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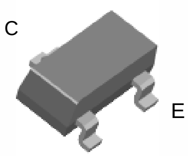
FAIRCHILD SEMICONDUCTOR®

January 2014

FSB660A
PNP Low Saturation Transistor

Description

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



SuperSOT™-3 (SOT-23)

Ordering Information

Part Number	Marking	Package	Packing Method
FSB660A	660A	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 Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value	Unit
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{CBO}	Collector-Base Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current - Continuous	-2	A
T_J, T_{STG}	Operating and Storage Junction 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(3)

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

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

Note:
3. PCB size: FR-4 76 x 114 x 1.57 mm^3 (3.0 inch x 4.5 inch x 0.062 inch) with minimum land pattern size.

Electrical Characteristics(4)

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	-60		V
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = -100 µA	-60		V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = -100 µA	-5		V
I_{CBO}	Collector Cut-Off Current	V_{CB} = -30 V		-100	nA
		V_{CB} = -30 V, T_A = 100°C		-10	µA
I_{EBO}	Emitter Cut-Off Current	V_{EB} = -4 V		-100	nA
h_{FE}	DC Current Gain	I_C = -100 mA, V_{CE} = -2 V	70		
		I_C = -500 mA, V_{CE} = -2 V	250	550	
		I_C = -1 A, V_{CE} = -2 V	80		
		I_C = -2 A, V_{CE} = -2 V	40		
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = -1 A, I_B = -100 mV		-300	mV
		I_C = -2 A, I_B = -200 mV		-300	
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = -1 A, I_B = -100 mV		-1.25	V
V_{BE}(on)	Base-Emitter On Voltage	I_C = -1 A, V_{CE} = -2 V		-1	V
C_{ob}	Output Capacitance	V_{CB} = -10 V, I_E = 0, f = 1 MHz		30	pF
f_T	Transition Frequency	I_C = -100 mA, V_{CE} = -5 V, f = 100 MHz	75		MHz

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

Typical Performance Characteristics

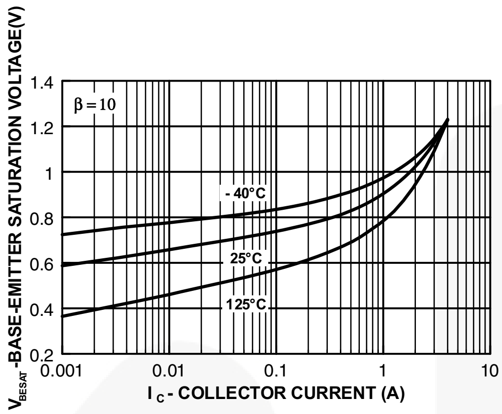


Figure 1. Base-Emitter Saturation Voltage vs. Collector Current

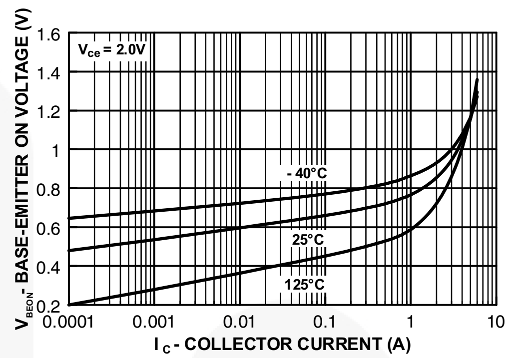


Figure 2. Base-Emitter On Voltage vs. Collector Current

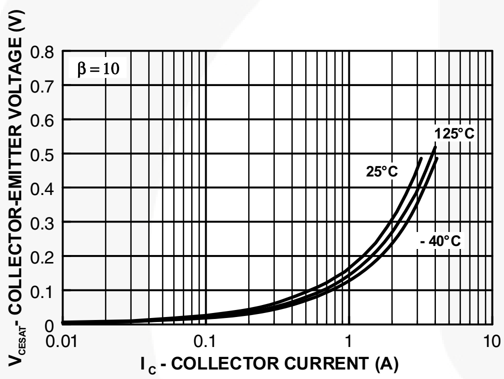


Figure 3. Collector-Emitter Saturation Voltage vs. Collector Current

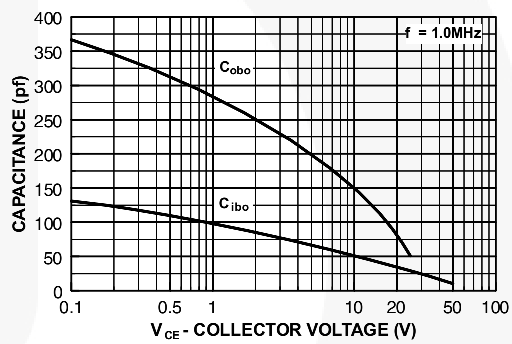


Figure 4. Input/Output Capacitance vs. Reverse Bias Voltage

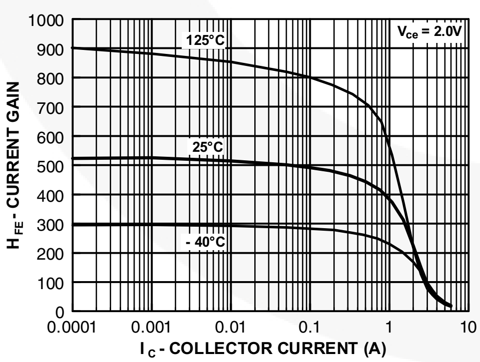


Figure 5. Current Gain vs. Collector Current

Physical Dimensions

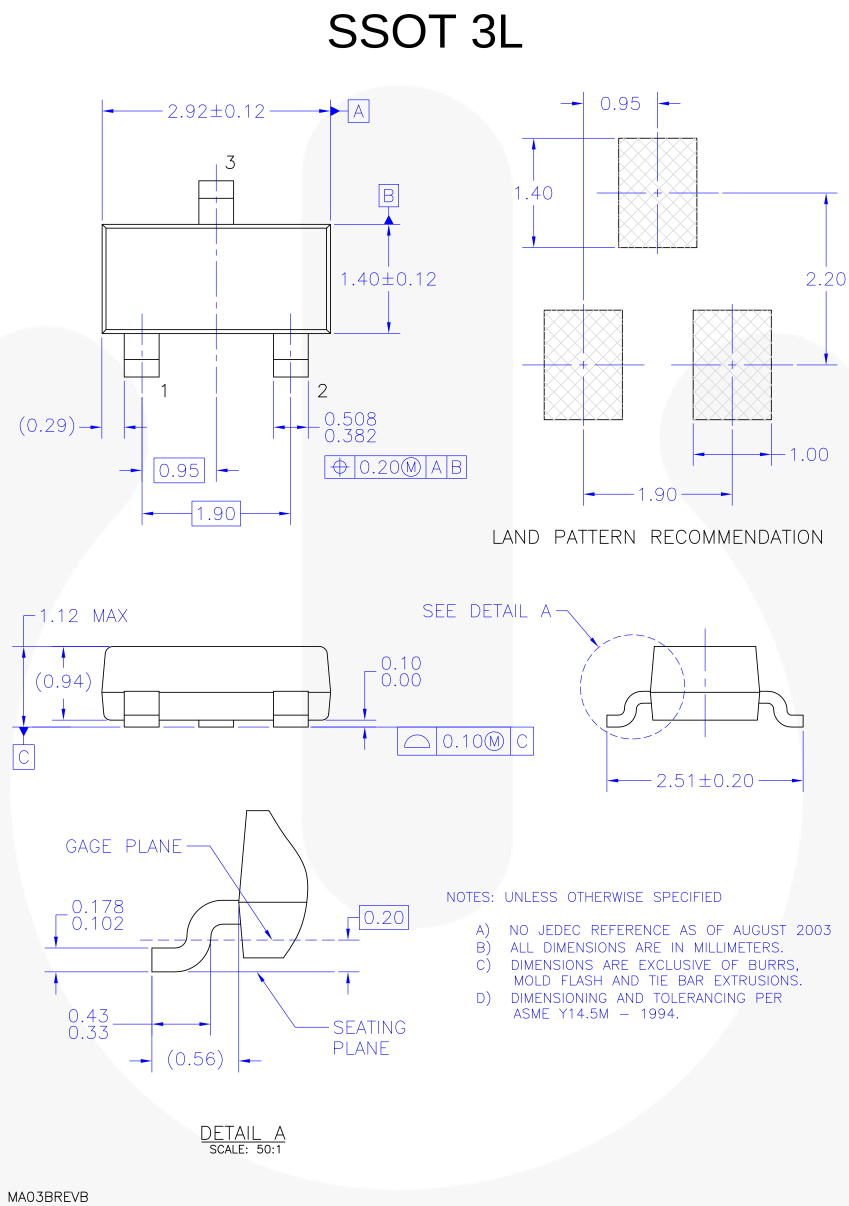


Figure 6. MOLDED PACKAGE, SUPERSOT, 3-LEAD (ACTIVE)

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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.
No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
Obsolete	Not In Production	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.

Rev. I66

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Электрон
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