D/A CONVERTER

2-Channel Serial & Binary input Floating D/A Converter

YM3020 DAC(CD)

■ OUTLINE

The YM 3020 : DAC-FS is a floating D/A converter (referred to as DAC hereafter) with the 2-channel serial and 16-bit binary input or 2's complement input. It can produce analog output (16-bit dynamic range) which has 13-bit mantissa and 7-step exponent characteristic for the input digital signal.

■ FEATURES

- 16-bit input format can select either binary or 2's complement (equipped with a built-in floating converter logic).
- Externally equipped with buffer operational amplifier it allows easy analog output.
- 16-bit wide dynamic range.
- Capable of processing PCM sound source up to 2 channels.
- Equipped with a built-in analog switch for sample hold.
- Lower noise and less harmonic distortion and outstanding temperature characteristics. Zero cross distortion is extremely little.
- Made by the monolithic process of highly accurate thin film resistance and CMOS and enclosed in the 16-pin plastic DIL package.

■ Electrical characteristics

1. Absolute Maximum Rating

Item	Rating	Unit
Supply voltage	−0.3 ~ +15.0	V
High-level input voltage	V_{DD} +0.3	V
Low-level input voltage	V_{SS} −0.3	V
Operating ambient temperature	0 ~ 70	°C
Storing temperature	−50 ~ +125	°C

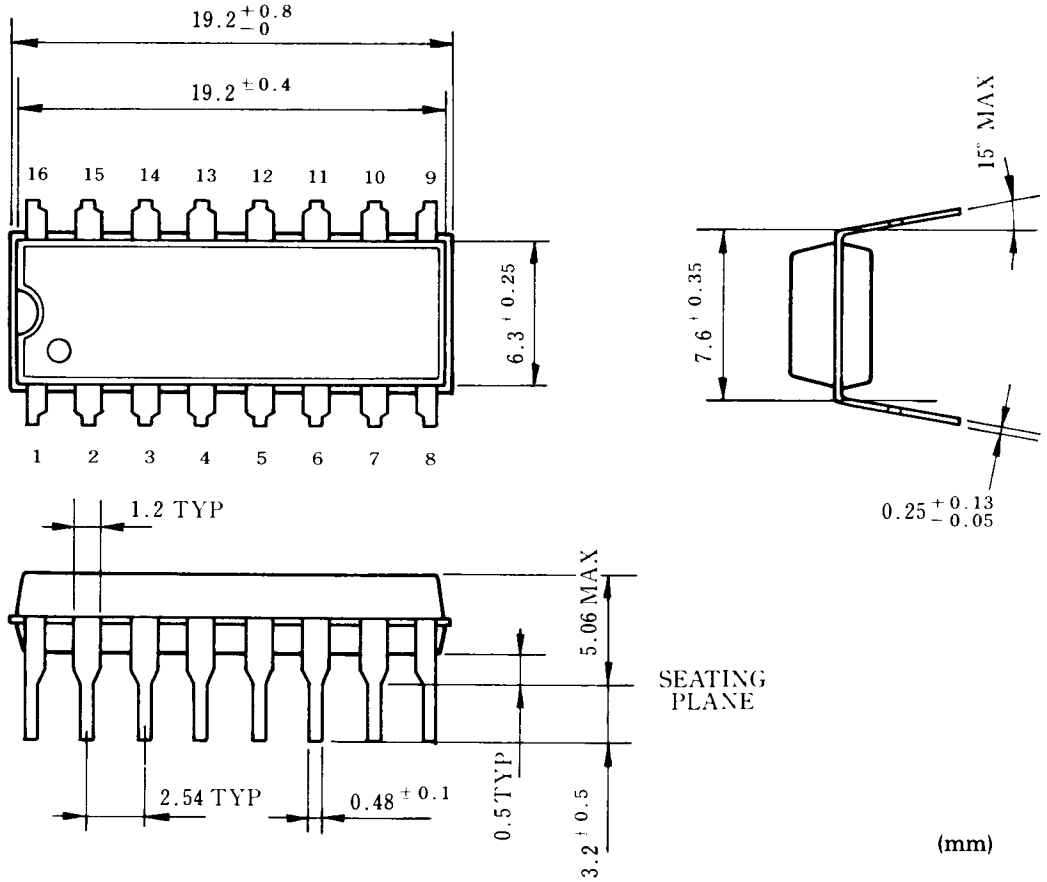
2. Recommended Operating Conditions

Item	Symbol	Min	Typ	Max	Unit
Supply voltage	V_{DD}	9.0	12.0	12.0	V
	V_{SS}	0	0	0	V
Input signal voltage	CLOCK, SD, SMP1, 2, $\overline{ICL}$	0	—	V_{DD}	V
Operating ambient temperature	Ta	0	—	70	°C

3. DC Characteristics

Item	Symbol	Measuring Conditions	Min	Typ	Max	Unit
High-level input voltage	V_{IH}	$V_{DD} \geqq 9.0V$	1/3 V_{DD}	—	—	V
Low-level input voltage	V_{IL}	$V_{DD} \geqq 9.0V$	—	—	1.0	V
Input current	I_{IN}	V_{DD} = 12.0V	—	—	10^{-3}	μA
Analog output voltage	V_{OUT}		—	0.50V_{DD}	—	Vp−p
Supply current	I_{DD}	V_{DD} = 12.0V	—	—	6	mA

■ OUTLINE DIMENSIONS



■ BLOCK DIAGRAM

