

MM3000 thru MM3003

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

GENERAL PURPOSE TRANSISTOR

NPN SILICON

MAXIMUM RATINGS

Rating	Symbol	MM3000	MM3001	MM3002	MM3003	Unit
Collector-Emitter Voltage	V_{CEO}	100	150	200	250	Vdc
Emitter-Base Voltage	V_{EBO}	5.0				Vdc
Collector Current — Continuous	I_C	200	200	50	50	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	1.0 5.71				Watt mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	5.0 28.6				Watts mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	- 65 to + 200				$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage(1) ($I_C = 10 \text{ mAdc}, I_B = 0$)	$V_{(BR)CEO}$	100 100 150 200 250	— — — — —	Vdc
Emitter-Base Breakdown Voltage ($I_E = 10 \mu\text{Adc}, I_C = 0$)	$V_{(BR)EBO}$	5.0	—	Vdc
Collector Cutoff Current ($V_{CB} = 50 \text{ Vdc}, I_E = 0$) ($V_{CB} = 75 \text{ Vdc}, I_E = 0$) ($V_{CB} = 100 \text{ Vdc}, I_E = 0$)	I_{CBO}	— — —	1.0 1.0 5.0	μAdc
ON CHARACTERISTICS				
DC Current Gain ($I_C = 10 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$)	h_{FE}	20	—	—
SMALL-SIGNAL CHARACTERISTICS				
Current-Gain — Bandwidth Product ($I_C = 10 \text{ mAdc}, V_{CE} = 20 \text{ Vdc}, f = 100 \text{ MHz}$)	f_T	150	—	MHz
Output Capacitance ($V_{CB} = 20 \text{ Vdc}, I_E = 0, f = 100 \text{ kHz}$)	C_{obo}	— —	7.0 15	pF

(1) Pulse Test: Pulse Width $\leq 300 \mu\text{s}$, Duty Cycle $\leq 2.0\%$.