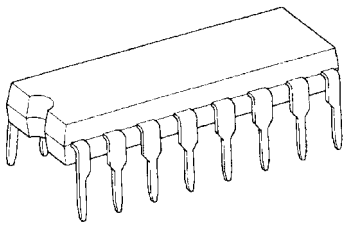
TOSHIBA Bipolar Linear Integrated Circuit Silicon Monolithic

TA2078P

Preset Equalizer IC

TA2078P is a 3 mode preset equalizer IC.
This IC have built-in one middle boost and two type high/low boost equalizers and flat mode.
These operation mode are controled by internal switch.



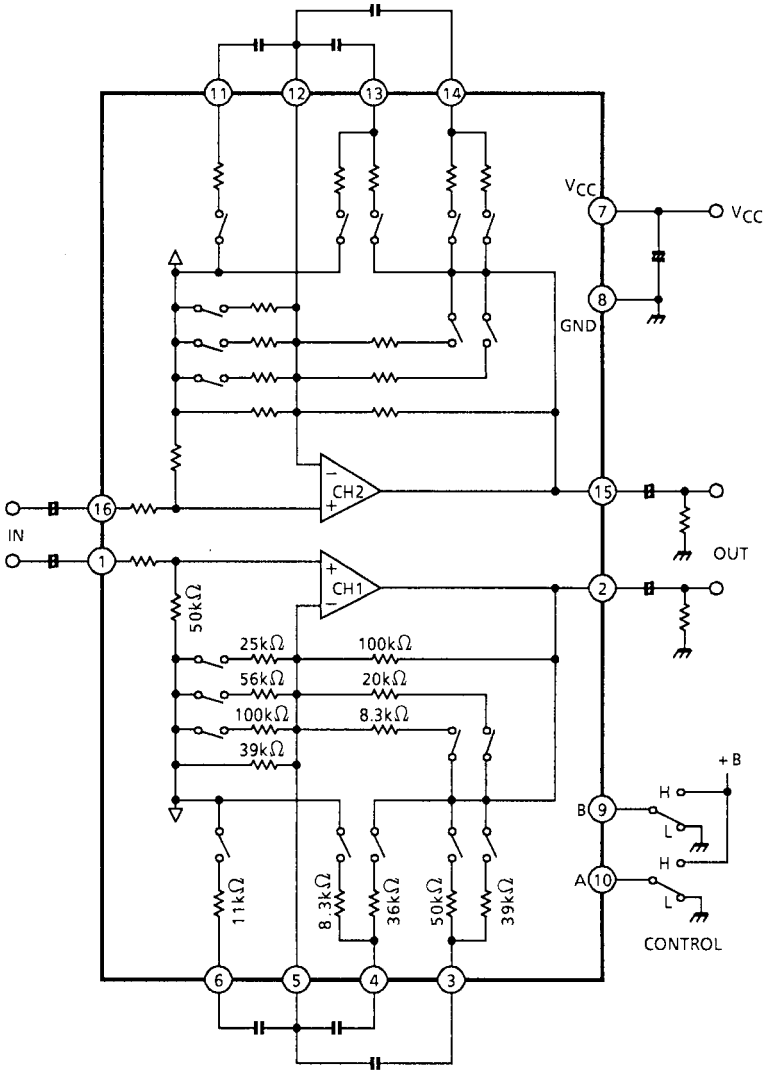
DIP16-P-300-2.54A

Weight: 1.00 g (typ.)

Features

- Dual channel
- 3 mode preset equalizer
  1) Middle boost
  2) High/Low boost-1
  3) High/Low boost-2
  4) Flat (No equalizing)
- Few external parts
- Dual inline package 16 pin
- Operating supply voltage range
  : $V_{CC\ (opr)}$ = 7.5~14.0 V (Ta = 25°C)

Block Diagram



Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Supply voltage	V_{CC}	14	V
Power dissipation	P_D (Note)	750	mW
Operating temperature	T_{opr}	−25~75	°C
Storage temperature	T_{stg}	−55~150	°C

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

Electrical Characteristics
(unless otherwise specified, V_{CC} = 10 V, R_g = 620 Ω, R_L = 10 kΩ, f = 1 kHz, Normal Mode, Ta = 25°C)

Characteristics	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Operating voltage	V_{CC}	—	—	7.5	—	14.0	V
Quiescent current	I_{CCQ1}	—	Normal mode (A = L, B = L)	—	2.5	5.0	mA
	I_{CCQ2}	—	Rock mode (A = H, B = L)	—	4.2	9.0	
	I_{CCQ3}	—	Classic mode (A = L, B = H)	—	4.6	9.0	
	I_{CCQ4}	—	Pop mode (A = H, B = H)	—	4.5	9.0	
Voltage gain	G_V	—	—	12.0	14.0	16.0	dB
Maximum output voltage	V_{om}	—	THD = 1%	2.5	3.0	—	Vrms
Total harmonic distortion	THD	—	V_{in} = 200 mVrms	—	0.01	0.1	%
Ripple rejection ratio	R.R.	—	V_{rip} = 300 mVrms, f_{rip} = 100 Hz	—	−56	—	dB
Cross talk	C.T.	—	V_{in} = 350 mVrms	—	−70	−60	dB
Output noise voltage	V_{no}	—	R_g = 620 Ω, DIN AUDIO filter	—	20	30	μVrms

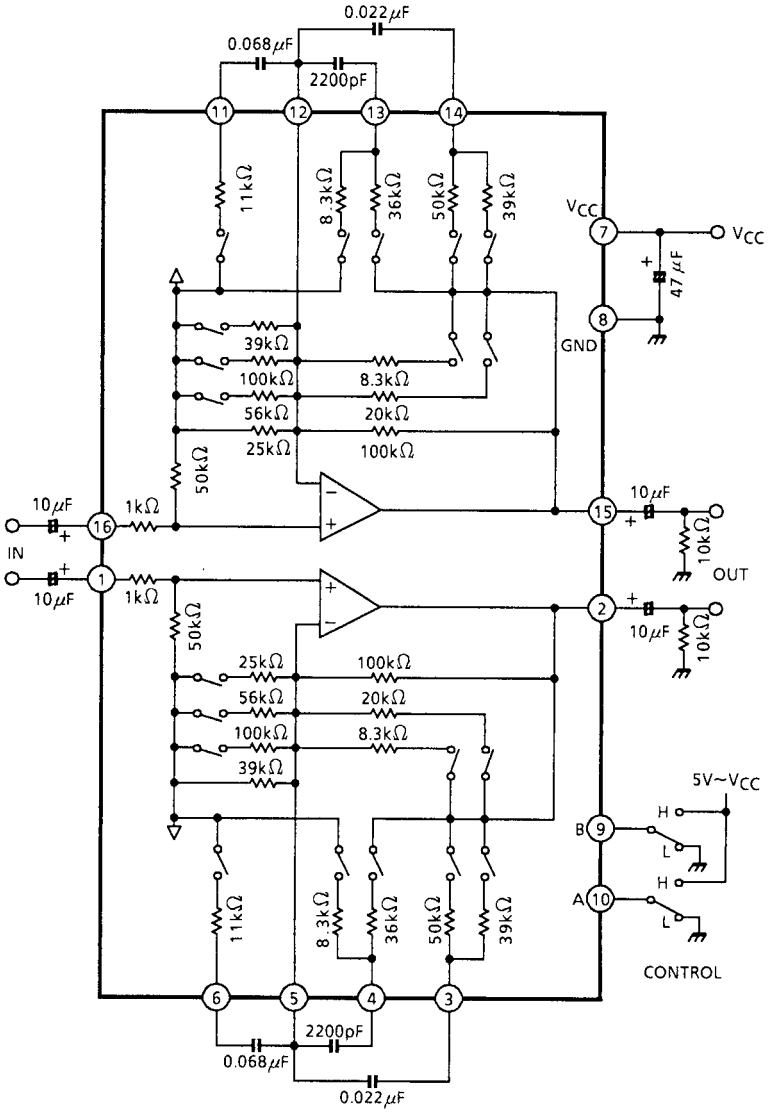
Control Switch Voltage

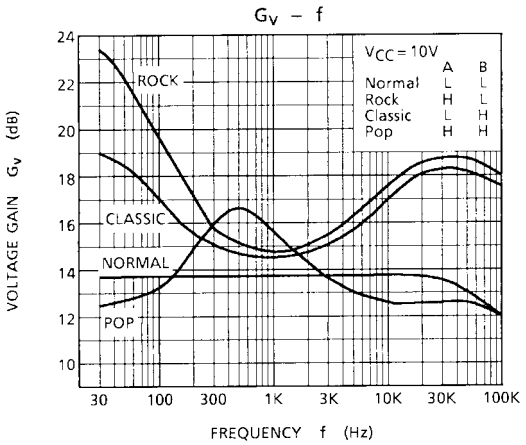
	Control Voltage for 10/9 pin
“H” Input	2.0 V~V_{CC}
“L” Input	0~0.8 V or Open

Operation Mode

	A (10 pin)	B (9 pin)	Boost Frequency
Normal	L	L	Flat (No equalizing)
Rock	H	L	High/Low boost-1
Classic	L	H	High/Low boost-2
Pop	H	H	Mid boost

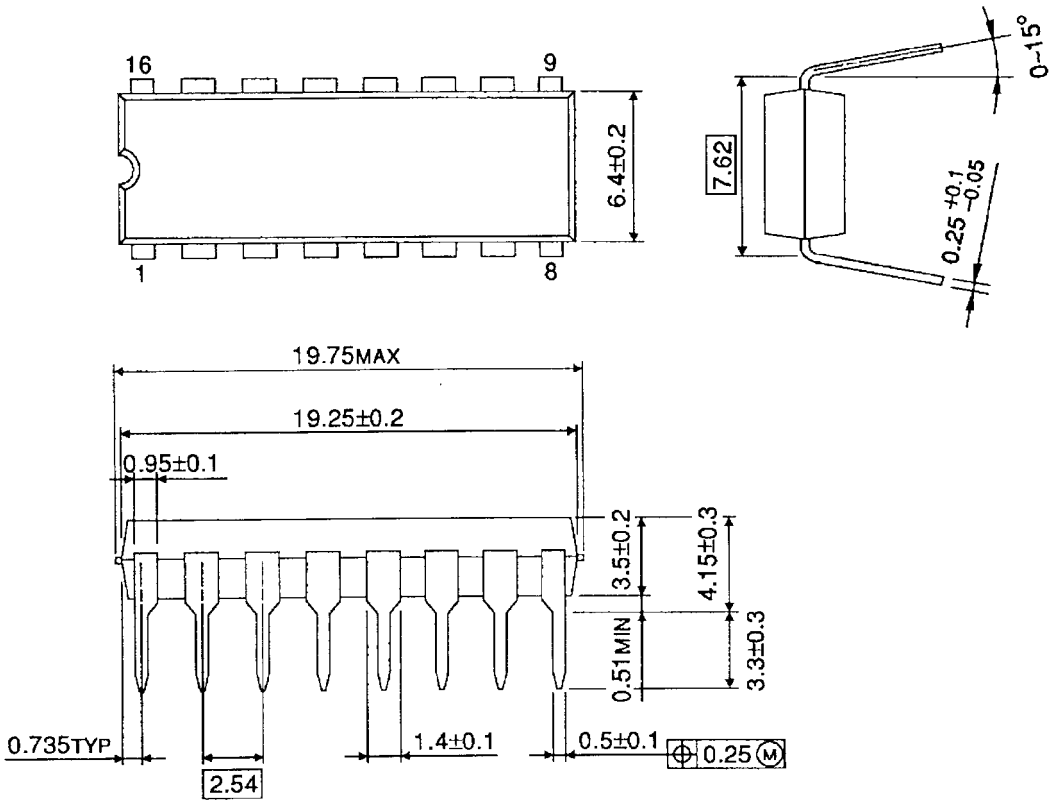
Test Circuit




G_V – f
V_{CC} = 10V
A B
Normal L L
Rock H L
Classic L H
Pop H H
ROCK
CLASSIC
NORMAL
POP
VOLTAGE GAIN G_V (dB)
24
22
20
18
16
14
12
10
30
100
300
1K
3K
10K
30K
100K
FREQUENCY f (Hz)

Package Dimensions

DIP16-P-300-2.54A Unit : mm



Weight: 1.00 g (typ.)

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