D/A CONVERTER

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

YM3016 DAC(CD)

■ OUTLINE

The YM3016 : DAC-GS 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 10-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 (due to built-in floating converter logic).
- Analog output can be obtained easily by adding a buffer operational amplifier, etc.
- 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.
- Made by the monolithic process of highly accurate thin film resistor and CMOS.
- Package type: 16 pin plastic SOP : YM3016F
  DIP : YM3016D
- +5V single power supply.

■ Electrical characteristics

① Absolute Maximum Ratings

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

② Recommended Operating Conditions

Item	Symbol	Min		Max	Unit
Supply voltage	V_{DD}	4.75*	5.0	5.25	V
	V_{SS}	0	0	0	V
Input signal voltage	CLOCK				
	SD	0	—	V_{DD}	V
	SMP1, 2				
	ICL				
Operating ambient temperature	Ta	0	—	70	°C

③ DC Characteristics

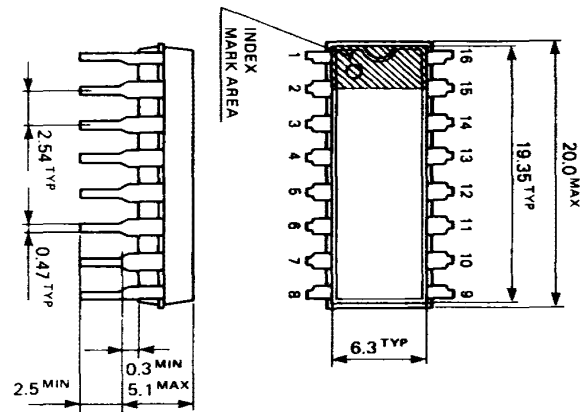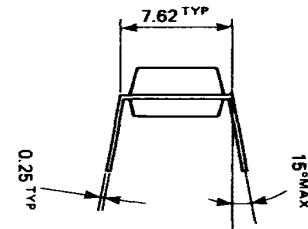| Item	Symbol	Measuring Conditions	Min	Typ	Max	Unit
High-level input voltage	V_{IH}		$0.66V_{DD}$	—	—	V
Low-level input voltage	V_{IL}		—	—	$0.30V_{DD}$	V
Input current	I_{IN}	$V_{DD} = 5.0V$	—	—	10^{-3}	μA
Analog output voltage	V_{OUT}		—	$0.50V_{DD}$	—	Vp-p
Supply current	I_{DD}	$V_{DD} = 5.0V$	—	—	6	mA

■ OUTLINE DIMENSIONS

YM3016-F
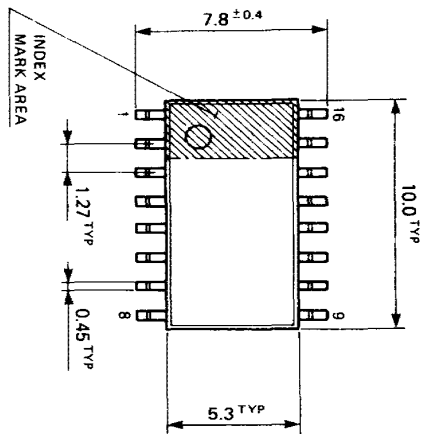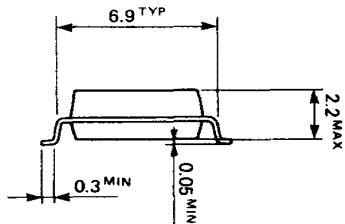
YM3016-D

UNIT : MM

■ BLOCK DIAGRAM