

**MM8000
MM8001
MM8002**

**CASE 79-02, STYLE 1
TO-39 (TO-205AD)**

HIGH FREQUENCY TRANSISTOR

NPN SILICON



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	30	Vdc
Collector-Base Voltage	V _{CBO}	40	Vdc
Emitter-Base Voltage	V _{EBO}	3.5	Vdc
Collector Current	I _C	0.4	Adc
Total Device Dissipation @ T _C = 25°C Derate above 25°C	P _D	3.5 20	Watts mW/°C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	- 65 to + 200	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Sustaining Voltage (I _C = 5.0 mA _{dc} , I _B = 0)	V _{CEO(sus)}	30	—	—	Vdc
Collector-Base Breakdown Voltage (I _C = 0.1 mA _{dc} , I _E = 0)	V _{(BR)CBO}	40	—	—	Vdc
Emitter-Base Breakdown Voltage (I _E = 0.1 mA _{dc} , I _C = 0)	V _{(BR)EBO}	3.5	—	—	Vdc
Collector Cutoff Current (V _{CE} = 28 Vdc, I _B = 0)	I _{CEO}	—	—	20	μAdc

ON CHARACTERISTICS

DC Current Gain (I _C = 50 mA _{dc} , V _{CE} = 15 Vdc)	h _{FE}	30	—	—	—
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SMALL-SIGNAL CHARACTERISTICS

Current-Gain — Bandwidth Product (I _C = 25 mA _{dc} , V _{CE} = 15 Vdc, f = 200 MHz)	MM8000	f _T	550	—	—	MHz
	MM8001		700	—	—	
	MM8002		1000	—	—	
(I _C = 50 mA _{dc} , V _{CE} = 15 Vdc, f = 200 MHz)	MM8000		700	—	—	
	MM8001		900	—	—	
	MM8002		1200	—	—	
(I _C = 100 mA _{dc} , V _{CE} = 15 Vdc, f = 200 MHz)	MM8000		700	—	—	
	MM8001		900	—	—	
	MM8002		1000	—	—	
Output Capacitance (V _{CB} = 30 Vdc, I _E = 0, f = 1.0 MHz)	C _{obo}	—	—	3.5	pF	
Noise Figure (Figure 1) (I _C = 10 mA _{dc} , V _{CE} = 15 Vdc, f = 200 MHz)	NF	—	2.7	—	dB	

FUNCTIONAL TEST

Common-Emitter Amplifier Power Gain (Figure 1) (I _C = 10 mA _{dc} , V _{CE} = 15 Vdc, f = 200 MHz)	G _{pe}	—	11.4	—	dB
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FIGURE 1 - 200 MHz TEST CIRCUIT

