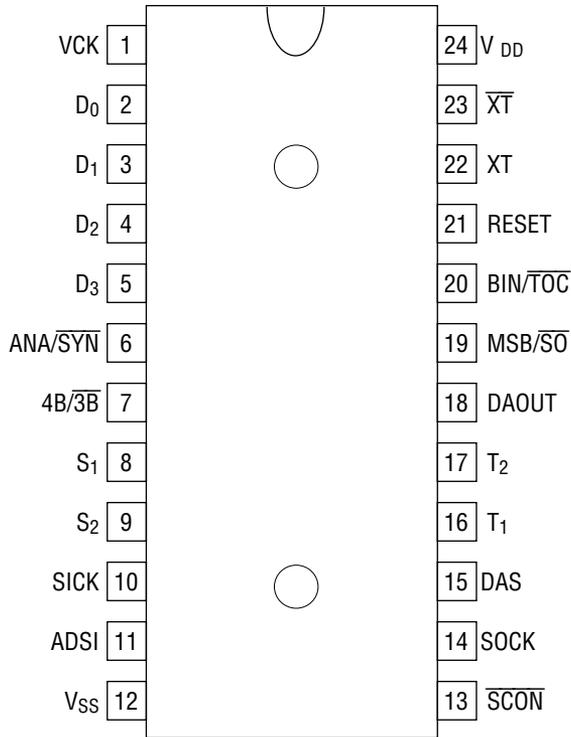


PIN CONFIGURATION (TOP VIEW)



24-Pin Plastic DIP

Note: The product name actually printed on the product is "M5218".

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Condition	Rating	Unit
Power Supply Voltage	V_{DD}	$T_a = 25^\circ\text{C}$	-3.0 to +7.0	V
Input Voltage	V_{IN}	$T_a = 25^\circ\text{C}$	-3.0 to V_{DD}	V
Power Dissipation	P_D	$T_a = 25^\circ\text{C}$	200 max	mW
Storage Temperature	T_{STG}	—	-55 ~ +150	$^\circ\text{C}$

RECOMMENDED OPERATING CONDITIONS

Parameter	Symbol	Condition	Range	Unit
Power Supply Voltage	V_{DD}	—	+3 to +6	V
Operating Temperature	T_{OP}	—	-30 to +70	$^\circ\text{C}$
Oscillator Frequency	f_{OSC}	Specified Oscillator	386 to 768	kHz

ELECTRICAL CHARACTERISTICS

DC Characteristics

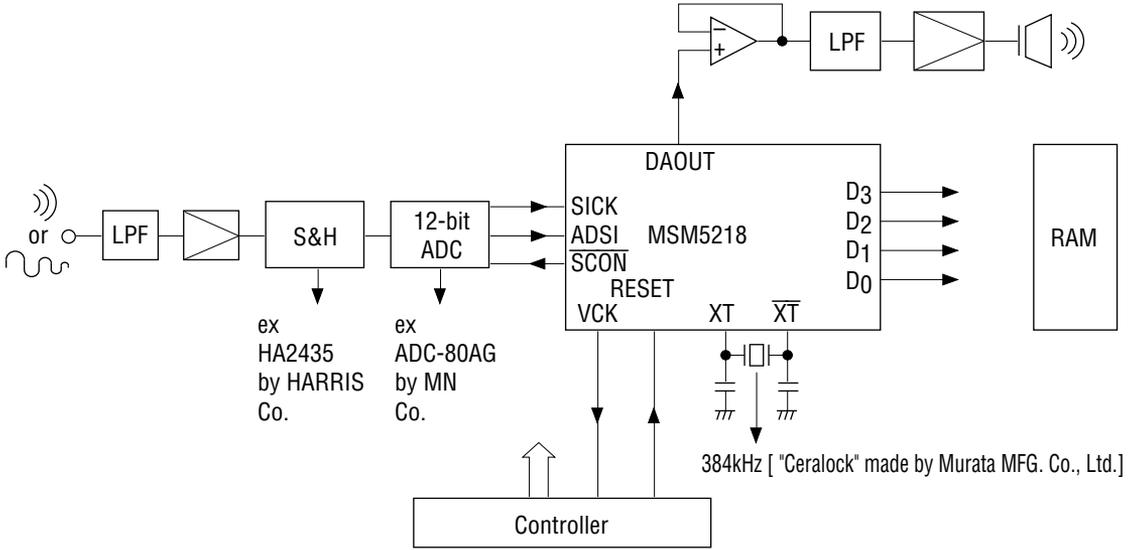
($V_{DD} = 5V \pm 5\%$, $T_a = -30^\circ\text{C}$ to $+70^\circ\text{C}$, $T_a = 25^\circ\text{C}$ typically)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Input High Voltage	V_{IH}	All inputs except XT, T_1 , T_2	4.2	—	—	V
Input Low Voltage	V_{IL}	All inputs except XT, T_1 , T_2	—	—	0.8	V
Input High Current (1)	I_{IH}	$V_{IN} = V_{DD}$	—	—	1	μA
Input Low Current	I_{IL}	$V_{IN} = 0V$	—	—	-1	μA
Output High Current	I_{OH}	\overline{SCON} , VCK, SOCK, MSB/ \overline{SO} , D0 to D3 $V_0 = 4.2V$	-50	—	—	μA
Output Low Current	I_{OL}	\overline{SCON} , VCK, SOCK, MSB/ \overline{SO} , D0 to D3 $V_0 = 0.4V$	50	—	—	μA
Operating Current	I_{DD}	$f_{VCK} = 8\text{kHz}$	—	3	6	mA
DA. OUT Output Impedance	V_{OR}	—	—	100	—	$k\Omega$
D/A Accuracy (Internal 10-bit D/A)	V_E	Full Scale $V_{DD} = +5V$	—	± 4	—	LSB
SICK Clock Frequency	$f_{(SICK)}$	—	—	—	500	kHz
Input High Current (2)	I_{IH2}	$V_{IN} = V_{DD}$ (Note 1)	20	—	400	μA

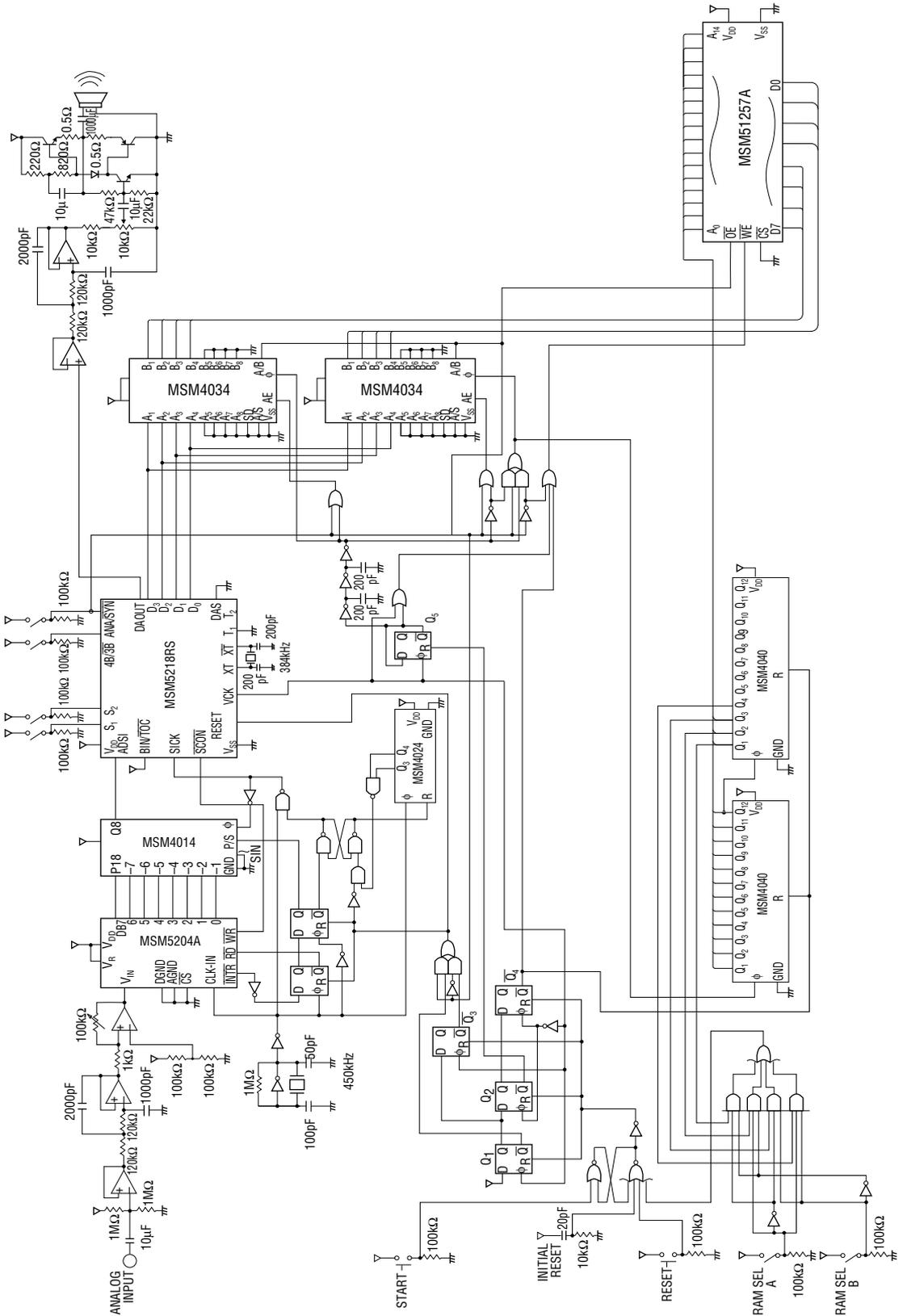
Note 1: Applicable for Reset.

APPLICATION CIRCUITS

Example where a 12-bit AD Converter is Connected



Voice Analysis/Synthesis Circuit Example (When MSM5204 is Used)



Voice Analysis/Synthesis Circuit Example (When ADC-80AG by MN Co. is Used)

