BFS17,S

CASE 318-02/03, STYLE 6
SOT-23 (TO-236AA/AB)

RF TRANSISTOR

NPN SILICON

3

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	15	Vdc
Collector-Base Voltage	V_{CBO}	25	Vdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
*Total Device Dissipation, T_A = 25°C Derate above 25°C	P_D	350 2.8	mW mW/°C
Storage Temperature	T_{stg}	150	°C
*Thermal Resistance Junction to Ambient	$R_{\theta JA}$	357	°C/W

*Package mounted on 99.5% alumina 10 x 8 x 0.6 mm.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (I_C = 10 mA)		$V_{(BR)CEO}$	15	—	Vdc
Collector-Base Breakdown Voltage (I_C = 100 μA)		$V_{(BR)CBO}$	25	—	Vdc
Collector Cutoff Current (V_{CE} = 10 V)		I_{CEO}	—	25	nA
Collector Cutoff Current (V_{CB} = 15 V)		I_{CBO}	—	25	nA
Emitter Cutoff Current (V_{EB} = 1.0 V)		I_{EBO}	—	10	nA
ON CHARACTERISTICS					
DC Current Gain		h_{FE}			—
(I_C = 2.0 mA, V_{CE} = 1.0 V)	BFS17		20	150	
(I_C = 2.0 mA, V_{CE} = 1.0 V)	BFS17S		50	150	
(I_C = 25 mA, V_{CE} = 1.0 V)			20	—	
Collector-Emitter Saturation Voltage (I_C = 10 mA, I_B = 1.0 mA)		$V_{CE(sat)}$	—	0.4	V
Base-Emitter Saturation Voltage (I_C = 10 mA, I_B = 1.0 mA)		$V_{BE(sat)}$	—	1.0	V
SMALL-SIGNAL CHARACTERISTICS					
Current-Gain — Bandwidth Product		f_T			GHz
(I_C = 2.0 mA, V_{CE} = 5.0 V, f = 500 MHz)			1.0	—	
(I_C = 25 mA, V_{CE} = 5.0 V, f = 500 MHz)			1.3	—	
Output Capacitance (V_{CB} = 10 V, f = 1.0 MHz)		C_{obo}	—	1.5	pF
Noise Figure (I_C = 2.0 mA, V_{CE} = 5.0 V, R_S = 50 Ω, f = 30 MHz)	BFS17S	NF	—	5.0	dB