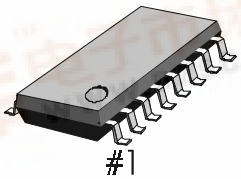
INTRODUCTION

The KA2272D is a monolithic integrated circuit for the FM noise canceller used in car stereos.
It is used in combination with a PLL FM multiplex demodulator (such as the KA2266) with a pilot signal canceller.

16–SOP–225A



FEATURES

- Operation voltage range: V_{CC} = 8V ~ 15V
- Low quiescent circuit current
- Low distortion: THD = 0.02% at V_I = 300mV
- Pilot signal compensation
- Built-in monostable multivibrator.
- Variable input type noise AGC system.

ORDERING INFORMATION

Device	Package	Operating Temperature
KA2272D	16-SOP-225A	–20°C ~ +75°C

BLOCK DIAGRAM

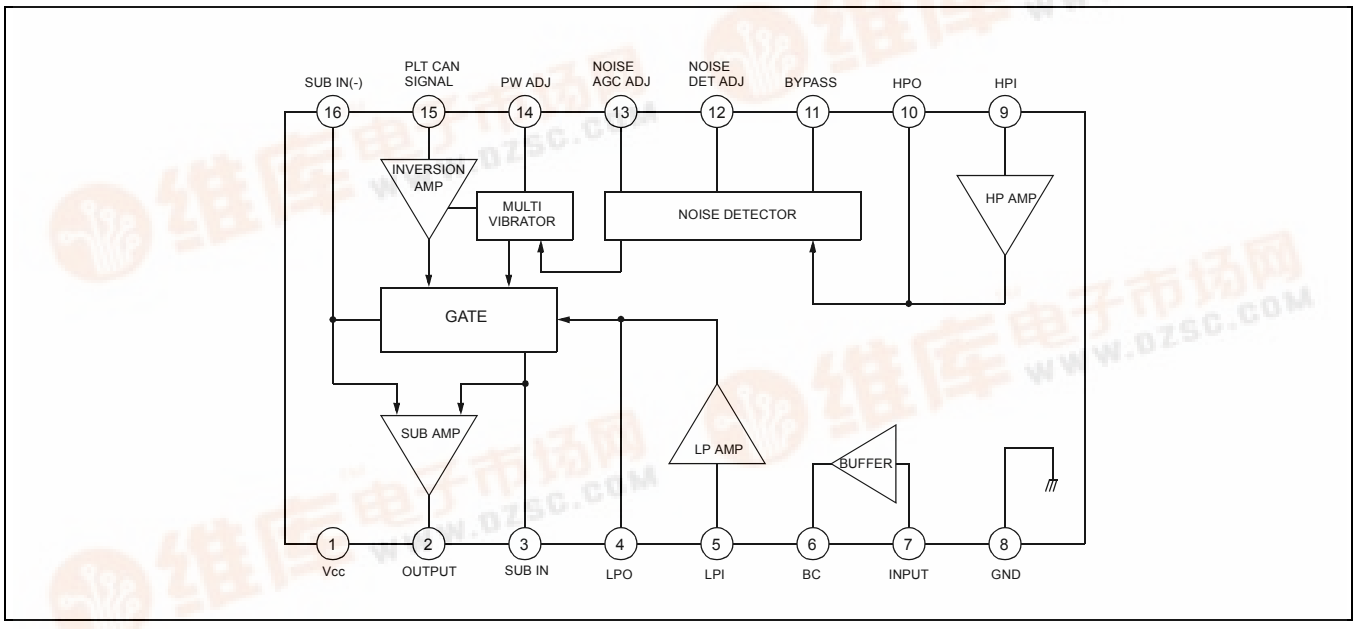


Figure 1.

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	16	V
Power Dissipation	PD	300	Min
Operating Temperature	T_{OPR}	–20 ~ + 75	°C
Storage Temperature	T_{STG}	–40 ~ + 125	°C

ELECTRICAL CHARACTERISTICS

(Ta = 25°C, V_{CC} = 12V, 300 mV, f = 1kHz, unless otherwise specified)

Characteristic	Symbol	Test Conditions		Min.	Typ.	Max.	Unit
		Input Pin	Output Pin				
Quiescent Circuit Current	I_{CCQ}	–	–	–	16	25	mA
Voltage Gain	G_V	V_7 = 300 mV, f = 1kHz	Output	-0.2	0.8	1.8	dB
Output Voltage	V_O	V_7 = variable, f = 1kHz	Output THD = 1%	1.3	–	–	V
Total Harmonic Distortion	THD	V_7 = 300mV, f = 1kHz	Output		0.01	0.03	K%
Input Resistance	R_I	V_7 = 300mV, f = 1kHz	–	36	51	67	dB
Low pass AMP Gain	$G_{V\ (LP)}$	V_5 = 300mV, f = 1kHz	V_4	0	0.83	1.58	dB
High pass AMP Gain	A_{VH}	V_9 = 100mV f = 200kHz	V_{10}	1.58	2.92	4.35	V
Inverted Amp Distortion	THD	f = 19kHZ	Output	300	–	0.1	%
Inverted Amp Dynamic Range	V_O	V_{15} = 100mV f = 19kHz	Output THD = 1%	–	–	–	mV
Inverted Amp Gain	G_V	V_{15} = 100mV f = 19kHz	Output	0	2.28	4.08	dB
Output Noise Voltage	V_{NO}	Bypass V_7 V_{15} to GND	Output, 100 kHz LPF	–	30	60	μV
Gate Time	t_G	V_O = 100mV_{p-p}, 1μs, f = 1kHz	Output	13	21	30	μsec
Noise Sensitivity	SN	V_7, 1μs, f = 1kHz	Output	–	–	30	mV_{p-0}

TEST CIRCUIT

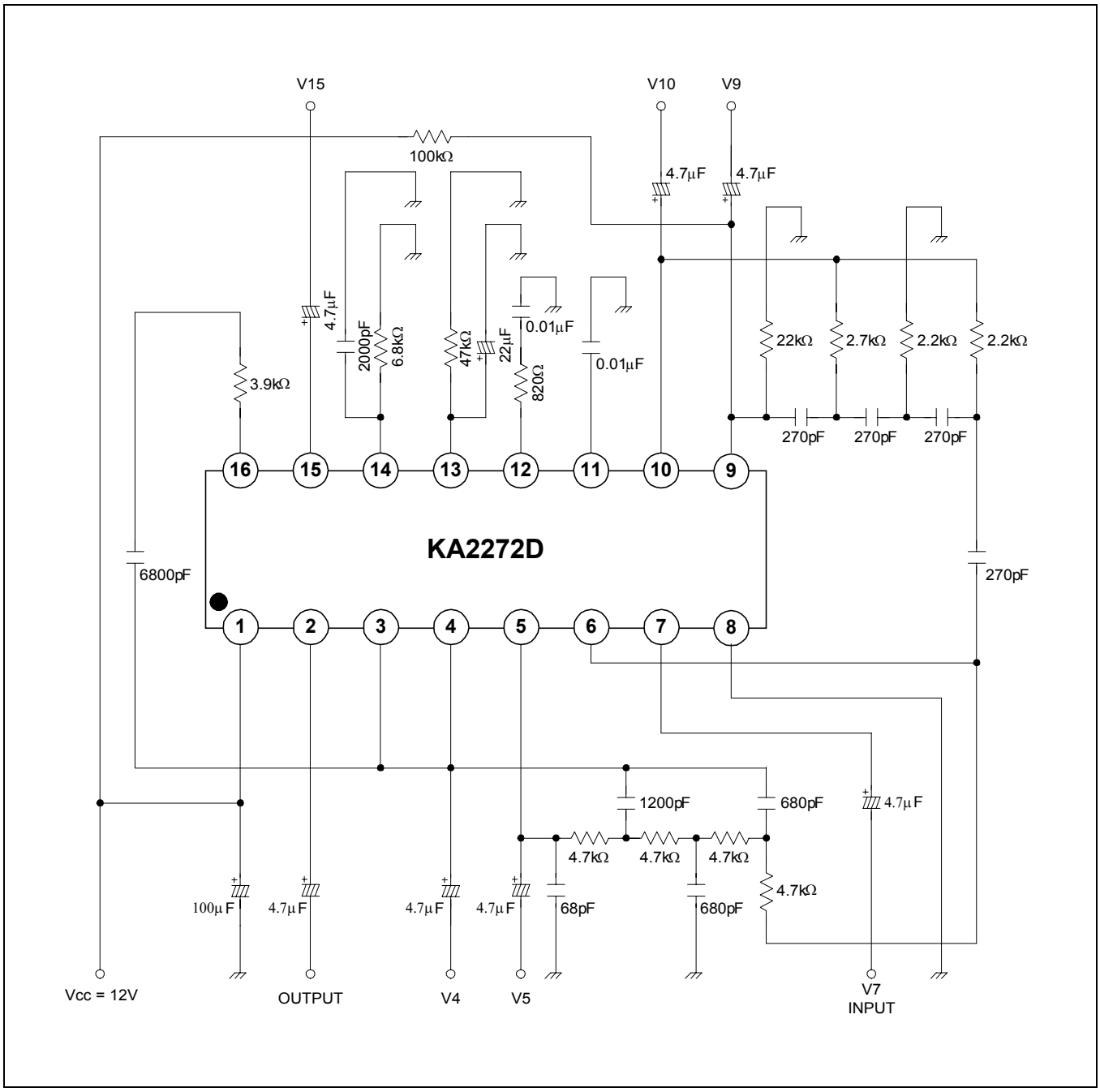
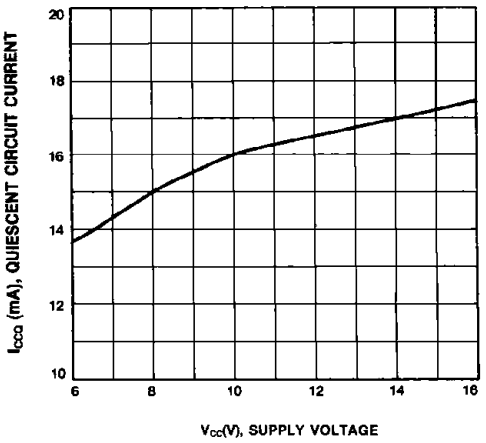
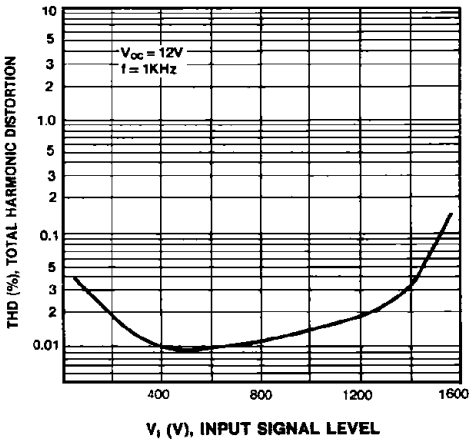


Figure 2.

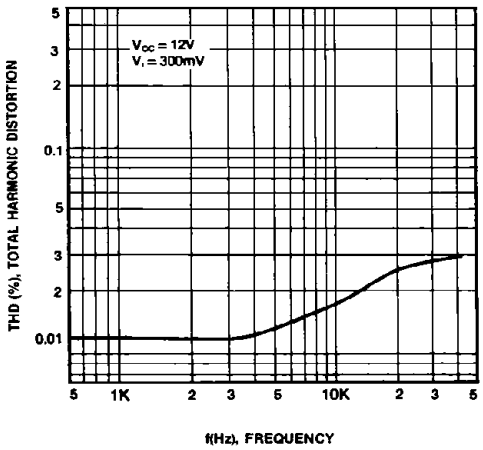
QUIESCENT CIRCUIT CURRENT-SUPPLY VOLTAGE



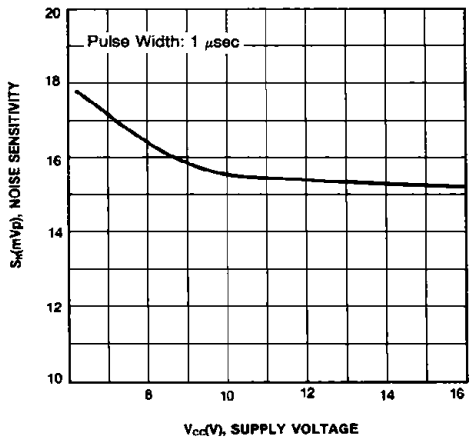
TOTAL HARMONIC DISTORTION-INPUT SIGNAL LEVEL



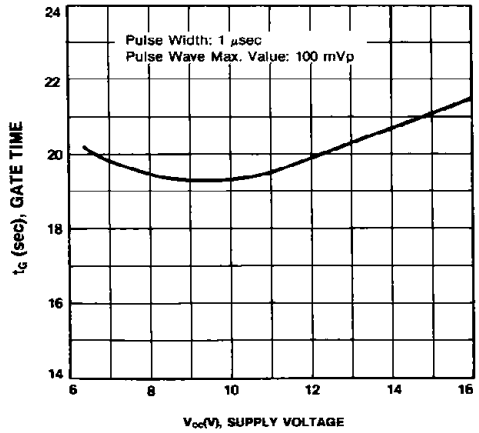
TOTAL HARMONIC DISTORTION-FREQUENCY



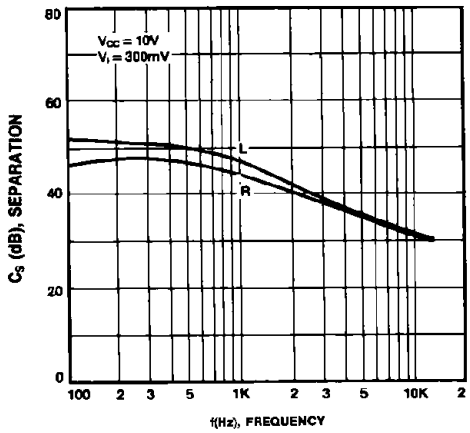
NOISE SENSITIVITY-SUPPLY VOLTAGE



GATE TIME-SUPPLY VOLTAGE

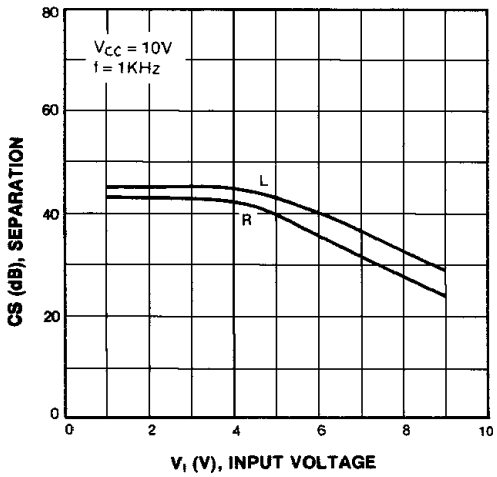


SEPARATION-FREQUENCY



SAMSUNG ELECTRONICS

SEPARATION-INPUT VOLTAGE



APPLICATION CIRCUIT

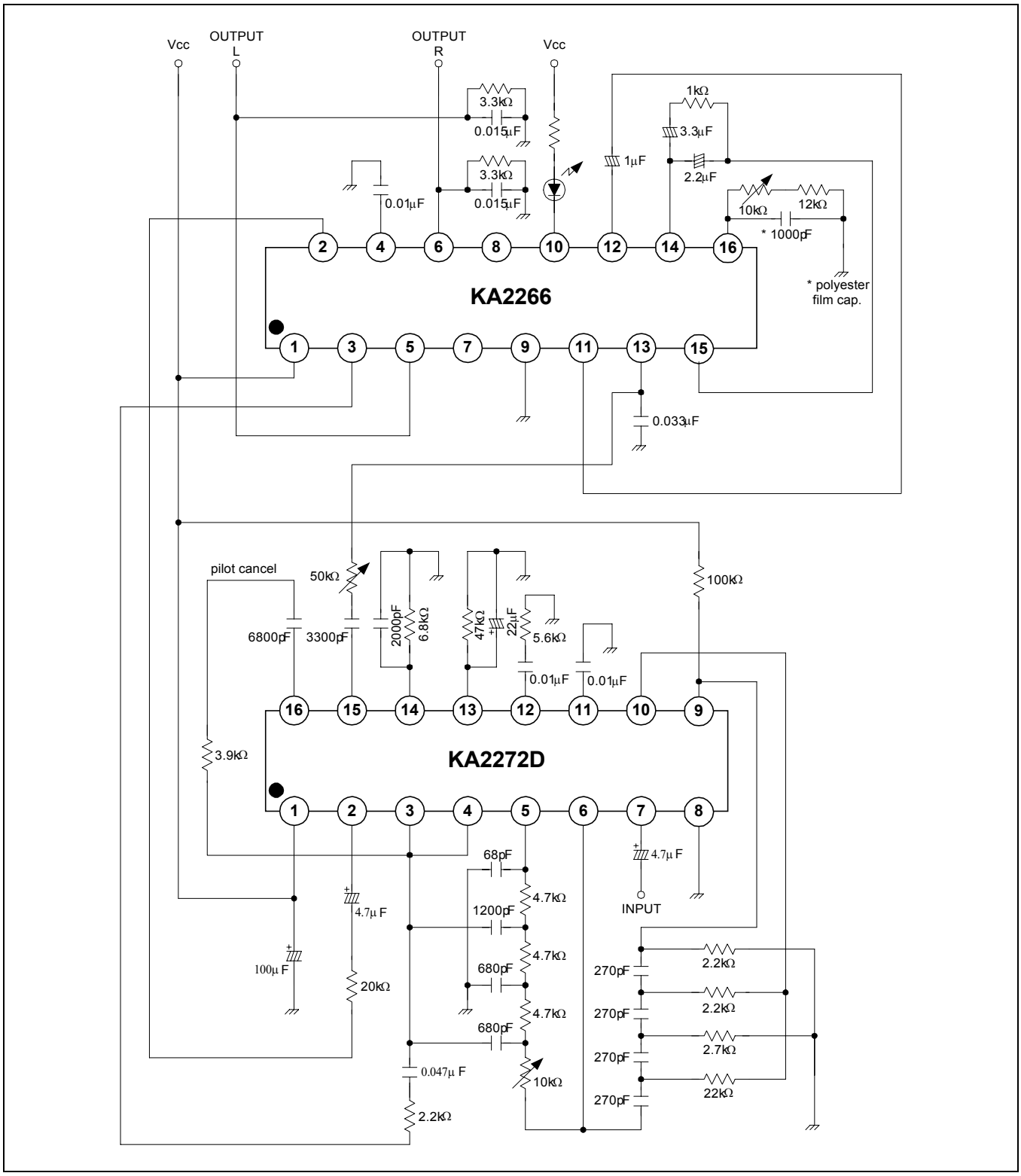


Figure 3.