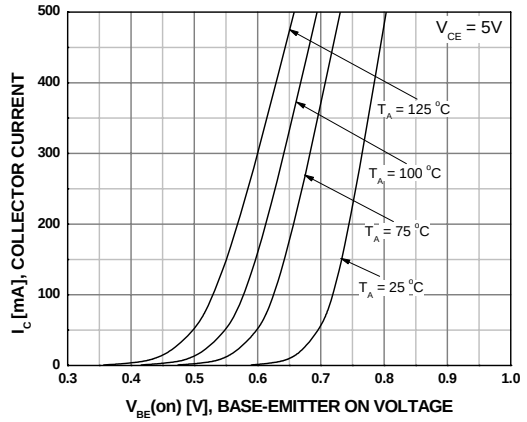


Figure 4. Base-Emitter On Voltage

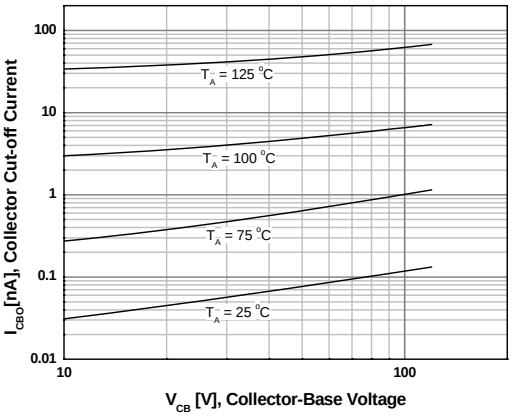


Figure 5. Collector-Base Cutoff Current

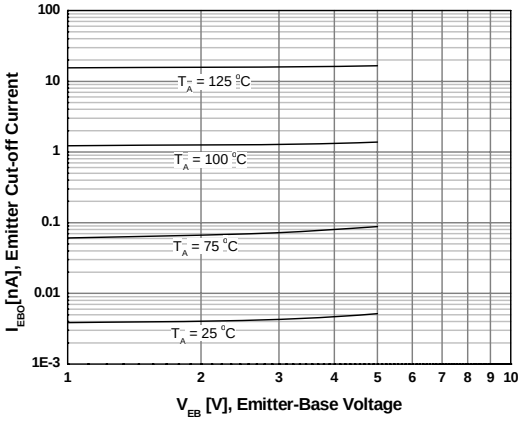


Figure 6. Emitter-Base Cutoff Current

Typical Performance Characteristics (Continued)

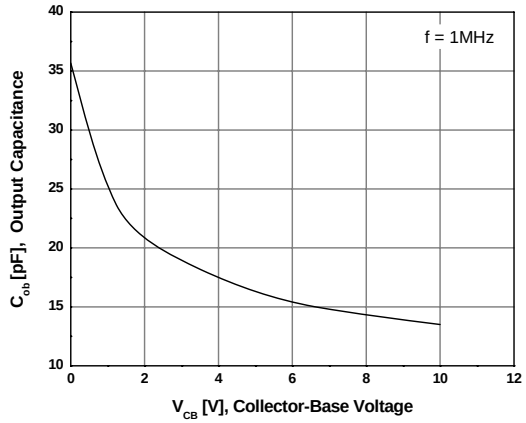


Figure 7. Output Capacitance

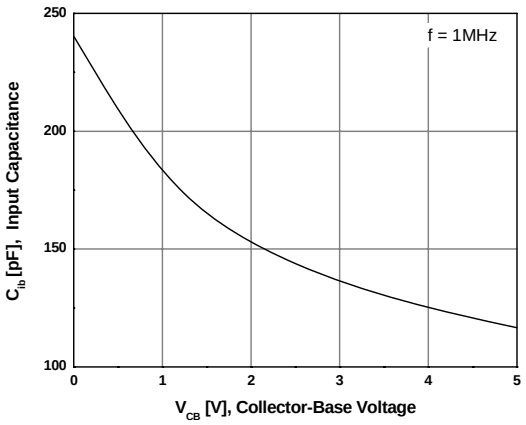


Figure 8. Input Capacitance

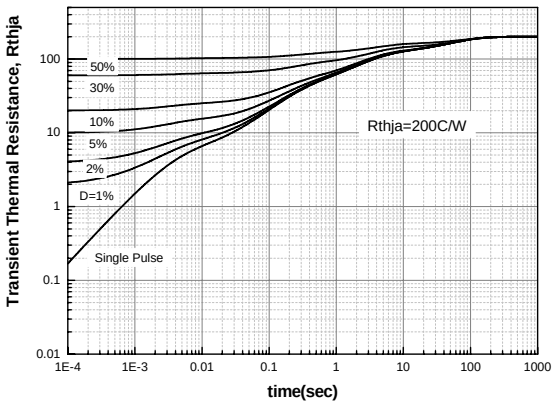
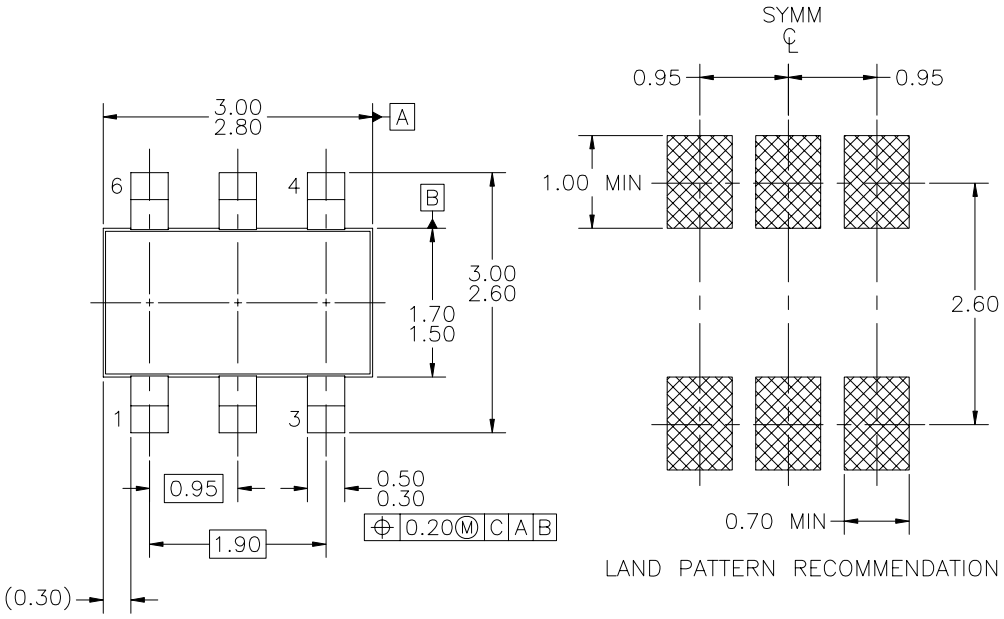
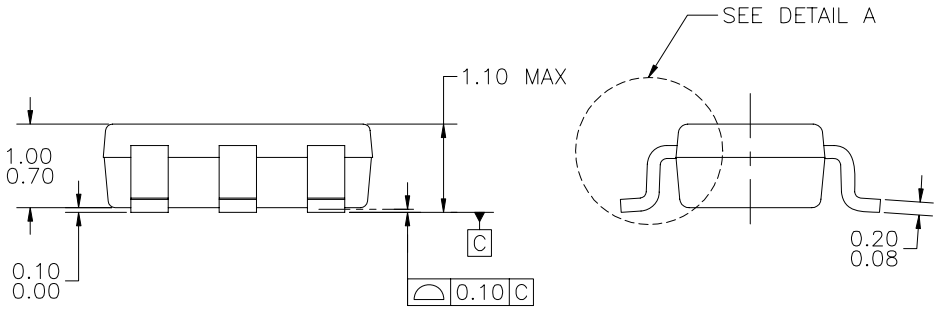


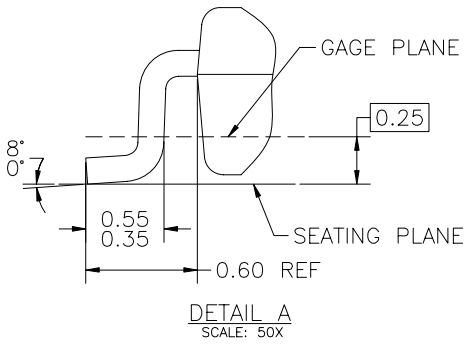
Figure 9. Transient Thermal Resistance

Physical Dimensions

SuperSOT™-6







NOTES: UNLESS OTHERWISE SPECIFIED

A) THIS PACKAGE CONFORMS TO JEDEC MO-193. VAR. AA, ISSUE C, DATED JANUARY 2000.
B) ALL DIMENSIONS ARE IN MILLIMETERS.

Dimensions in Millimeters

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Rev. I53

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