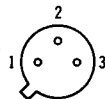


MM4000 thru MM4003 (SILICON)



STYLE 1:
PIN 1. EMITTER
2. BASE
3. COLLECTOR
CASE 79
(TO-5)

Collector connected to case



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

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 Power Dissipation @ $T_A = 25^\circ\text{C}$	P_D	0.6	1.0	1.0	1.0	Watt
Derate above 25°C		3.42	5.71	5.71	5.71	mW/ $^\circ\text{C}$
Total Power Dissipation @ $T_C = 25^\circ\text{C}$	P_D	3.0	5.0	5.0	5.0	Watts
Derate above 25°C		17.2	28.6	28.6	28.6	mW/ $^\circ\text{C}$
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
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage (1) ($I_C = 10\text{ mAdc}, I_E = 0$)	MM4000 MM4001 MM4002 MM4003	BV_{CEO}	100 150 200 250	-	Vdc
Collector-Base Breakdown Voltage ($I_E = 0, I_C = 100\text{ }\mu\text{Adc}$)	MM4000 MM4001 MM4002 MM4003	BV_{CBO}	100 150 200 250	-	Vdc
Emitter-Base Breakdown Voltage ($I_E = 100\text{ }\mu\text{Adc}, I_C = 0$)		BV_{EBO}	4.0	-	Vdc
Collector Cutoff Current ($V_{CB} = 50\text{ Vdc}, I_E = 0$)	MM4000	I_{CBO}	-	1.0	μAdc
($V_{CB} = 75\text{ Vdc}, I_E = 0$)	MM4001		-	1.0	
($V_{CB} = 150\text{ Vdc}, I_E = 0$)	MM4002, MM4003		-	5.0	

ON CHARACTERISTICS

DC Current Gain (1) ($I_C = 10\text{ mAdc}, V_{CE} = 10\text{ Vdc}$)		h_{FE}	20	-	-
Collector-Emitter Saturation Voltage (1) ($I_C = 10\text{ mAdc}, I_E = 1.0\text{ mAdc}$)	MM4000, MM4001 MM4002, MM4003	$V_{CE(sat)}$	-	0.6 5.0	Vdc

DYNAMIC CHARACTERISTICS

Output Capacitance ($V_{CB} = 20\text{ Vdc}, I_E = 0, f = 100\text{ kHz}$)	MM4000 MM4001 MM4002, MM4003	C_{ob}	- - -	6.0 10 20	pF
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(1) Pulse Test: $PW \leq 300\text{ }\mu\text{s}$, Duty Cycle $\leq 2\%$