

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CB0</sub>	50	Vdc
Emitter-Base Voltage	V <sub>EB0</sub>	5.0	Vdc
Collector Current — Continuous	I <sub>C</sub>	1.5	Adc
Total Device Dissipation @ T <sub>A</sub> = 25°C Derate above 25°C	P <sub>D</sub>	1.0 5.71	Watt mW/°C
Total Device Dissipation @ T <sub>C</sub> = 25°C Derate above 25°C	P <sub>D</sub>	5.0 28.6	Watts mW/°C
Operating and Storage Junction Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-65 to +200	°C

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	35	°C/W
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	175	°C/W

# MM3726

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

SWITCHING TRANSISTOR

PNP SILICON

4

Refer to 2N3467 for graphs.

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Collector-Emitter Breakdown Voltage(1) (I <sub>C</sub> = 10 mAdc, I <sub>B</sub> = 0)	V <sub>(BR)CEO</sub>	50	—	Vdc
Emitter-Base Breakdown Voltage (I <sub>E</sub> = 10 μAdc, I <sub>C</sub> = 0)	V <sub>(BR)EBO</sub>	5.0	—	Vdc
Collector Cutoff Current (V <sub>CB</sub> = 40 Vdc, I <sub>E</sub> = 0)	I <sub>CBO</sub>	—	0.1	μAdc
<b>ON CHARACTERISTICS(1)</b>				
DC Current Gain (I <sub>C</sub> = 500 mAdc, V <sub>CE</sub> = 2.0 Vdc) (I <sub>C</sub> = 1.0 Adc, V <sub>CE</sub> = 5.0 Vdc)	h <sub>FE</sub>	30 15	120 —	—
Collector-Emitter Saturation Voltage (I <sub>C</sub> = 500 mAdc, I <sub>B</sub> = 50 mAdc) (I <sub>C</sub> = 1.0 Adc, I <sub>B</sub> = 100 mAdc)	V <sub>CE(sat)</sub>	—	0.6 1.2	Vdc
Base-Emitter Saturation Voltage (I <sub>C</sub> = 500 mAdc, I <sub>B</sub> = 50 mAdc) (I <sub>C</sub> = 1.0 Adc, I <sub>B</sub> = 100 mAdc)	V <sub>BE(sat)</sub>	0.8	1.1 1.3	Vdc
<b>SMALL-SIGNAL CHARACTERISTICS</b>				
Current-Gain — Bandwidth Product(1) (I <sub>C</sub> = 50 mAdc, V <sub>CE</sub> = 10 Vdc, f = 100 MHz)	f <sub>T</sub>	200	—	MHz
Collector-Base Capacitance (V <sub>CB</sub> = 10 Vdc, I <sub>E</sub> = 0, f = 100 kHz, emitter guarded)	C <sub>cb</sub>	—	10	pF
Emitter-Base Capacitance (V <sub>BE</sub> = 0.5 Vdc, I <sub>C</sub> = 0, f = 100 kHz, collector guarded)	C <sub>eb</sub>	—	80	pF
<b>SWITCHING CHARACTERISTICS</b>				
Turn-On Time (V <sub>CC</sub> = 30 Vdc, V <sub>BE(off)</sub> = 2.0 Vdc, I <sub>C</sub> = 500 mAdc, I <sub>B1</sub> = 50 mAdc, R <sub>B</sub> = 200 ohms, R <sub>L</sub> = 60 ohms)	t <sub>on</sub>	—	30	ns
Turn-Off Time (V <sub>CC</sub> = 30 Vdc, I <sub>C</sub> = 500 mAdc, I <sub>B1</sub> = I <sub>B2</sub> = 50 mAdc, R <sub>B</sub> = 200 ohms, R <sub>L</sub> = 60 ohms)	t <sub>off</sub>	—	90	ns
Turn-On Time (V <sub>CC</sub> = 30 Vdc, V <sub>BE</sub> = 2.0 Vdc, I <sub>C</sub> = 1.0 Adc, I <sub>B1</sub> = 100 mAdc, R <sub>B</sub> = 100 ohms, R <sub>L</sub> = 30 ohms)	t <sub>on</sub>	—	35	ns
Turn-Off Time (V <sub>CC</sub> = 30 Vdc, I <sub>C</sub> = 1.0 Adc, I <sub>B1</sub> = I <sub>B2</sub> = 100 mAdc, R <sub>B</sub> = 100 ohms, R <sub>L</sub> = 30 ohms)	t <sub>off</sub>	—	60	ns

(1) Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.