

KA22712B

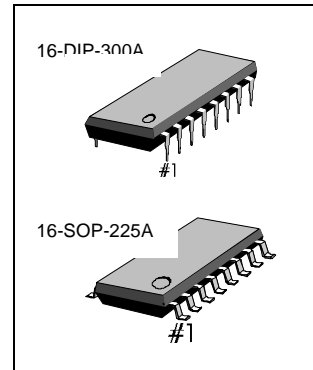
DOLBY B-TYPE NR PROCESSOR

INTRODUCTION

The KA22712B is a monolithic integrated circuit designed for use in Dolby®B-type noise reduction systems.

FEATURES

- Few external components
- Low quiescent circuit current (typ $I_{CCQ} = 5.3mA$)
- High crosstalk rejection ratio
- Built in NR-switch, REC/PB-switch
- Recommended supply voltage : $V_{CC} = 6.5V - 16V$



ORDERING INFORMATION

Device	Package	Operating Temperature
KA22712B	16-DIP-300A	-30°C ~ +85°C
KA22712BD	16-SOP-225A	

BLOCK DIAGRAM

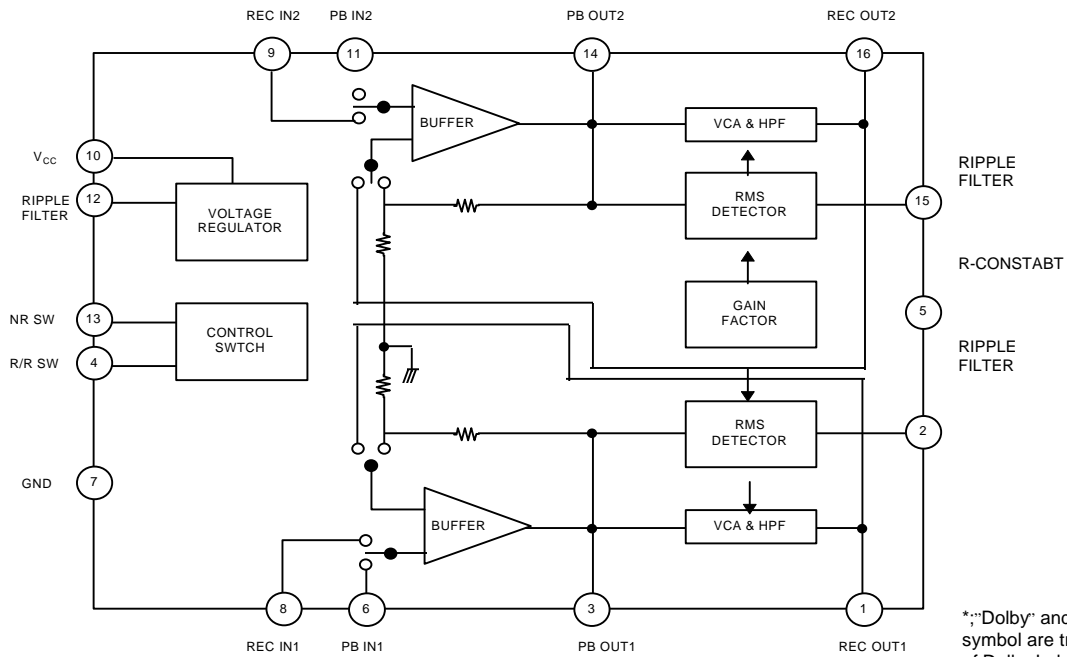


Fig. 1

to licensees of Dolby Laboratories Licensing Corporation, San Francisco, from whom licensing and application information must be obtained.

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PIN CONFIGURATION

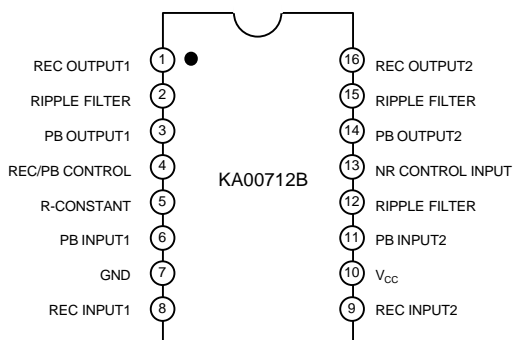


Fig. 2

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	V _{CC}	16	V
Power Dissipation	P _D	750	mW
Operating Temperature	T _{OPR}	-30 ~ +85	°C
Storage Temperature	T _{STG}	-40 ~ +125	°C

Note : Derated above Ta = 25°C in the proportion of 10mW/°C

ELECTRICAL CHARACTERISTICS

(Ta = 25°C, VCC = 9V, f = 1Khz, 0dB = 245mW (-10dBm) at REC OUT, unless otherwise specified)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Quiescent Circuit Current	I _{CCQ}	REC mode, NR-off, V _I = 0	4.5	5.3	7	mA
Buffer Voltage Gain	G _V	REC mode, PB out = 0dB	22	24	26	dB

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NR-REC Boost	$G_{V(BST)}$	RECout = -25dB, f = 500Hz	1.4	2.9	4.4	dB
		RECout = -25dB, f = 2KHz	5.4	7.0	8.5	dB
		RECout = -25dB, f = 5KHz	3.9	5.4	6.9	dB
		RECout = -40dB, f = 10KHz	9.1	10.4	11.9	dB
		RECout = 0dB, f = 10KHz	-1.1	0.4	1.9	dB
NR-Boost Balance	CB	NR-REC boost CH to ratio		0	1	dB
MAX.RECout level	$V_{O(MAX)}$	REC mode, NR-off THD = 1%	14	16		dB
REC Output Voltage	THD	REC mode, NR-off RECout = 10dB		0.04	0.1	%
		REC mode, NR-on RECout = 10dB		0.04	0.1	%
NR-effect S/N	S/N	REC mode, $R_G = 2.2K$ Filter = CCIR/ARM	65	69		dB
Crosstalk	CT	NR-off OUTPUT = 0dB PB to REC		-70	-65	dB
		CH to CH, NR-off OUTPUT = 0dB		-70	-65	dB
Input Impedance	Z_I		30	47	65	K Ω
Switch Control Voltage	V_{CTL}	High mode	2.4			V
		Low mode	0		0.4	V
Input Level	REC V_I	REC mode, NR-off RECout = 0dB	19.5	24.5	31.0	mv
	PB V_I	PB mode, NR-off RECout = 0dB	19.5	24.5	31.0	mv
Output Level	V_O	REC mode, NR-off RECout = 0dB Testpoint = PB output				

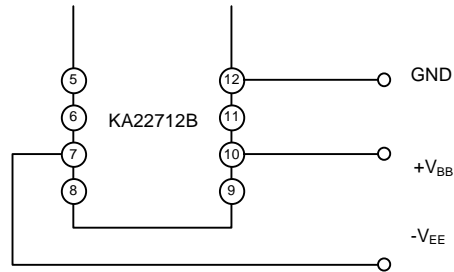
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APPLICATION INFORMATION

1) POWER SUPPLY

The KA22712B can be operated at 6.5V ~ 16V in case of single and $\pm 3.25V - \pm 8V$ in dual power supply.



Dual power connection

Fig. 4

2) SWITCH CONTROL

All functions of KA22712B are controlled by internal electronic switches. The function switch is operated by D.C. voltage of NR and R.P control pins.

VOLTAGE

NR, R/P	V _H	V _L
Condition	PB	REC
	NR-off	NR-on

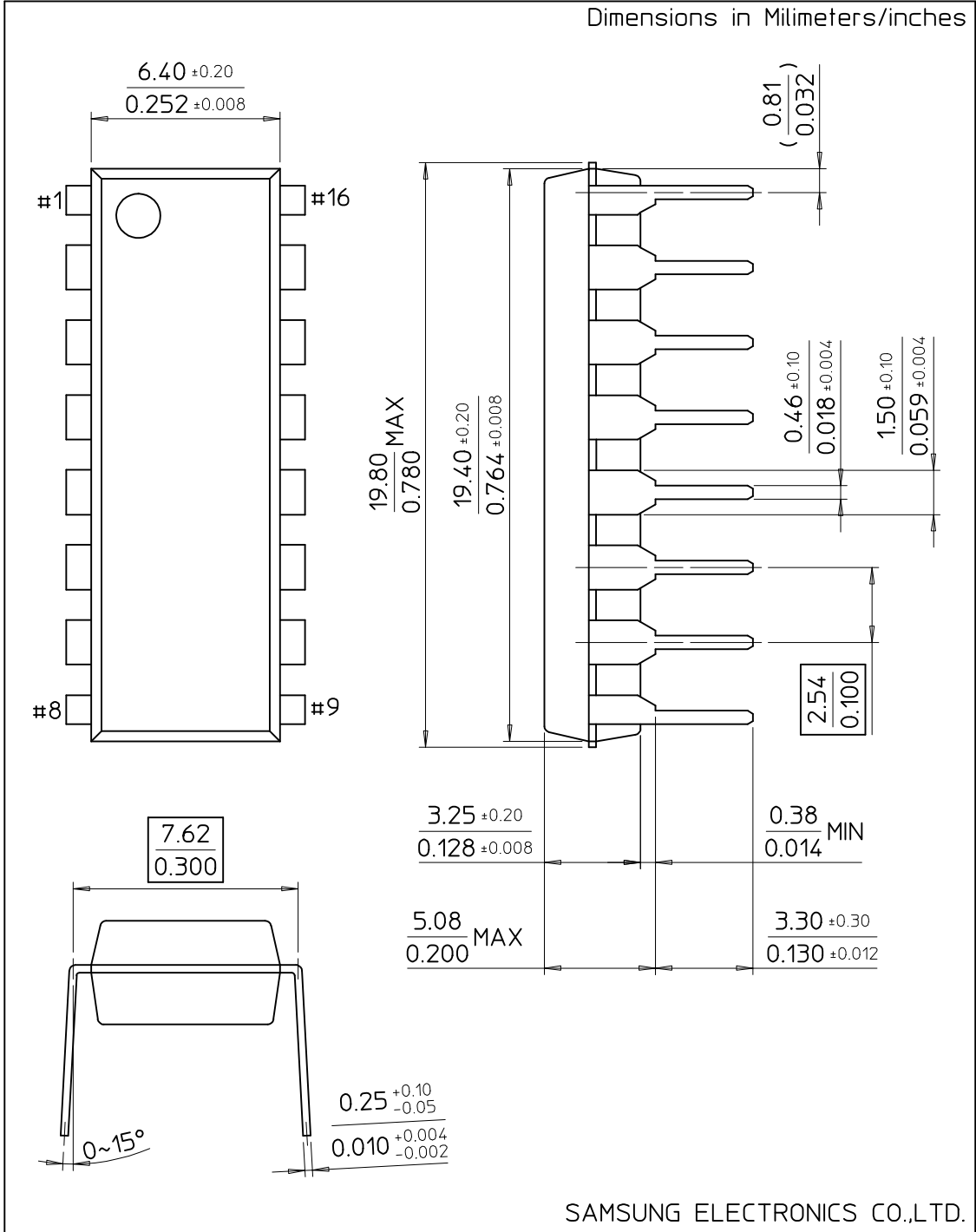
Single	Dual Power
$2.4V_i \leq V_H$	$V_H \geq V_{EE} + 2.4V$
$0.4V_i \leq V_L$	$V_{EE} + 0.4V \geq V_L$

3) REFERENCE LEVEL

The reference output level of Dolby noise reduction system is defined as Dolby level. The Dolby level of KA22712B is 245mV (-10dBm) at $f = 400Hz$.

16-DIP-300A

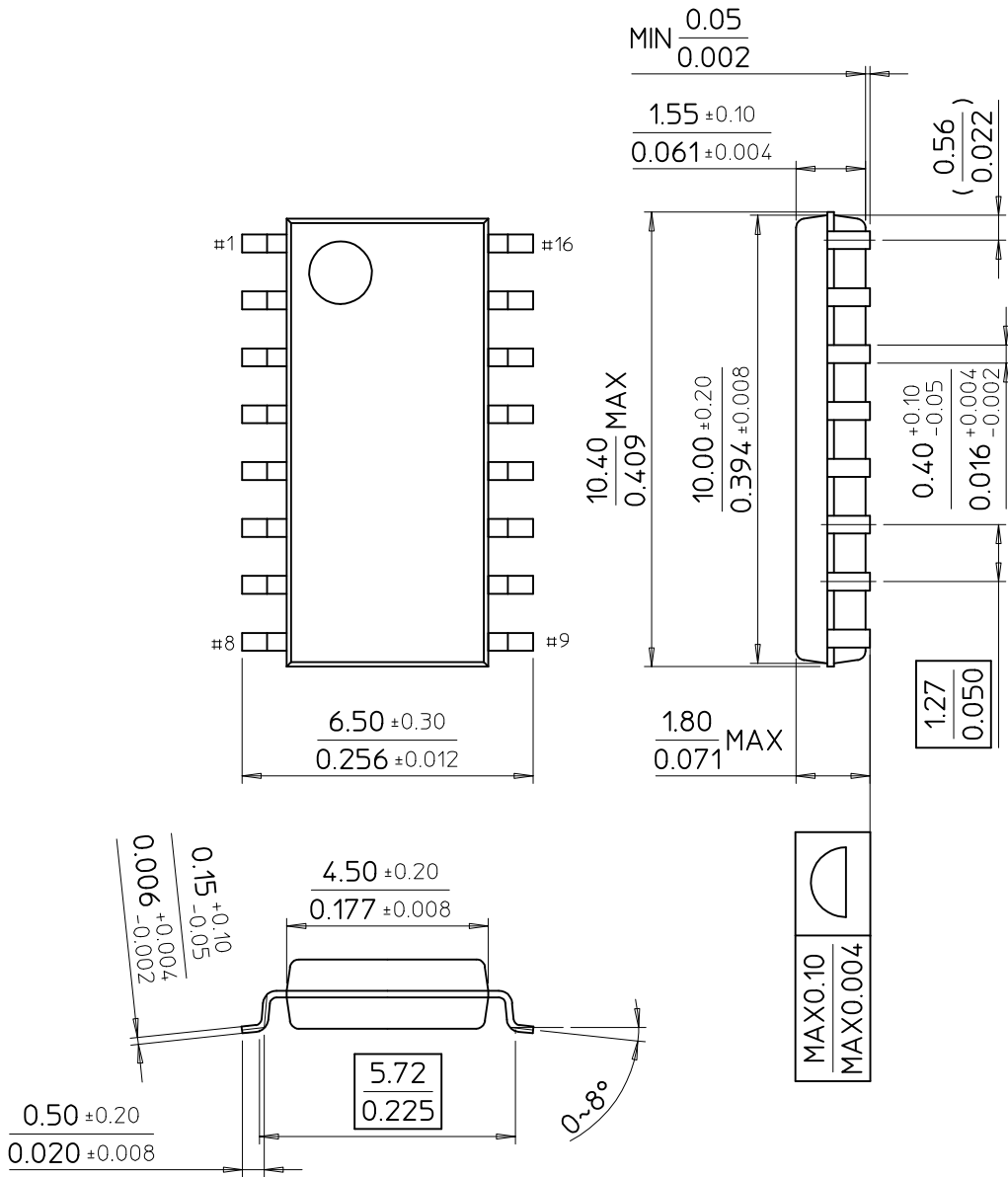
Dimensions in Millimeters/inches



SAMSUNG ELECTRONICS CO.,LTD.

16-SOP-225A

Dimensions in Millimeters/inches



SAMSUNG ELECTRONICS CO.,LTD.