

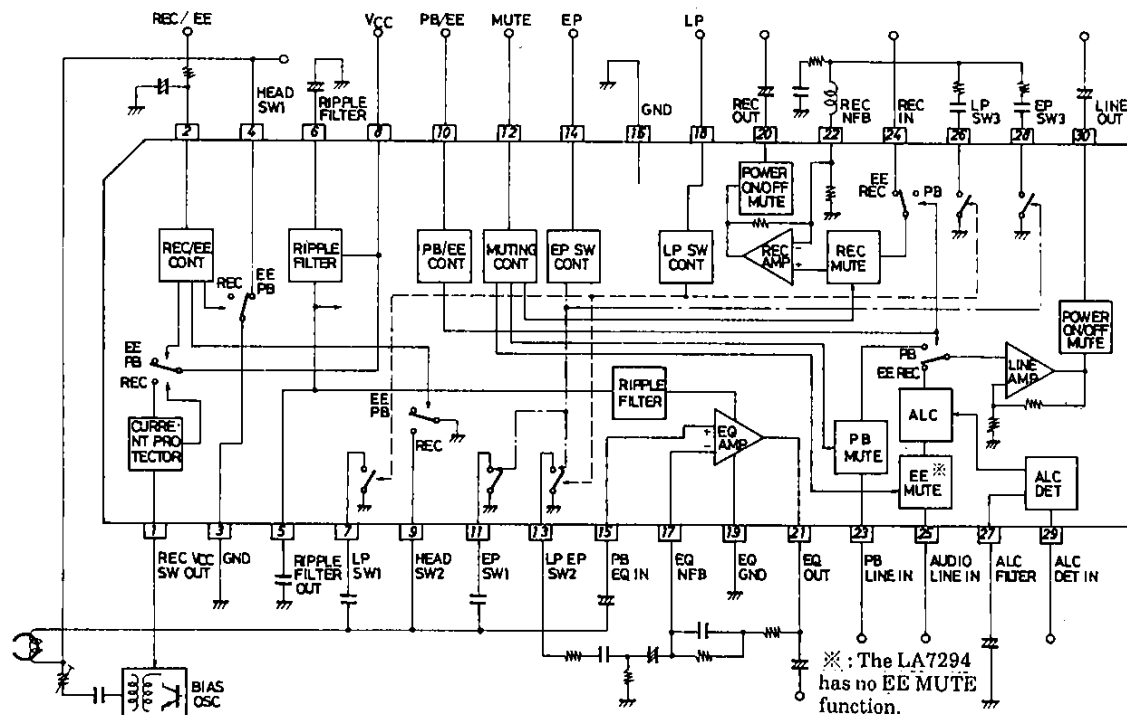
**SANYO**

No.2767A

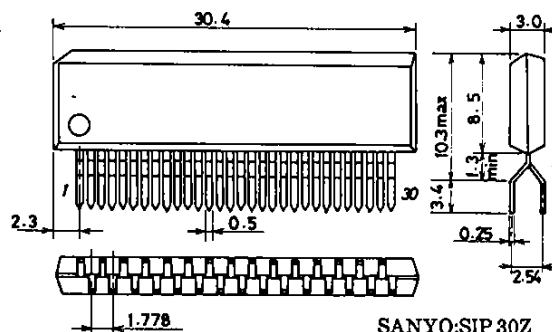
**LA7295 Series****VTR Audio Signal Recording /  
Playback Processor****Features**

- Single-chip ICs that provide various functions (including two tape head select switches, a power supply switch for the OSC bias circuit, and five equalizer select switches (LP, EP) required for VTR audio signal recording / playback)
- High merit in space because of SIP package
- Minimum number of external parts required

LA7295	... $V_{CC}=12V$ , PB "Hi"
LA7294	... $V_{CC}=12V$ , PB "Hi", no EE muting function
LA7296	... $V_{CC}=12V$ , PB "Lo"
LA7297	... $V_{CC}=9V$ , PB "Hi"

**Block Diagram**

Package Dimensions 3117  
(unit:mm)



**SANYO Electric Co., Ltd. Semiconductor Business Headquarters**  
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

30193TS/5208YT, TA 8-2944,45,46,47 No.2767-1/6

LA7294,7295,7296,7297.

Maximum Ratings at Ta = 25°C		LA7294/95/96	LA7297	unit
Maximum Supply Voltage	V <sub>CC</sub> max	14	11	V
Allowable Power Dissipation	Pd max Ta = 65°C	600	600	mW
Operating Temperature	Topr	-10 to +65	-10 to +65	°C
Storage Temperature	Tstg	-55 to +125	-55 to +125	°C

Operating Conditions at Ta = 25°C		LA7294/95/96	LA7297	unit
Recommended Supply Voltage	V <sub>CC</sub>	12.0	9.0	V
Operating Voltage Range	V <sub>CC</sub> op	11.25 to 12.75	8.25 to 9.75	V

Operating Characteristics at Ta = 25°C, V<sub>CC</sub> = 12V(9V), f = 1kHz, 0dBv:1.0Vrms

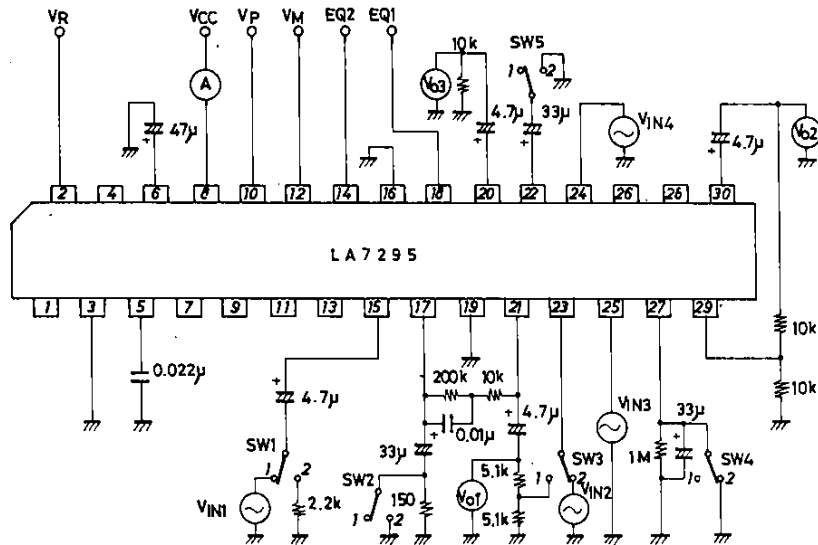
			min	typ	max	unit
Current Dissipation (EE)	I <sub>CC</sub> Quiescent		11.0	15.0	20.0	mA
Current Dissipation (PB)	I <sub>CC</sub> Quiescent		12.0	16.0	21.0	mA
Current Dissipation (REC)	I <sub>CC</sub> Quiescent		9.0	13.0	18.0	mA
Overall Gain at PB Mode	V <sub>G</sub> PB EQ IN to LINE OUT, V <sub>o</sub> = -5dBv		67.0	68.0	69.0	dB
[Equalizer Amp]						
Open-Loop Voltage Gain	V <sub>G</sub> OE V <sub>o</sub> = -5dBv		67.0	72.0		dB
Equivalent Input Noise Voltage	V <sub>N</sub> IE R <sub>g</sub> = 2.2kΩ, DIN audio filter			1.0	1.8μVrms	
Input Resistance	r <sub>ie</sub>			130		kΩ
[Line Amp]						
Voltage Gain (PB Input)	V <sub>G</sub> LP V <sub>o</sub> = -5dBv		32.0	33.0	34.0	dB
Voltage Gain (EE, REC Input)	V <sub>G</sub> LR V <sub>o</sub> = -5dBv		32.0	33.0	34.0	dB
Total Harmonic Distortion	THD <sub>L</sub> V <sub>o</sub> = -5dBv			0.15	0.40	%
Output Noise Voltage	V <sub>N</sub> OL DIN audio filter			-70.0	-64.0	dBv
Input Resistance (PB Input)	r <sub>i1</sub>			30.0		kΩ
Input Resistance (EE, REC Input)	r <sub>i2</sub>			30.0		kΩ
Maximum Output Voltage	V <sub>OM</sub> L THD = 1%		1.5	2.2		Vrms
Output Voltage at ALC Mode	V <sub>OA</sub> V <sub>IN</sub> = -35dBv		-6.5	-5.0	-3.5	dBv
ALC Effect	ALC V <sub>IN</sub> = -35 to -10dBv			1.0	3.0	dB
Total Harmonic Distortion at ALC Mode	THD <sub>A</sub> V <sub>IN</sub> = -35dBv			0.2	0.6	%
[Recording Amp]						
Voltage Gain (Open Loop)	V <sub>G</sub> OR V <sub>o</sub> = -5dBv		51.0	57.0		dB
Voltage Gain (Closed Loop)	V <sub>G</sub> CR V <sub>o</sub> = -5dBv		13.5	14.5	15.5	dB
Total Harmonic Distortion	THD <sub>R</sub> V <sub>o</sub> = -5dBv			0.1	0.3	%
Input Resistance	r <sub>ir</sub>			30.0		kΩ
Maximum Output Voltage	V <sub>OM</sub> R THD = 1%		1.5	2.2		Vrms
[Muting Circuit]						
ON-State Voltage	V <sub>MON</sub> Pin 12 DC		3.3		V <sub>CC</sub>	V
OFF-State Voltage	V <sub>MOFF</sub> Pin 12 DC		0		1.0	V
Muting Attenuation (PB, EE)	M <sub>P</sub> , M <sub>E</sub> LA7294 : No EE required		85.0	90.0		dB
Muting Attenuation (REC)	M <sub>R</sub>		73.0	78.0		dB
[PB/EE Select Circuit]						
PB Mode Hold Voltage (LA7296 EE mode)	V <sub>PP</sub> Pin 10 DC		3.3		6.0	V
EE Mode Hold Voltage (LA7296 PB mode)	V <sub>PE</sub> Pin 10 DC		0		1.0	V
[REC/EE Select Circuit]						
REC Mode Hold Voltage	V <sub>RR</sub> Pin 2 DC		3.8		6.0	V
EE Mode Hold Voltage	V <sub>RE</sub> Pin 2 DC		0		1.0	V

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			min	typ	max	unit
[Equalizer Select Circuit]						
Switch ON-State Voltage	$V_{EON}$	Pins 14,18 DC	3.0		6.0	V
Switch OFF-State Voltage	$V_{EOFF}$	Pins 14,18 DC	0		0.8	V
[Head Select Switch]						
Pin 4 ON-State Resistance	$R_{ON4}$	$I_4 = \pm 1\text{mA}$		10	20	$\Omega$
Pin 9 ON-State Resistance	$R_{ON9}$	$I_9 = \pm 1\text{mA}$		5	10	$\Omega$
Pin 4 Input Voltage	$V_{IN4}$	$T_a = 65^\circ\text{C}, f = 80\text{kHz}(\sin)$ $I_{LK} = 10\mu\text{A}$			$\pm 40$	V
[REC $V_{CC}$ Switch]						
Pin 1 Output Voltage (LA7294/95/96)	$V_{RO}$	Pin 1 load current 100mA	10.5	10.8		V
Pin 1 Output Voltage (LA7297)	$V_{RO}$	Pin 1 load current 100mA	7.5	7.8		V

## Test Circuit

Unit (resistance:  $\Omega$ , capacitance: F)

## (Switch Operating Table)

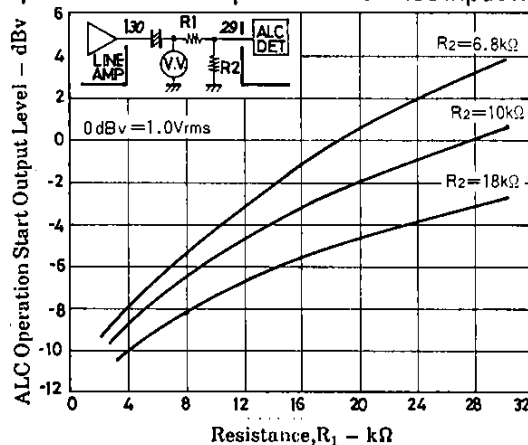
Item (Symbol)	SW1	SW2	SW3	SW4	SW5	V <sub>M</sub>	V <sub>P</sub>	V <sub>R</sub>	Input	Test
I <sub>CCE</sub>	2	1	1	2	1	GND	GND	GND		A
I <sub>CCP</sub>	2	1	1	2	1	GND	5V	GND		A
I <sub>CCR</sub>	2	1	1	2	1	GND	GND	5V		A
V <sub>GpB</sub>	1	1	1	2	1	GND	5V	GND	V <sub>IN1</sub>	Vo2
V <sub>GpE</sub>	1	2	2	2	1	GND	5V	GND	V <sub>IN1</sub>	Vo1
V <sub>NIE</sub>	2	1	2	2	1	GND	5V	GND		Vo1
V <sub>GLP, THDL, V<sub>OML</sub></sub>	2	1	2	2	1	GND	5V	GND	V <sub>IN2</sub>	Vo2
V <sub>GLR</sub>	2	1	1	2	1	GND	GND	GND	V <sub>IN3</sub>	Vo2
V <sub>NOL</sub>	2	1	2	2	1	GND	GND	GND		Vo2
V <sub>OA, ALC, THDA</sub>	2	1	2	1	1	GND	GND	GND	V <sub>IN3</sub>	Vo2
V <sub>GpR</sub>	2	1	2	2	2	GND	GND	GND	V <sub>IN4</sub>	Vo3
V <sub>GCR, THDR, V<sub>OMR</sub></sub>	2	1	2	2	1	GND	GND	GND	V <sub>IN4</sub>	Vo3
M <sub>P</sub>	1	1	1	2	1	5V	5V	GND	V <sub>IN1</sub>	Vo2
M <sub>R</sub>	2	1	1	2	1	5V	GND	GND	V <sub>IN4</sub>	Vo3
M <sub>E</sub>	2	1	2	2	1	5V	GND	GND	V <sub>IN2</sub>	Vo2

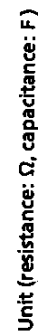
For the LA7294 that has no EE MUTE function, the ME test is not required.

## ALC Output Level Setting

The ALC output level depends on the value of the resistor connected to the detector input (pin 29) as shown below.

## ALC Operation Start Output Level vs. ALC Input Resistance





※※: The LA7294 has no EE MUTE function.

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