

SEMICONDUCTOR TECHNICAL DATA

KIA6268P

BIPOLAR LINEAR INTEGRATED CIRCUIT

DUAL RECORD/PLAY PRE-AMPLIFIER

The KIA6268P is a dual preamplifier with ALC and muting designed for use in record/playback amplifier of tape recorder.

It is suitable for a radio cassette tape recorder.

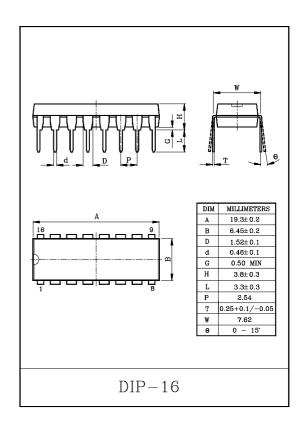
FEATURES

- ·Built-in ALC detector circuit.
- •Built-in muting circuit.
- •Operating supply voltage range : $V_{CC}=6\sim15V$.

MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT	
Supply Voltage	V_{CC}	16	V	
Power Dissipation (Note)	P_{D}	750	mW	
Operating Temperature	T_{opr}	-25~75	${\mathbb C}$	
Storage Temperature	T_{stg}	-55~150	$^{\circ}$	

Note : Derated above Ta=25°C in the proportion of 6mW/°C for KIA6268P



TYPICAL DC VOLTAGE OF EACH TERMINAL (V_{CC}=9V,Ta=25°C, Terminal Voltage at No signal)

TERMINAL NO.	ITEM	SYMBOL	DC VOLTAGE	UNIT
Terminal 1	Rec. GND	V_1	0	V
2	Vs	V_2	8.2	V
3	Mute OUT	V_3	0	V
4	Rec. OUT	V_4	3.3	V
5	Pre. OUT & Rec. IN	V_5	1.3	V
6	Pre. IN NF	V_6	1.3	V
7	Pre. IN	V_7	0	V
8	ALC	V_8	0.9	V
9	Pre. GND	V_9	0	V
10	Pre. IN	V_{10}	0	V
11	Pre. IN NF	V_{11}	1.3	V
12	Pre OUT & Rec. IN	V_{12}	1.3	V
13	Rec. OUT	V_{13}	3.3	V
14	Mute OUT	V_{14}	0	V
15	Mute IN	V ₁₅	2.4	V
16	Vcc	V_{16}	9.0	V

KIA6268P

ELECTRICAL CHARACTERISTICS (Unless otherwise specified. V_{CC} =9V, f=1kHz, Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
cent Current	$ m I_{CCQ}$	1	$V_{\rm IN}$ =0	_	8.5	10.5	mA
Open Loop Voltage Gain	Gvo	1	V _{IN} =-80dBm	65	78	-	dB
Max. Output Voltage	$V_{OM}(1)$	1	THD=1%	0.5	0.8	_	$V_{\rm rms}$
Total Harmonic Distortion	THD(1)	1	V_{O} =0.2 V_{rms}	-	0.15	0.5	%
Output Noise Voltage	$ m V_{NO}$	1	Rg=2.2kΩ, BW=20Hz~20kHz NAB EQ	-	0.26	0.6	mV_{rms}
Cross Talk	С.Т	1	$Rg=2.2k\Omega$, $V_0=0dBm$	47	60	-	dB
Closed Loop Voltage Gain	G_{V}	1	R_L =10k Ω , V_O =0dBm	12.7	14.7	16.7	dB
Max. Output Voltage	$V_{OM}(2)$	1	THD=1%	2.0	2.5	-	$V_{ m rms}$
Total Harmonic Distortion	THD(2)	1	V_0 =1.5 $V_{\rm rms}$	-	0.2	_	%
ALC Range (Note)	R _{ALC}	1	V_{IN} =-60dBm, R_{IN} =2.2k Ω	-	45	-	dB
Total Harmonic Distortion (ALC)	THD(ALC)	1	$\begin{array}{c} V_{\text{IN}}\text{=-20dBm, } R_{\text{IN}}\text{=-2.2k}\Omega, \\ R_{\text{L}}\text{=-10k}\Omega \end{array}$	-	0.3	1.0	%
ALC Voltage	V ₀ (ALC)	1	$V_{\text{IN}}\text{=-20dBm}, \ R_{\text{IN}}\text{=-2.2k}\Omega,$ $R_{\text{L}}\text{=-10k}\Omega$	0.9	1.1	1.42	$ m V_{rms}$
ng Attenuation	ATT	1	-	45	55	-	dB
Balance	$\mathrm{B}_{\mathrm{ALC}}$	1	V _{IN} =-20dBm	-	0	2	dB
	Open Loop Voltage Gain Max. Output Voltage Total Harmonic Distortion Output Noise Voltage Cross Talk Closed Loop Voltage Gain Max. Output Voltage Total Harmonic Distortion ALC Range (Note) Total Harmonic Distortion (ALC)	Open Loop Voltage Gain Max. Output Voltage Total Harmonic Distortion Cross Talk Coross Talk	CHARACTERISTIC SYMBOL CIRCUIT cent Current I_{CCQ} 1 Open Loop Voltage Gain G_{VO} 1 Max. Output Voltage $V_{OM}(1)$ 1 Total Harmonic Distortion $I_{CO}(1)$ 1 Output Noise Voltage $I_{CO}(1)$ 1 Cross Talk $I_{CO}(1)$ 1 Closed Loop Voltage Gain $I_{CO}(1)$ 1 Max. Output Voltage $I_{CO}(1)$ 1 Total Harmonic Distortion $I_{CO}(1)$ 1 ALC Range (Note) $I_{CO}(1)$ 1 ALC Voltage $I_{CO}(1)$ 1	CHARACTERISTIC SYMBOL CIRCUIT TEST CONDITION cent Current I_{CCQ} 1 $V_{IN}=0$ Open Loop Voltage Gain G_{VO} 1 $V_{IN}=80$ dBm Max. Output Voltage $V_{OM}(1)$ 1 $THD=1\%$ Total Harmonic Distortion $THD(1)$ 1 $V_{O}=0.2V_{rms}$ Output Noise Voltage V_{NO} 1 $Rg=2.2k\Omega$, $BW=20Hz\sim20kHz$ $NAB EQ$ Cross Talk $C.T$ 1 $Rg=2.2k\Omega$, $V_{O}=0$ dBm Closed Loop Voltage Gain G_{V} 1 $R_{L}=10k\Omega$, $V_{O}=0$ dBm Max. Output Voltage $V_{OM}(2)$ 1 $THD=1\%$ Total Harmonic Distortion $THD(2)$ 1 $V_{O}=1.5V_{rms}$ ALC Range (Note) R_{ALC} 1 $V_{IN}=-60$ dBm, $R_{IN}=2.2k\Omega$ Total Harmonic Distortion $THD(ALC)$ 1 $V_{IN}=-20$ dBm, $R_{IN}=2.2k\Omega$, $R_{L}=10k\Omega$ ALC Voltage $V_{O}(ALC)$ 1 $V_{IN}=-20$ dBm, $R_{IN}=2.2k\Omega$, $R_{L}=10k\Omega$ ALC Voltage $V_{O}(ALC)$ 1 $V_{IN}=-20$ dBm, $V_{IN}=2.2k\Omega$, V	CHARACTERISTIC SYMBOL CIRCUIT TEST CONDITION MIN. ICCORD TOOP CONDITION MIN. ICCORD TOOP COURT TOO TOO TO THO TOO TO THO TOO TO THO TOO TO	CHARACTERISTIC SYMBOL circuit CIRCUIT TEST CONDITION MIN. TYP. Icent Current I_{CCQ} 1 $V_{IN}=0$ - 8.5 Open Loop Voltage Gain G_{VO} 1 $V_{IN}=0$ 65 78 Max. Output Voltage $V_{OM}(1)$ 1 $THD=1\%$ 0.5 0.8 Total Harmonic Distortion $THD(1)$ 1 $V_{O}=0.2V_{rms}$ - 0.15 Output Noise Voltage V_{NO} 1 $R_{g}=2.2k\Omega$, $BW=20Hz\sim20kHz$ - 0.26 Cross Talk C.T 1 $R_{g}=2.2k\Omega$, $V_{O}=0dBm$ 47 60 Closed Loop Voltage Gain G_{V} 1 $R_{L}=10k\Omega$, $V_{O}=0dBm$ 12.7 14.7 Max. Output Voltage $V_{OM}(2)$ 1 $THD=1\%$ 2.0 2.5 Total Harmonic Distortion $THD(2)$ 1 $V_{O}=1.5V_{rms}$ - 0.2 ALC Range (Note) R_{ALC} 1 $V_{IN}=-20dBm$, $R_{IN}=2.2k\Omega$, $R_{IN}=2.2k\Omega$, $R_{IN}=1.0k\Omega$ - 0.3 ALC Voltage <td>$\begin{array}{cccccccccccccccccccccccccccccccccccc$</td>	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

Note : Input voltage range from $V_{\rm IN}\mbox{=-}60\mbox{dBm}$ to output voltage $V_{\rm OUT}$ 3dB up.

