



SANYO Semiconductors

DATA SHEET

Monolithic Linear IC

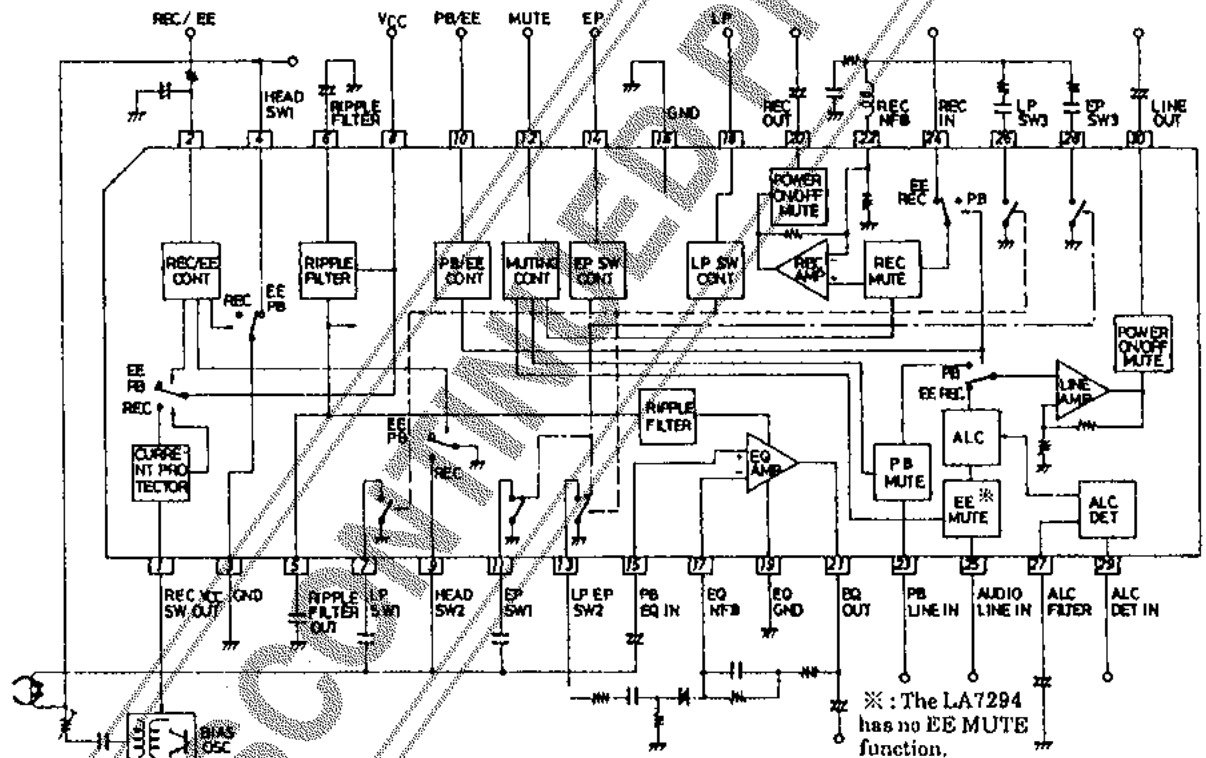
LA7295 Series — VTR Audio Signal Recording / Playback Processor

Features

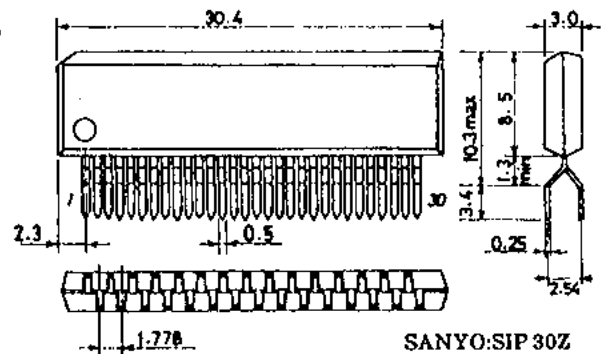
- Single-chip ICs that provide various functions (including two tape head select switches, a power supply switch for the OSC bias circuit, and five equalizer select switches (LP, EP) required for VTR audio signal recording / playback
- High merit in space because of SIP package
- Minimum number of external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



Specifications and information herein are subject to change without notice.

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LA7294,7295,7296,7297

Maximum Ratings at Ta = 25°C			LA7294/95/96	LA7297	unit	
Maximum Supply Voltage	V _{CC} max		14	11	V	
Allowable Power Dissipation	P _d max	Ta = 65°C	600	600	mW	
Operating Temperature	T _{op}		-10 to +65	-10 to +65	°C	
Storage Temperature	T _{stg}		-55 to +125	-55 to +125	°C	
Operating Conditions at Ta = 25°C			LA7294/95/96	LA7297	unit	
Recommended Supply Voltage	V _{CC}		12.0	9.0	V	
Operating Voltage Range	V _{CC op}		11.25 to 12.75	8.25 to 9.75	V	
Operating Characteristics at Ta = 25°C, V _{CC} = 12V(9V), f = 1kHz, 0dBv: 1.0Vrms						
			min	typ	max	unit
Current Dissipation (EE)	I _{CC} E	Quiescent	11.0	15.0	20.0	mA
Current Dissipation (PB)	I _{CC} P	Quiescent	12.0	16.0	21.0	mA
Current Dissipation (REC)	I _{CC} R	Quiescent	9.0	13.0	18.0	mA
Overall Gain at PB Mode	V _G PB	EQ IN to LINE OUT, V _o = -5dBv	67.0	68.0	69.0	dB
[Equalizer Amp]						
Open-Loop Voltage Gain	V _G OE	V _o = -5dBv	67.0	72.0		dB
Equivalent Input Noise Voltage	V _N IE	R _g = 2.2kΩ, DIN audio filter		1.0	1.8μVrms	
Input Resistance	r _{ie}			130		kΩ
[Line Amp]						
Voltage Gain (PB Input)	V _G LP	V _o = -5dBv	32.0	33.0	34.0	dB
Voltage Gain (EE, REC Input)	V _G LR	V _o = -5dBv	32.0	33.0	34.0	dB
Total Harmonic Distortion	THD _L	V _o = -5dBv		0.15	0.40	%
Output Noise Voltage	V _N OL	DIN audio filter		-70.0	-64.0	dBv
Input Resistance (PB Input)	r _{i1}			30.0		kΩ
Input Resistance (EE, REC Input)	r _{i2}			30.0		kΩ
Maximum Output Voltage	V _O ML	THD = 1%	1.5	2.2		Vrms
Output Voltage at ALC Mode	V _O A	V _{IN} = -35dBv	-6.5	-5.0	-3.5	dBv
ALC Effect	ALC	V _{IN} = -35 to -10dBv		1.0	3.0	dB
Total Harmonic Distortion at ALC Mode	THD _A	V _{IN} = -35dBv		0.2	0.6	%
[Recording Amp]						
Voltage Gain (Open Loop)	V _G OR	V _o = -5dBv	51.0	57.0		dB
Voltage Gain (Closed Loop)	V _G CR	V _o = -5dBv	13.5	14.5	15.5	dB
Total Harmonic Distortion	THD _R	V _o = -5dBv		0.1	0.3	%
Input Resistance	r _{ir}			30.0		kΩ
Maximum Output Voltage	V _O MR	THD = 1%	1.5	2.2		Vrms
[Muting Circuit]						
ON-State Voltage	V _M ON	Pin 12 DC	3.3		V _{CC}	V
OFF-State Voltage	V _M OFF	Pin 12 DC	0		1.0	V
Muting Attenuation (PB, EE)	M _{P, M} E	LA7294: No EE required	85.0	90.0		dB
Muting Attenuation (REC)	M _R		73.0	78.0		dB
[PB/EE Select Circuit]						
PB Mode Hold Voltage (LA7296 EE mode)	V _{PP}	Pin 10 DC	3.3		6.0	V
EE Mode Hold Voltage (LA7296 PB mode)	V _{PE}	Pin 10 DC	0		1.0	V
[REC/EE Select Circuit]						
REC Mode Hold Voltage	V _{RR}	Pin 2 DC	3.8		6.0	V
EE Mode Hold Voltage	V _{RE}	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	Ω
Pin 9 ON-State Resistance	R_{ON9} $I_9 = \pm 1\text{mA}$		5	10	Ω
Pin 4 Input Voltage	V_{IN4} $T_a = 65^\circ\text{C}, f = 80\text{kHz}(\text{sin})$ $I_{LK} = 10\mu\text{A}$			± 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

DISCONTINUED PRODUCT

