FAIRCHILD SEMICONDUCTOR®

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FSB749
PNP Low Saturation Transistor

Description

These devices are designed with high-current gain and low saturation voltage with collector currents up to 3 A continuous. Sourced from process PC.

SuperSOT™-3

Ordering Information

Part Number	Top Mark	Package	Packing Method
FSB749	749	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	-25	V
V_{CBO}	Collector-Base Voltage	-35	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current - Continuous	-3	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.

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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	-25		V
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = -100 µA	-35		V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = -100 µA	-5.0		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 = -50 mA, V_{CE} = -2 V	70		
		I_C = -1.0 A, V_{CE} = -2 V	100	300	
		I_C = -2.0 A, V_{CE} = -2 V	75		
		I_C = -6.0 A, V_{CE} = -2 V	15		
$V_{CE}(sat)$	Collector-Emitter Saturation Voltage	I_C = -1 A, I_B = -100 mA		-300	mV
		I_C = -3 A, I_B = -300 mA		-600	
$V_{BE}(sat)$	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 A, V_{CE} = -2 V		-1	V
C_{ob}	Output Capacitance	V_{CB} = -10 V, I_E = 0, f = 1 MHz		100	pF
f_T	Current Gain - Bandwidth Product	I_C = -100 mA, V_{CE} = -5 V, f = 100 MHz	100		MHz

Note:

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

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Physical Dimensions

SSOT 3L

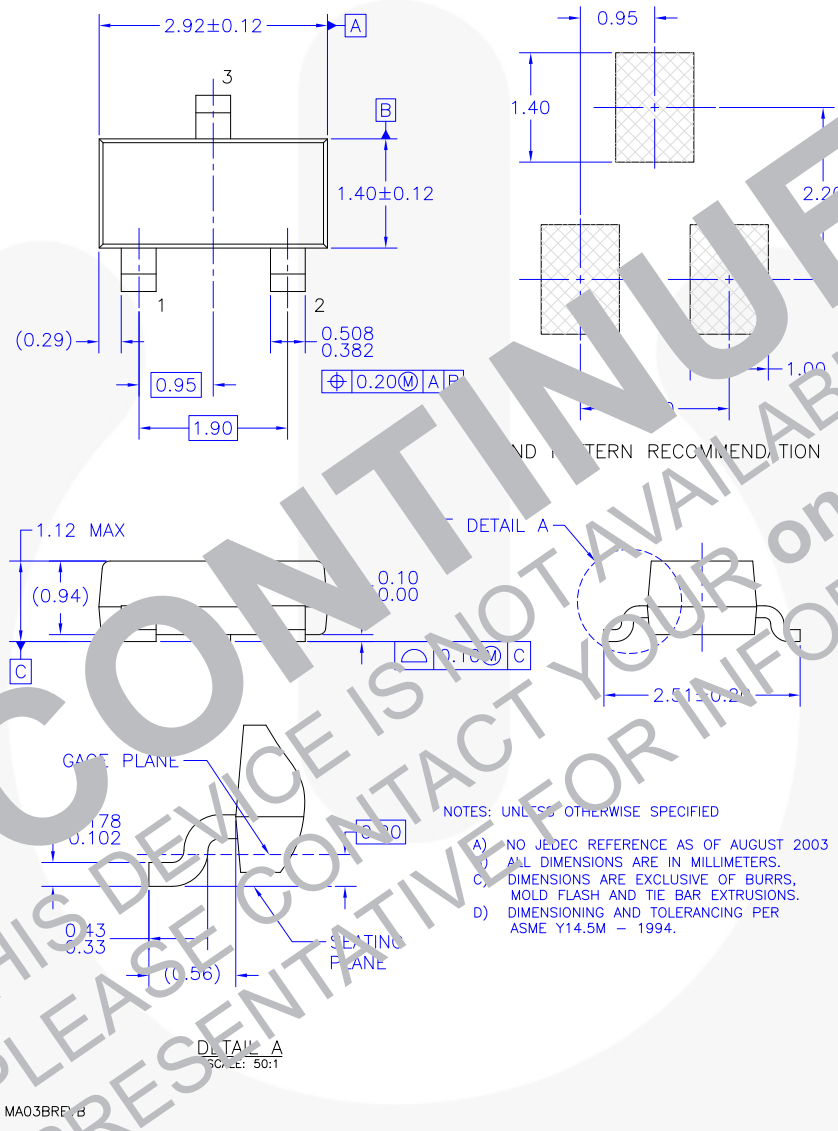

Figure 1. MOLDED PACKAGE, SUPERSOT, 3-LEAD (ACTIVE)

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