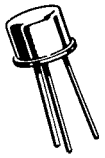
MM4000 thru MM4003 (SILICON)

V_{CEO} = 100 to 250 V
P_D = 0.6 to 1.0 W

High-voltage PNP silicon annular transistors for use in general-purpose, high-voltage applications.



Collector connected to case

CASE 79
(TO-39)

MAXIMUM RATINGS

Rating	Symbol	MM4000	MM4001	MM4002	MM4003	Unit
Collector-Emitter Voltage	V_{CEO}	100	150	200	250	Vdc
Collector-Base Voltage	V_{CB}	100	150	200	250	Vdc
Emitter-Base Voltage	V_{EB}	4.0	4.0	4.0	4.0	Vdc
Collector Current — Continuous	I_C	100	500	500	500	mAdc
Total Device Dissipation @ T_A = 25°C	P_D	0.6	1.0	1.0	1.0	Watt
Derate above 25°C		3.4	5.71	5.71	5.71	mW/°C
Total Device Dissipation @ T_C = 25°C	P_D	3.0	5.0	5.0	5.0	Watts
Derate above 25°C		17.2	28.6	28.6	28.6	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	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage* (I_C = 10 mAdc, I_B = 0)	MM4000	BV_{CEO}*	100	-	Vdc
	MM4001		150	-	
	MM4002		200	-	
	MM4003		250	-	
Collector-Base Breakdown Voltage (I_E = 0, I_C = 10 μAdc)	MM4000	BV_{CBO}	100	-	Vdc
	MM4001		150	-	
	MM4002		200	-	
	MM4003		250	-	
Emitter-Base Breakdown Voltage (I_E = 100 μAdc, I_C = 0)		BV_{EBO}	4.0	-	Vdc
Collector Cutoff Current		I_{CBO}			μAdc
(V_{CB} = 50 Vdc, I_E = 0)	MM4000		-	1.0	
(V_{CB} = 75 Vdc, I_E = 0)	MM4001		-	1.0	
(V_{CB} = 150 Vdc, I_E = 0)	MM4002, MM4003		-	5.0	
ON CHARACTERISTICS					
DC Current Gain (I_C = 10 mAdc, V_{CE} = 10 Vdc)*		h_{FE}	20	-	-
Collector-Emitter Saturation Voltage* (I_C = 10 mAdc, I_B = 1.0 mAdc)	MM4000, MM4001	$V_{CE(sat)}$*	-	0.6	Vdc
	MM4002, MM4003		-	5.0	
DYNAMIC CHARACTERISTICS					
Output Capacitance (V_{CB} = 20 Vdc, I_E = 0, f = 100 kHz)	MM4000	C_{ob}	-	6.0	pF
	MM4001		-	10	
	MM4002, MM4003		-	20	

* Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%