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BFR92,S

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

RF TRANSISTOR

NPN SILICON

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	15	Vdc
Collector-Base Voltage	V_{CBO}	20	Vdc
Emitter-Base Voltage	V_{EBO}	2.0	Vdc
Collector Current — Continuous	I_C	25	mAdc

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(1) (I_C = 10 mA)		$V_{(BR)CEO}$	15	—	Vdc
Collector-Base Breakdown Voltage (I_C = 10 μA)		$V_{(BR)CBO}$	20	—	Vdc
Emitter-Base Breakdown Voltage (I_E = 100 μA)		$V_{(BR)EBO}$	2.0	—	Vdc
Collector Cutoff Current (V_{CE} = 10 V)		I_{CEO}	—	50	nA
Collector Cutoff Current (V_{CB} = 10 V)		I_{CBO}	—	50	nA
Emitter Cutoff Current (V_{EB} = 1.0 V)		I_{EBO}	—	10	nA
ON CHARACTERISTICS					
DC Current Gain (I_C = 500 μA, V_{CE} = 10 V) (I_C = 3.0 mA, V_{CE} = 1.5 V) (I_C = 14 mA, V_{CE} = 10 V)(1)	 BFR92S	h_{FE}	 25 30 25	 — 100 —	—
Collector-Emitter Saturation Voltage(1) (I_C = 25 mA, I_B = 5.0 mA)		$V_{CE(sat)}$	—	0.5	Vdc
Base-Emitter Saturation Voltage(1) (I_C = 25 mA, I_B = 5.0 mA)		$V_{BE(sat)}$	—	1.2	Vdc
SMALL-SIGNAL CHARACTERISTICS					
Current-Gain — Bandwidth Product (I_C = 14 mA, V_{CE} = 10 V, f = 500 MHz)		f_T	4.5	—	MHz
Noise Figure (V_{CE} = 1.5 V, I_C = 3.0 mA, R_S = 50 Ω, f = 30 MHz)	BFR92S	NF	—	3.0	dB

(1) Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.