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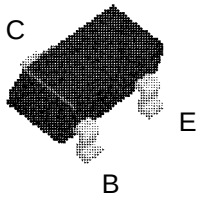
FSB560 / FSB560A



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 2A continuous.

Absolute Maximum Ratings*

T_A = 25°C unless otherwise noted

Symbol	Parameter	FSB560/FSB560A	Units
V_{CEO}	Collector-Emitter Voltage	60	V
V_{CBO}	Collector-Base Voltage	80	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

*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_A = 25°C unless otherwise noted

Symbol	Characteristic	Max	Units
		FSB560/FSB560A	
P_D	Total Device Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	250	°C/W

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NPN Low Saturation Transistor
(continued)

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	60		V
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = 100 µA	80		V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 100 µA	5		V
I_{CBO}	Collector Cutoff Current	V_{CB} = 30 V V_{CB} = 30 V, T_A=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 = 100 mA, V_{CE} = 2 V I_C=500mA, V_{CE} =2V **FSB560** **FSB560A** I_C = 1 A, V_{CE} = 2 V I_C = 2 A, V_{CE} = 2 V	70 100 250 80 40	 300 550	-
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C = 1 A, I_B = 100 mA I_C = 2 A, I_B=200 mA **FSB560** **FSB560A**		300 350 300	mV
$V_{BE(sat)}$	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
SMALL SIGNAL CHARACTERISTICS					
C_{obo}	Output Capacitance	V_{CB} = 10 V, I_E = 0, f = 1MHz		30	pF
f_T	Transition Frequency	I_C = 100 mA,V_{CE} = 5 V, f=100MHz	75		-

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

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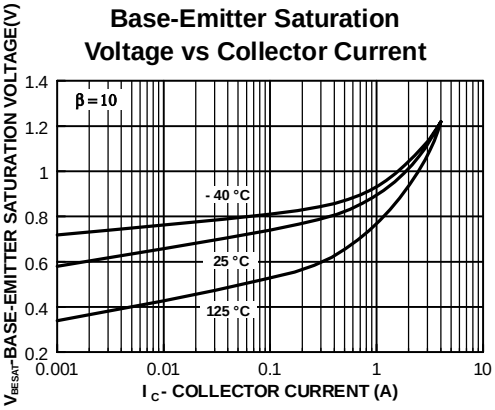
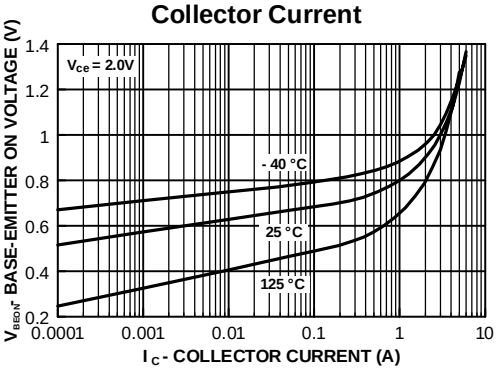
Typical Characteristics

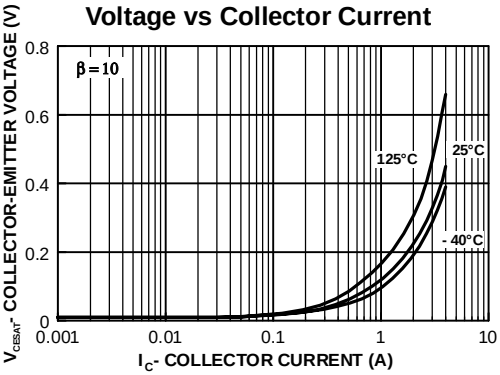
Base-Emitter Saturation Voltage vs Collector Current



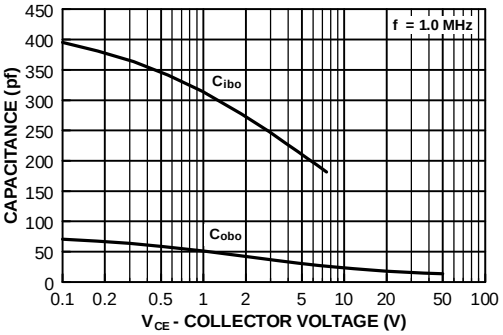
Base-Emitter On Voltage vs. Collector Current



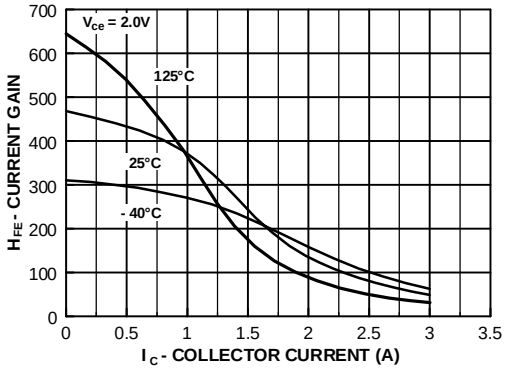
Collector-Emitter Saturation Voltage vs Collector Current



Input/Output Capacitance vs. Reverse Bias Voltage



Current Gain vs. Collector Current



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