Absolute Maximum Ratings (Note 1)

Supply Voltage (V_{CC})	−0.5V to +7.0V
DC Switch Voltage (V_S)	−0.5V to +7.0V
DC Input Voltage (V_{IN}) (Note 2)	−0.5V to +7.0V
DC Input Diode Current	
(I_{IK}) V_{IN} < 0V	−50 mA
DC Output (I_{OUT}) Sink Current	128 mA
DC V_{CC}/GND Current	
(I_{CC}/I_{GND})	±100 mA
Storage Temperature Range	
(T_{STG})	−65°C to +150°C
Junction Temperature	
under Bias (T_J)	+150°C
Junction Lead Temperature (T_L)	
(Soldering, 10 Seconds)	+260°C
Power Dissipation (P_D) @ +85°C	
SOT23-5	200 mW
SC70-5	150 mW

Recommended Operating Conditions (Note 3)

Power Supply Operating (V_{CC})	4.0V to 5.5V
Input Voltage (V_{IN})	0V to 5.5V
Output Voltage (V_{OUT})	0V to 5.5V
Input Rise and Fall Time (t_r, t_f)	
Switch Control Input	0 ns/V to 5 ns
Switch I/O	0 ns/V to DC
Operating Temperature (T_A)	−40°C to +85°C
Thermal Resistance (θ_{JA})	
SOT23-5	300°C/W
SC70-5	425°C/W

Note 1: The "Absolute Maximum Ratings" are those values beyond which the safety of the device cannot be guaranteed. The device should not be operated at these limits. The parametric values defined in the Electrical Characteristics tables are not guaranteed at the absolute maximum ratings. The "Recommended Operating Conditions" table will define the conditions for actual device operation.

Note 2: The input and output negative voltage ratings may be exceeded if the input and output diode current ratings are observed.

Note 3: Unused inputs must be held HIGH or LOW. They may not float.

DC Electrical Characteristics

Symbol	Parameter	V_{CC} (V)	T_A = −40°C to +85°C			Units	Conditions
			Min	Typ	Max		
V_{IK}	Clamp Diode Voltage	4.5			−1.2	−V	I_{IN} = −18 mA
V_{IH}	HIGH Level Input Voltage	4.5–5.5	2.0			V	
V_{IL}	LOW Level Input Voltage	4.5–5.5			0.8	V	
I_{IN}	Input Leakage Current	5.5			±1.0	µA	0 ≤ V_{IN} ≤ 5.5V
I_{OFF}	"OFF" Leakage Current	5.5			±10.0	µA	0 ≤ A, B ≤ V_{CC}
R_{ON}	Switch On Resistance (Note 4)	4.5		3	7	Ω	V_{IN} = 0V, I_{IN} = 64 mA
		4.5		3	7	Ω	V_{IN} = 0V, I_{IN} = 30 mA
		4.5		6	15	Ω	V_{IN} = 2.4V, I_{IN} = 15 mA
		4.0		10	20	Ω	V_{IN} = 2.4V, I_{IN} = 15 mA
I_{CC}	Quiescent Supply Current	5.5			10	µA	V_{IN} = V_{CC} or GND I_O = 0
Δ I_{CC}	Increase in I_{CC} per Input (Note 5)	5.5		0.9	2.5	mA	V_{IN} = 3.4V, I_O = 0, Control Input only

Note 4: Measured by the voltage drop between A and B pins at the indicated current through the switch. On resistance is determined by the lower of the voltages on the two (A or B) pins.

Note 5: Per TTL driven input (V_{IN} = 3.4V, control input only). A and B pins do not contribute to I_{CC}.

AC Electrical Characteristics

Symbol	Parameter	V_{CC} (V)	$T_A = -40°C$ to $+85°C$, $C_L = 50$ pF, RU = RD = 500Ω			Units	Conditions	Fig. No.
			Min	Typ (Note 6)	Max			
t_{PHL}, t_{PLH}	Prop Delay Bus to Bus (Note 7)	4.0–5.5			0.25	ns	V_I = OPEN	Figures 1, 2
t_{PZL}, t_{PZH}	Output Enable Time	4.5–5.5	1.0	2.5	5.0	ns	V_I = 7V for t_{PZL}	Figures 1, 2
		4.0	1.0		5.5	ns	V_I = OPEN for t_{PZH}	
t_{PLZ}, t_{PHZ}	Output Disable Time	4.5–5.5	1.0	2.5	5.0	ns	V_I = 7V for t_{PLZ}	Figures 1, 2
		4.0	1.0		5.5	ns	V_I = OPEN for t_{PHZ}	

Capacitance (Note 8)

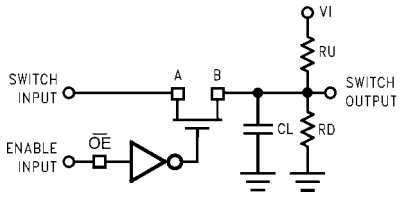
Symbol	Parameter	Typ	Max	Units	Conditions
C_{IN}	Control Pin Input Capacitance	2	6	pF	V_{CC} = 5.0V
$C_{I/O}$	Input/Output Capacitance	4.5	10	pF	V_{CC}, $\overline{BE}$ = 5.0V

Note 6: All typical values are $V_{CC} = 5.0V$, $T_A = 25°C$.

Note 7: This parameter is guaranteed by design but is not tested. The bus switch contributes no propagation delay other than the RC delay of the typical On resistance of the switch and the 50 pF load capacitance, when driven by an ideal voltage source (zero output impedance).

Note 8: $T_A = 25°C$, f = 1 MHz.

AC Loading and Waveforms



Input driven by 50Ω source terminated in 50Ω

C_L includes load and stray capacitance

Input PRR = 1.0 MHz; t_W = 500 ns

FIGURE 1. AC Test Circuit

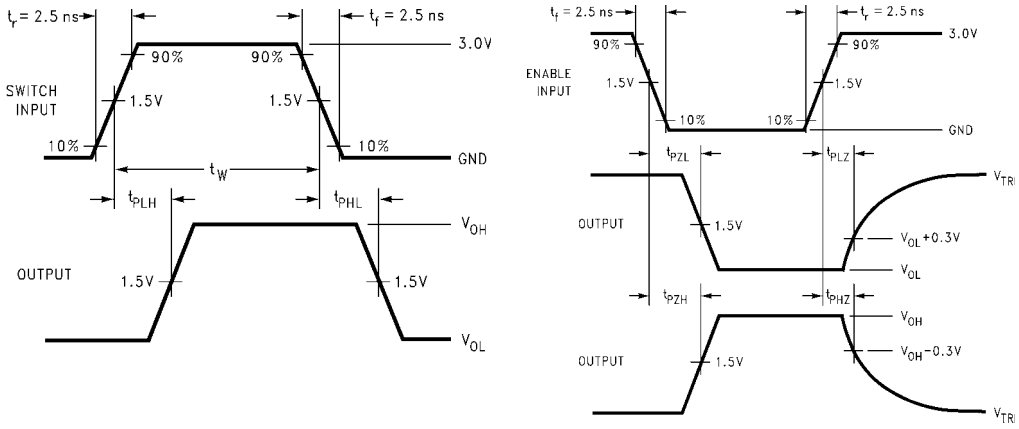


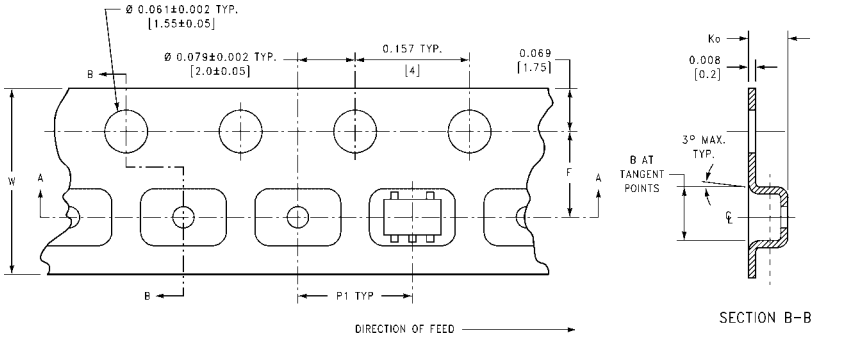
FIGURE 2. AC Waveforms

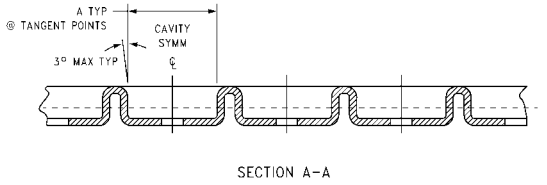
Tape and Reel Specification

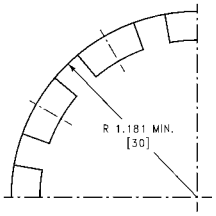
TAPE FORMAT

Package Designator	Tape Section	Number Cavities	Cavity Status	Cover Tape Status
M5, P5	Leader (Start End)	125 (typ)	Empty	Sealed
	Carrier	250	Filled	Sealed
	Trailer (Hub End)	75 (typ)	Empty	Sealed
M5X, P5X	Leader (Start End)	125 (typ)	Empty	Sealed
	Carrier	3000	Filled	Sealed
	Trailer (Hub End)	75 (typ)	Empty	Sealed

TAPE DIMENSIONS inches (millimeters)



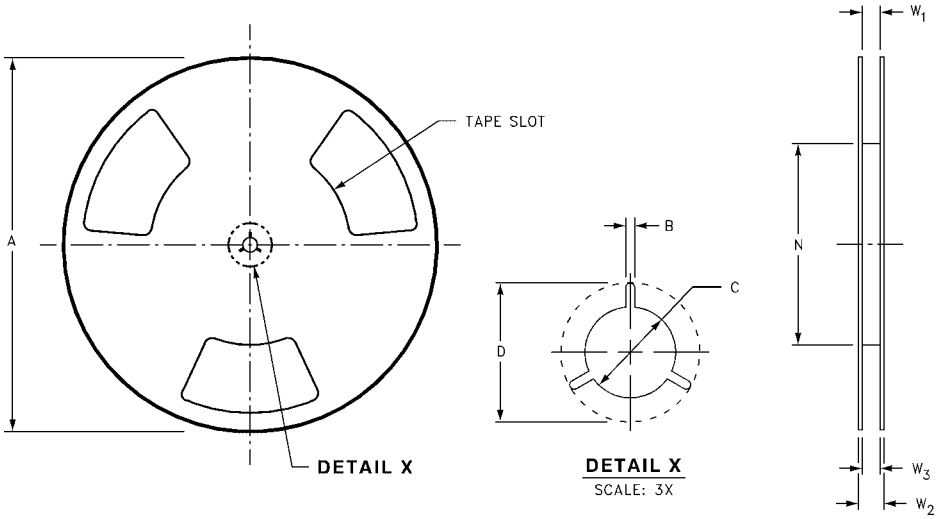




Package	Tape Size	DIM A	DIM B	DIM F	DIM K_o	DIM P1	DIM W
SC70-5	8 mm	0.093 (2.35)	0.096 (2.45)	0.138 ± 0.004 (3.5 ± 0.10)	0.053 ± 0.004 (1.35 ± 0.10)	0.157 (4)	0.315 ± 0.004 (8 ± 0.1)
SOT23-5	8 mm	0.130 (3.3)	0.130 (3.3)	0.138 ± 0.002 (3.5 ± 0.05)	0.055 ± 0.004 (1.4 ± 0.11)	0.157 (4)	0.315 ± 0.012 (8 ± 0.3)

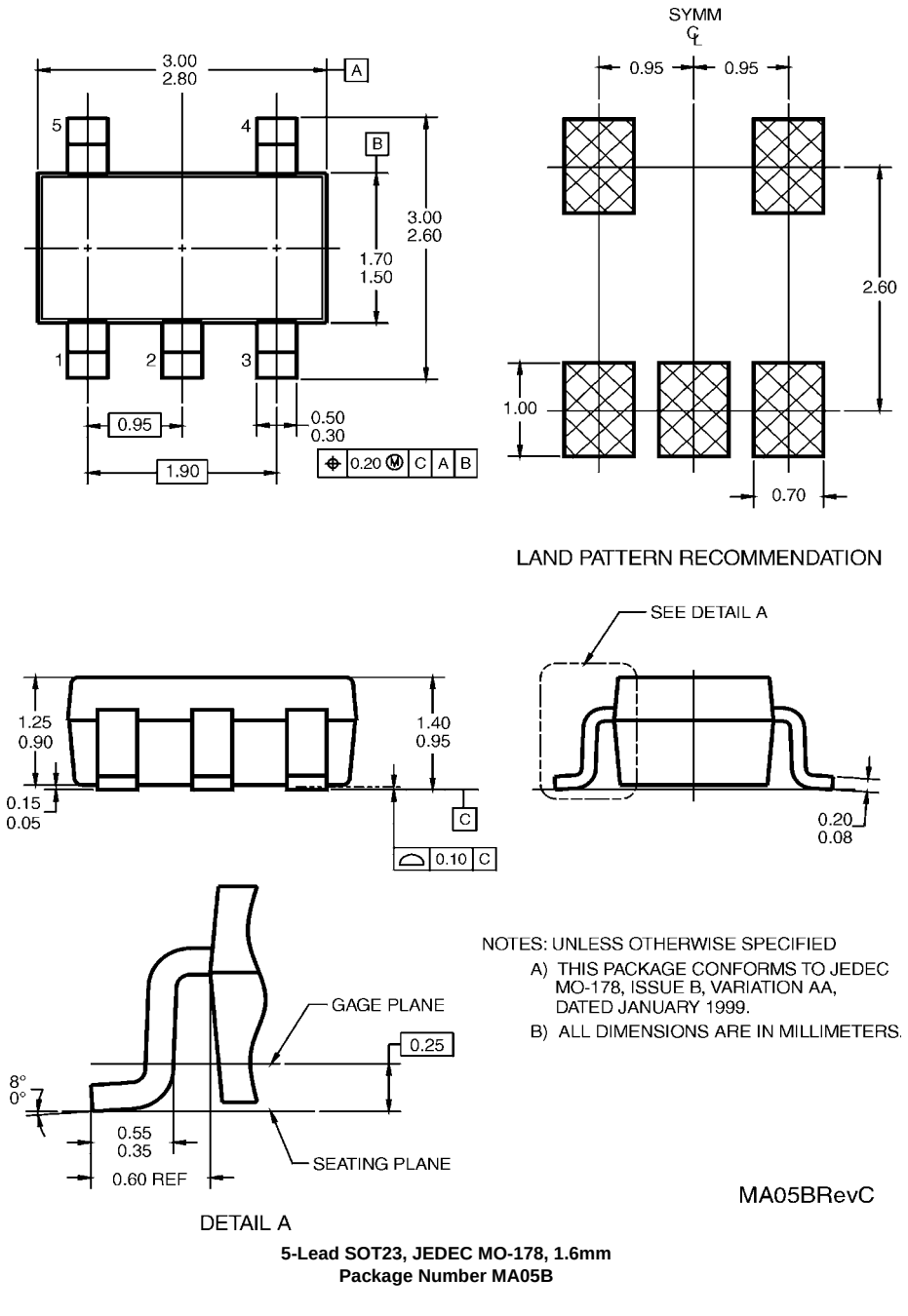
Tape and Reel Specification (Continued)

REEL DIMENSIONS inches (millimeters)



Tape Size	A	B	C	D	N	W1	W2	W3
8 mm	7.0 (177.8)	0.059 (1.50)	0.512 (13.00)	0.795 (20.20)	2.165 (55.00)	0.331 + 0.059/–0.000 (8.40 + 1.50/–0.00)	0.567 (14.40)	W1 + 0.078/–0.039 (W1 + 2.00/–1.00)

Physical Dimensions inches (millimeters) unless otherwise noted



NOTES: UNLESS OTHERWISE SPECIFIED

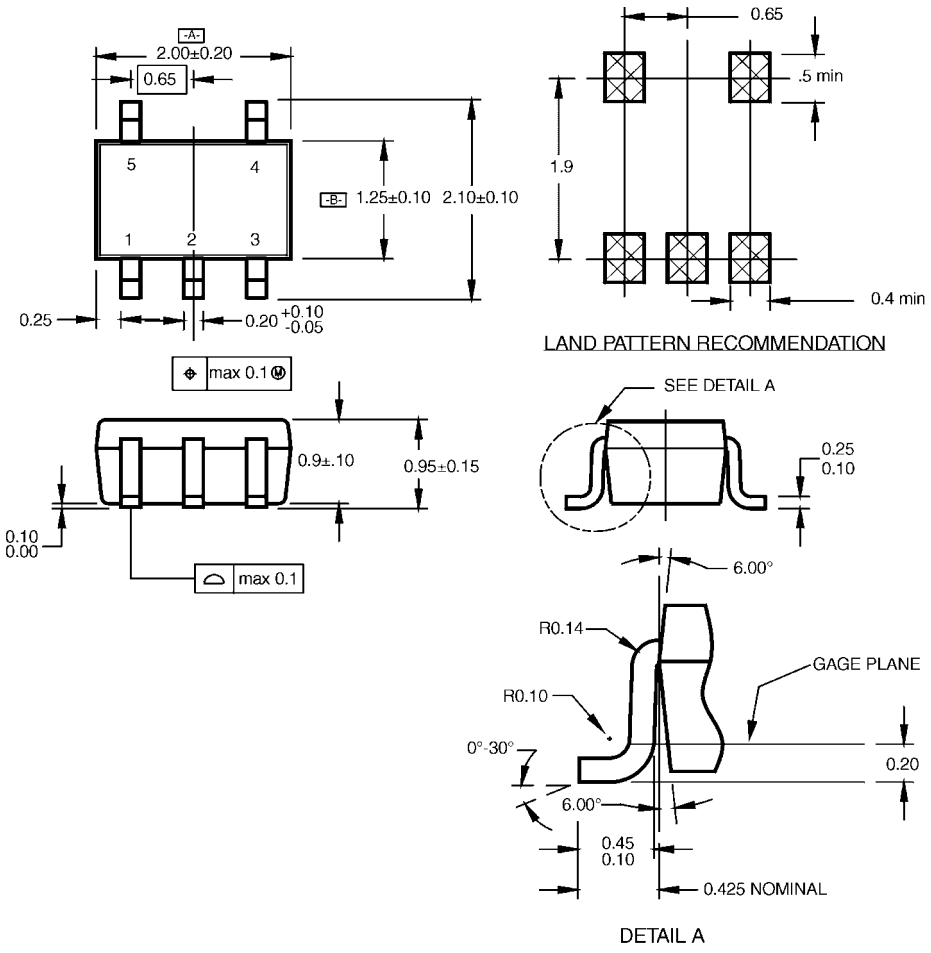
A) THIS PACKAGE CONFORMS TO JEDEC MO-178, ISSUE B, VARIATION AA, DATED JANUARY 1999.

B) ALL DIMENSIONS ARE IN MILLIMETERS.

MA05BRevC

5-Lead SOT23, JEDEC MO-178, 1.6mm
Package Number MA05B

Physical Dimensions inches (millimeters) unless otherwise noted (Continued)



NOTES:

A. CONFORMS TO EIAJ REGISTERED OUTLINE DRAWING SC88A.
B. DIMENSIONS DO NOT INCLUDE BURRS OR MOLD FLASH.
C. DIMENSIONS ARE IN MILLIMETERS.

MAA05ARevC

5-Lead SC70, EIAJ SC-88a, 1.25mm Wide
Package Number MAA05A

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