

MMBR901

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

RF AMPLIFIER TRANSISTOR

NPN SILICON

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	15	Vdc
Collector-Base Voltage	V _{CBO}	25	Vdc
Emitter-Base Voltage	V _{EBO}	3.0	Vdc
Collector Current — Continuous	I _C	30	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 _{θJA}	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
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage (I _C = 1.0 mAdc, I _B = 0)	V _{(BR)CEO}	15	—	Vdc
Collector-Base Breakdown Voltage (I _C = 0.1 mAdc, I _E = 0)	V _{(BR)CBO}	25	—	Vdc
Emitter-Base Breakdown Voltage (I _E = 0.1 mAdc, I _C = 0)	V _{(BR)EBO}	2.0	—	Vdc
Collector Cutoff Current (V _{CB} = 15 Vdc, I _E = 0)	I _{CBO}	—	50	nAdc

ON CHARACTERISTICS

DC Current Gain (I _C = 5.0 mAdc, V _{CE} = 5.0 Vdc)	h _{FE}	30	200	—
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SMALL-SIGNAL CHARACTERISTICS

Output Capacitance (V _{CB} = 10 Vdc, I _E = 0, f = 1.0 MHz)	C _{obo}	—	1.0	pF
Common-Emitter Amplifier Power Gain (V _{CC} = 6.0 Vdc, I _C = 5.0 mAdc, f = 1.0 GHz)	G _{pe(1)}	16 (Typ)	—	dB
Noise Figure (I _C = 5.0 mAdc, V _{CE} = 6.0 Vdc, f = 1.0 GHz)	NF(1)	—	1.9 (Typ)	dB

(1) Noise figure and power gain measured on the Ailtech 7380 50Ω system.