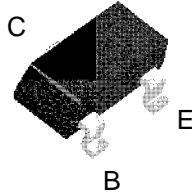


**FSB619**



**SuperSOT™-3 (SOT-23)**

**NPN Low Saturation Transistor**

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

**Absolute Maximum Ratings\*** T<sub>A</sub> = 25°C unless otherwise noted

Symbol	Parameter	FSB619	Units
V <sub>CEO</sub>	Collector-Emitter Voltage	50	V
V <sub>CBO</sub>	Collector-Base Voltage	50	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current - Continuous	2	A
T <sub>J</sub> , T <sub>stg</sub>	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** T<sub>A</sub> = 25°C unless otherwise noted

Symbol	Characteristic	Max	Units
		FSB619	
P <sub>D</sub>	Total Device Dissipation* Derate above 25°C	500	mW
		4	
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient	250	°C/W

\*Device mounted on FR-4 PCB 4.5" X 5"; mounting pad 0.02 in<sup>2</sup> of 2oz copper.

**NPN Low Saturation Transistor**

(continued)

**Electrical Characteristics**

T<sub>A</sub> = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
<b>OFF CHARACTERISTICS</b>					
BV <sub>CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 10 mA	50		V
BV <sub>CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 100 μA	50		V
BV <sub>EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 100 μA	5		V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 40 V		100	nA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 4V		100	nA
I <sub>CES</sub>	Collector Emitter Cutoff Current	V <sub>CES</sub> = 40 V		100	nA
<b>ON CHARACTERISTICS*</b>					
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 10 mA, V <sub>CE</sub> = 2V I <sub>C</sub> = 200 mA, V <sub>CE</sub> = 2V I <sub>C</sub> = 1A, V <sub>CE</sub> = 2V I <sub>C</sub> = 2A, V <sub>CE</sub> = 2V	200 300 200 100		-
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 100 mA, I <sub>B</sub> = 10 mA I <sub>C</sub> = 1 A, I <sub>B</sub> = 10 mA I <sub>C</sub> = 2 A, I <sub>B</sub> = 50 mA		20 235 320	mV
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 2 A, I <sub>B</sub> = 50 mA		1	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 2 A, V <sub>CE</sub> = 2 V		1	V
<b>SMALL SIGNAL CHARACTERISTICS</b>					
C <sub>obo</sub>	Output Capacitance	V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0, f = 1MHz		30	pF
f <sub>T</sub>	Transition Frequency	I <sub>C</sub> = 50 mA, V <sub>CE</sub> = 10 V, f=100MHz	100		-

\*Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%