



No.1462

STK6328A

Thick Film Hybrid IC
2-CHANNEL 5-BAND GRAPHIC EQUALIZER

Features

- Contains Sanyo monolithic linear semiconductor chip LA6458.
- The number of external parts are reduced to approximately 1/4 as compared with conventional ones because of on-chip 2-channel circuit.
- Excellent space factor because of 2-pin SEP.
- Dual/single-supply 5-band graphic equalizer
Variable range: $\pm 12\text{dB}(\text{typ})$.
- f_0 : 63Hz, 250Hz, 1kHz, 4kHz, 16kHz(typ). f_0 can be changed to 100Hz, 350Hz, 1kHz, 3.5kHz by changing external capacitors.
- Low noise and low distortion (0.01% at 20kHz typ).
- Wide operating voltage range: ± 1.5 to $\pm 15\text{V}$ (3 to 30V)
- Especially suited for use in Hi-Fi, new audio equipment, car audio, radio cassette.

Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Value	Unit
Maximum Supply Voltage	$V_{CC\text{max}}$	+16	V
	$V_{EE\text{max}}$	-16	V
Allowable Power Dissipation	$P_{d\text{max}}$	1.2	W
Operating Temperature	T_{opg}	-20 to +70	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to +100	$^\circ\text{C}$

Operating Conditions at $T_a=25^\circ\text{C}$, operable from $V_{CC}=\pm 1.5$ to $\pm 15\text{V}$ (3 to 30V)

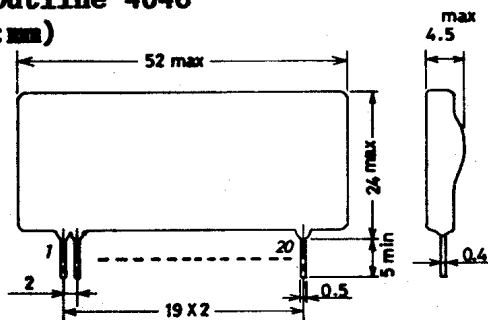
Parameter	Symbol	Value	Unit
Recommended Supply Voltage	$\pm V_{CC}$	± 12	V
	V_{CC} Single supply	24	V

Operating Characteristics at $T_a=25^\circ\text{C}$, $V_{CC}=\pm 12$, $f=1\text{kHz}$, flat mode

Parameter	Symbol	Condition	min	typ	max	Unit
Quiescent Current	I_{CCO}	$\pm 12\text{V}$ and single 24V supply	19.5	24	24	mA
Voltage Gain	VG	$V_0=1\text{Vrms}$	-1	0	+1	dB
Output Voltage	V_0	THD=1%	6.3	7.4	7.4	Vrms
Total Harmonic Distortion	THD	$V_0=1\text{Vrms}$	0.01	0.02	0.02	%
Output Noise Voltage	V_{NO}	Input short	0.05	0.3	0.3	mVrms

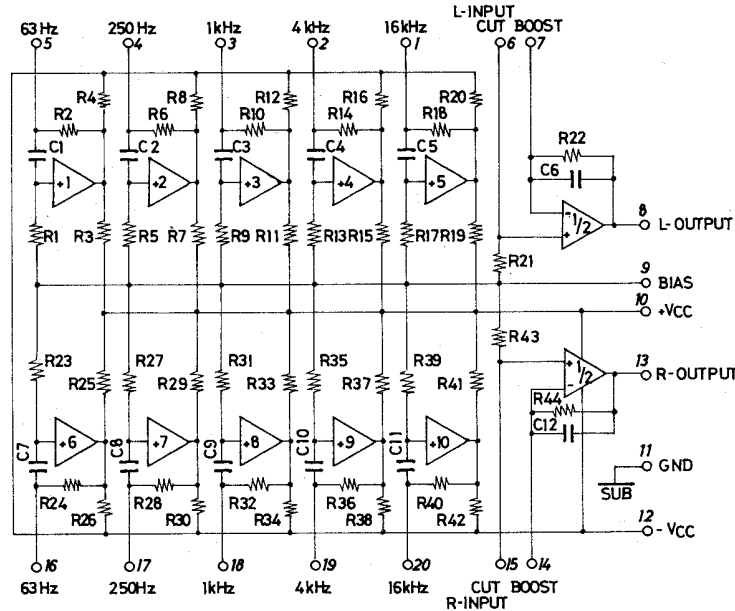
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Case Outline 4048 (unit:mm)

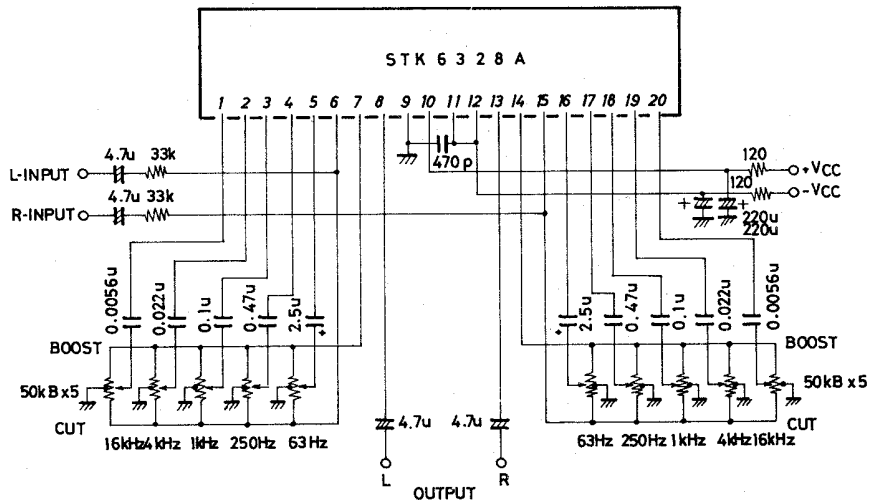


		min	typ	max	unit	
Frequency Response	f(1)	f=63Hz, BOOST/CUT,	±10	±12	±13.5	dB
		V_0 ref=0.5Vrms				
	f(2)	f=250Hz, BOOST/CUT,	±10.5	±12	±13.5	dB
		V_0 ref=0.5Vrms				
	f(3)	f=1kHz, BOOST/CUT,	±10.5	±12	±13.5	dB
	V_0 ref=0.5Vrms					
f(4)	f=4kHz, BOOST/CUT,	±10.5	±12	±13.5	dB	
	V_0 ref=0.5Vrms					
f(5)	f=16kHz, BOOST/CUT,	±10.5	±12	±13.5	dB	
	V_0 ref=0.5Vrms					
Input Resistance	ri	33k	38k		ohm	
Output Resistance			120		ohm	

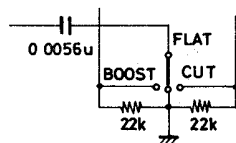
Equivalent Circuit



Test Circuit



(1) VR: Fixed resistor 22kohm is changed over when testing.

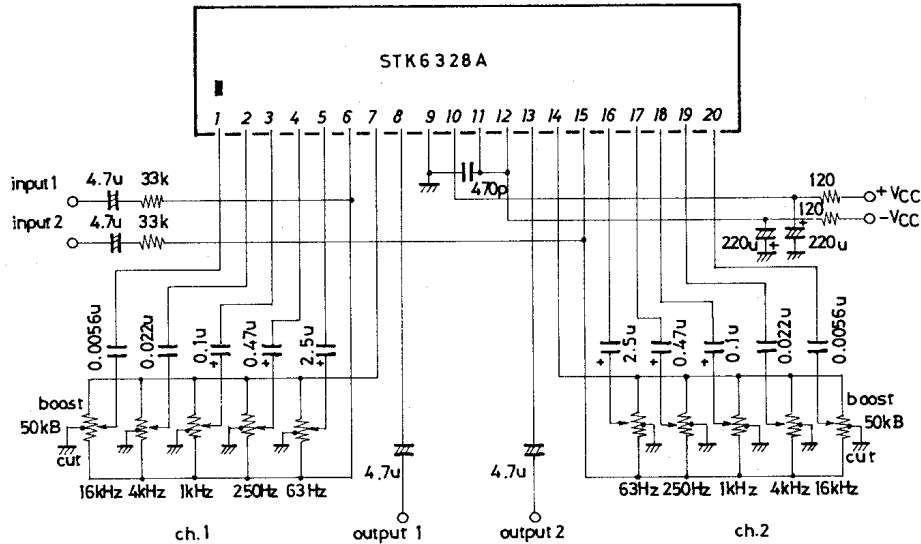


(2) Increased tolerance of parts used.

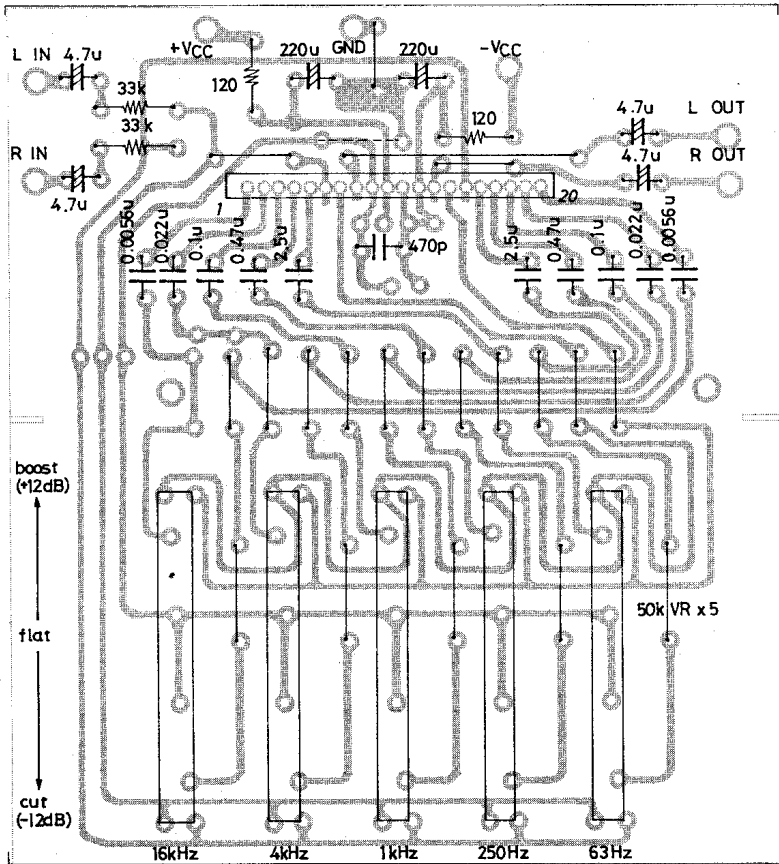
Resistor : 33kohm, 22kohm: $\pm 2\%$

Capacitor : 0.056uF, 0.022uF, 0.1uF, 0.47uF, 2.5uF: $\pm 5\%$

1. Sample Application Circuit (Dual-supplu operation)



Sample Printed Circuit Patten (Cu-foiled area)



IC STK6328A

VR Slide variable resistor
2-gang 50kohm (B or W characteristic)
Weth center tap
Ex. Alps-made S3026 type

Capacitor
470pF (OSC bloking)
0.0056uFK (16kHz)
0.022uFK (4kHz)
0.1uFK (1kHz)
0.47uFK (250Hz)
2.5uFK (63Hz)
4.7uF/35V (input-output coupling)
220uF/35V (power supply)

Resistor
33kohmJ 1/8W(input resistance)
120ohmK 1/4W(power supply)