

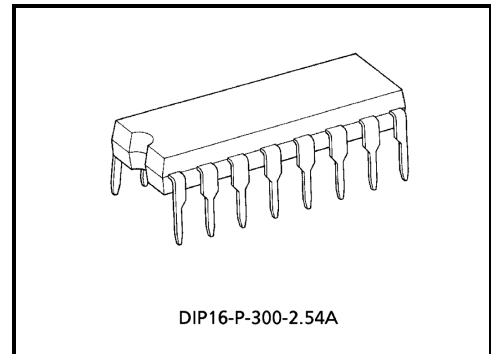
TA8142AP

Rec / Play Pre Amp System For Double Cassette

The TA8142AP is a quad pre amplifier designed for use in record / play back pre amplifier of tape recorder. It is suitable for a double radio cassette recorder.

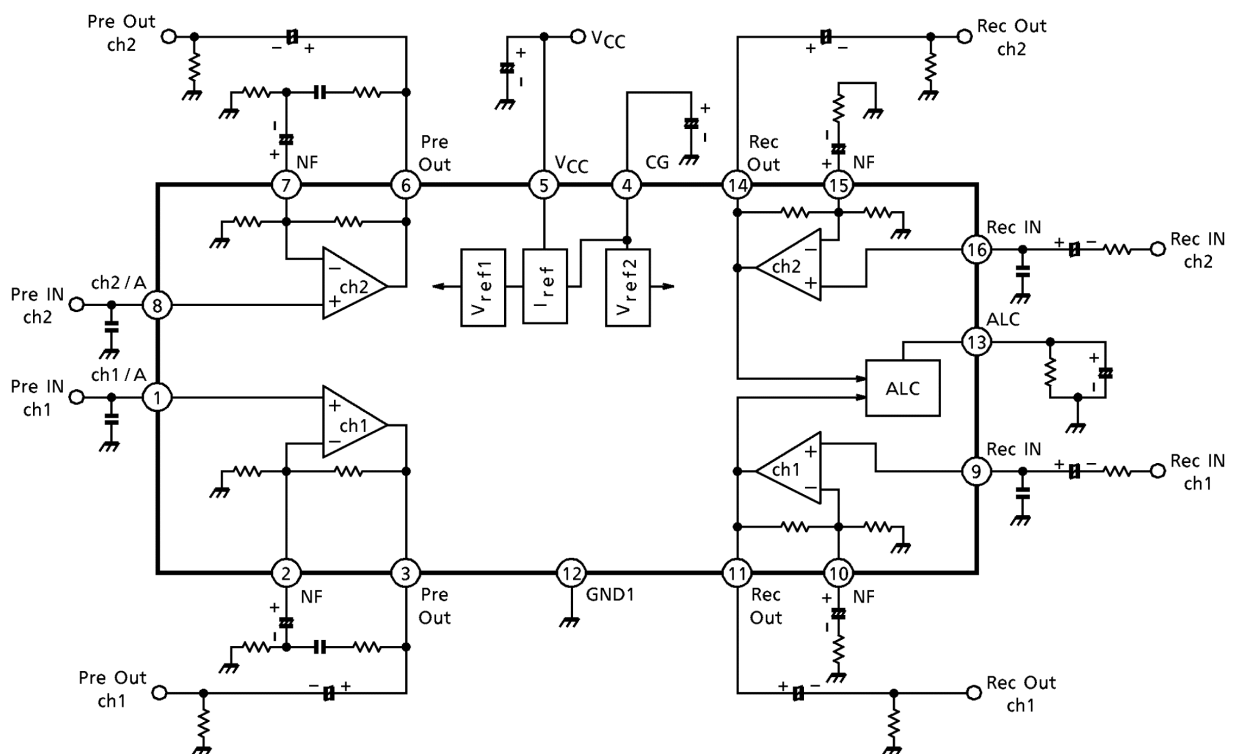
Features

- Built in play back amplifier
- Built in recording amplifier
- ALC detector circuit
- Operating supply voltage range
: $V_{CC(opr)} = 4 \sim 13.5V$ ($T_a = 25^\circ C$)



Weight: 1.00g (typ.)

Block Diagram



Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Supply voltage	V _{CC}	14.5	V
Power dissipation	P _D (Note)	750	mW
Operating temperature	T _{opr}	-20~75	°C
Storage temperature	T _{stg}	-55~150	°C

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

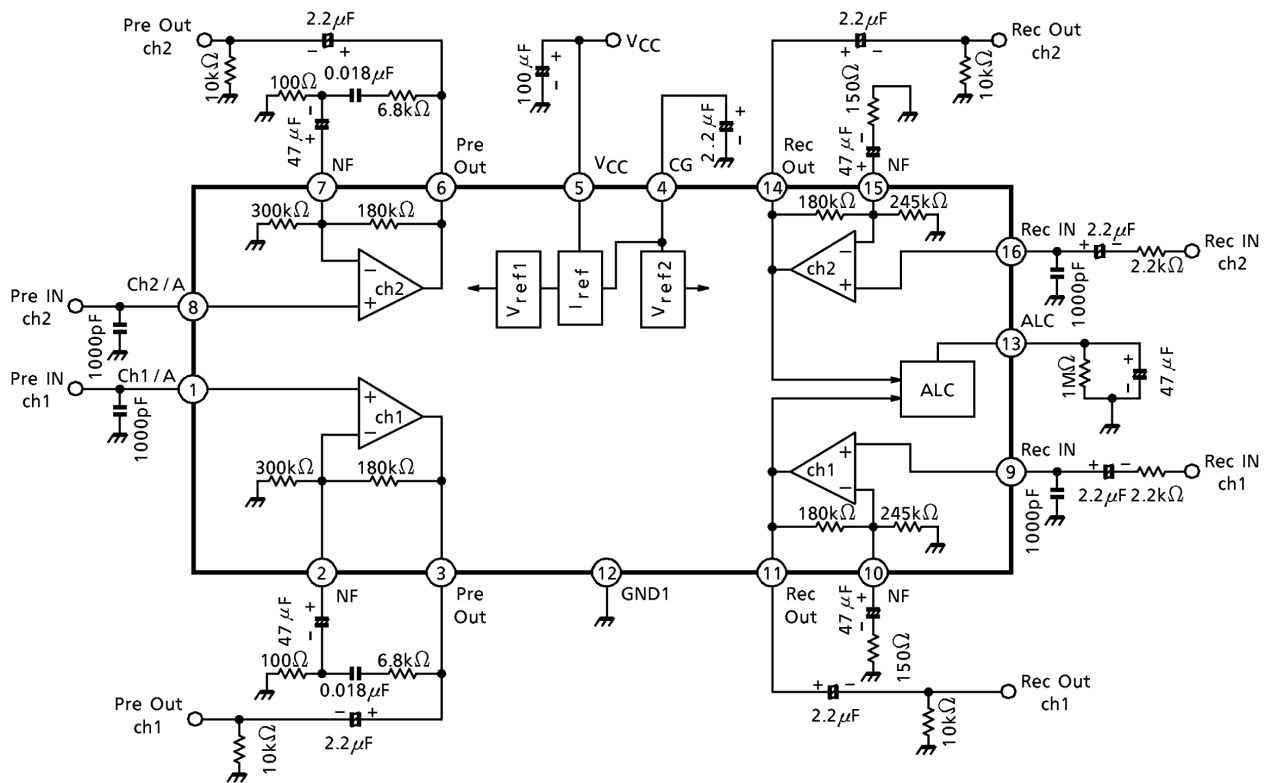
Electrical Characteristics

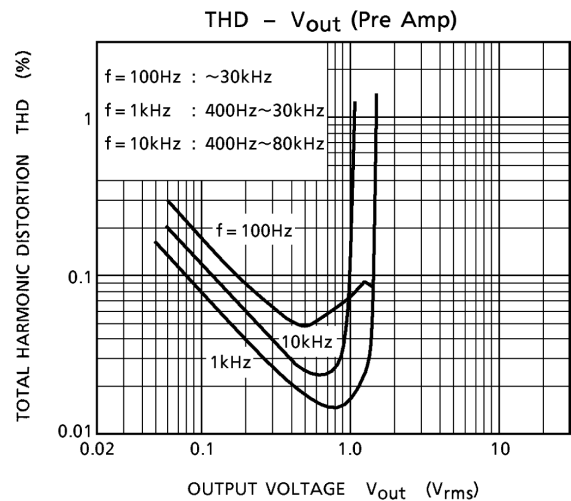
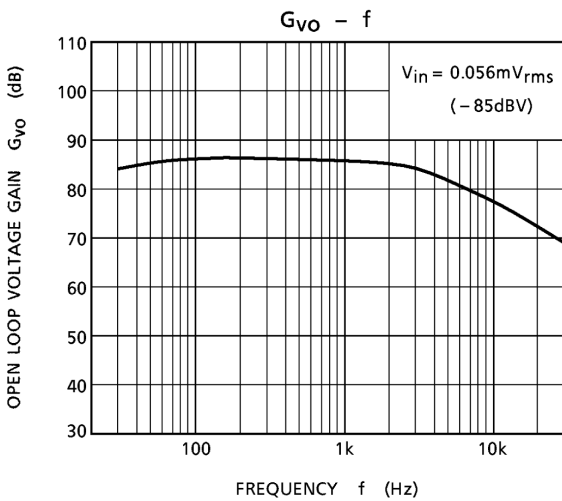
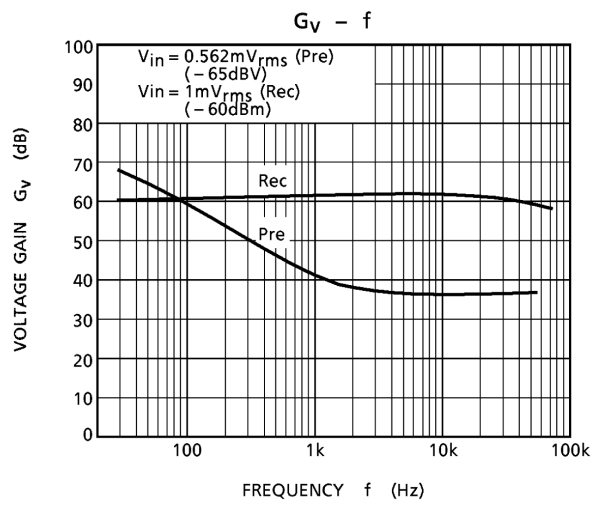
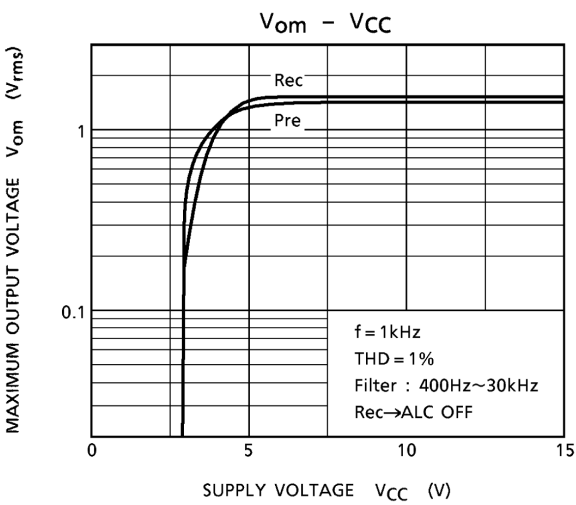
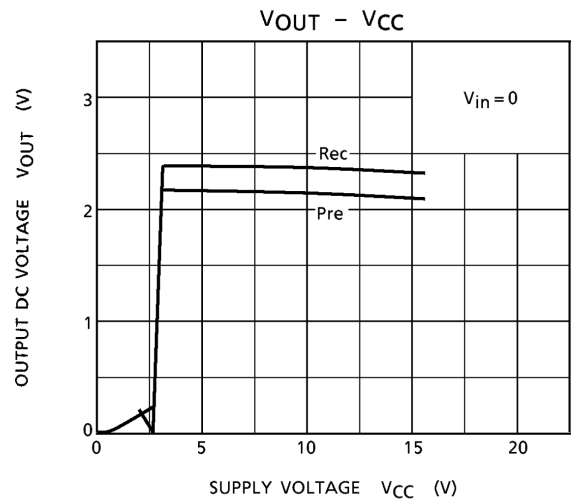
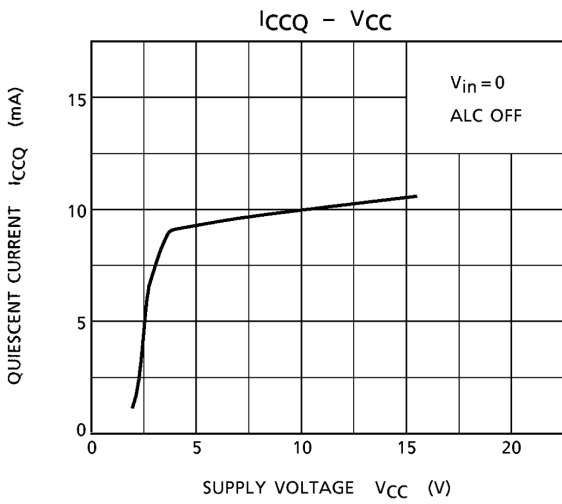
(unless otherwise specified, V_{CC} = 6V, f = 1kHz, B.P.F = 400Hz~30kHz)

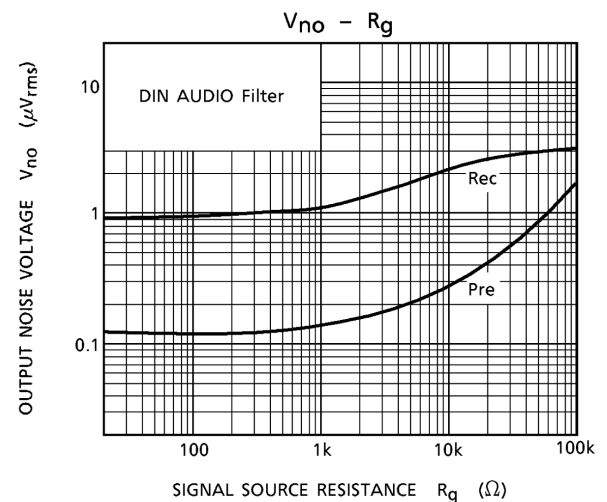
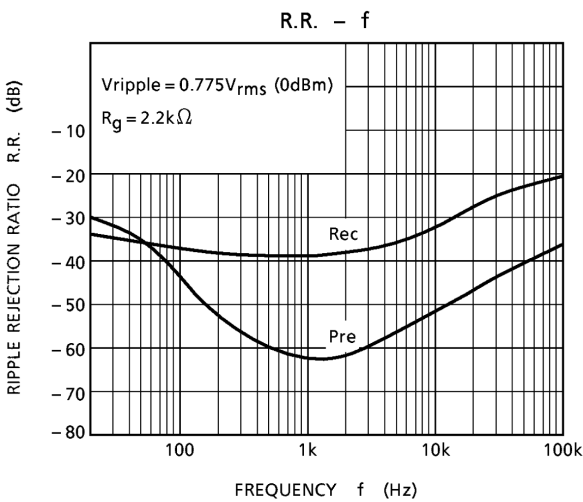
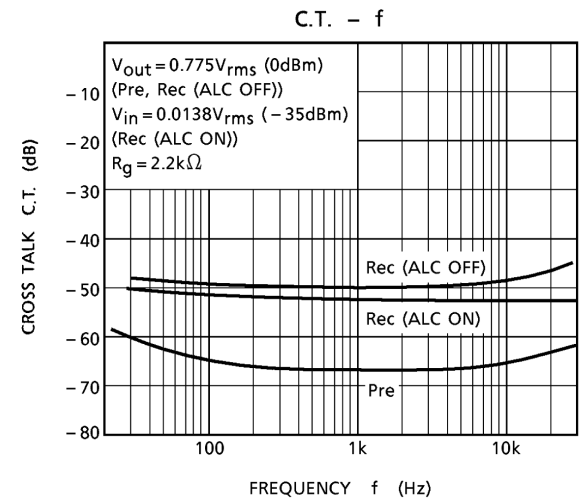
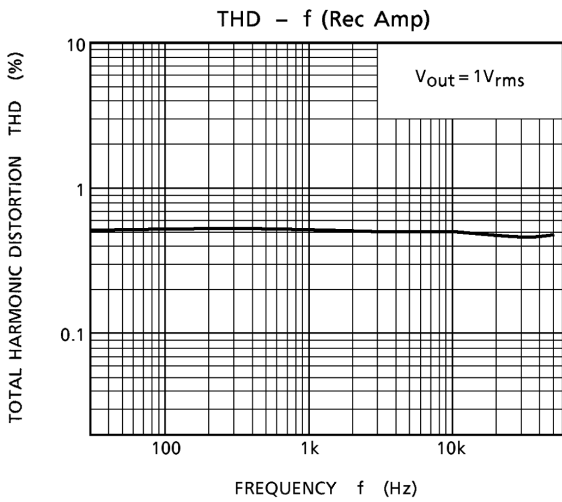
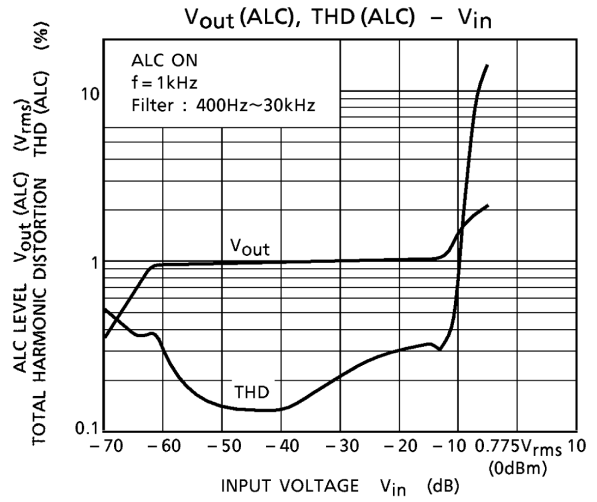
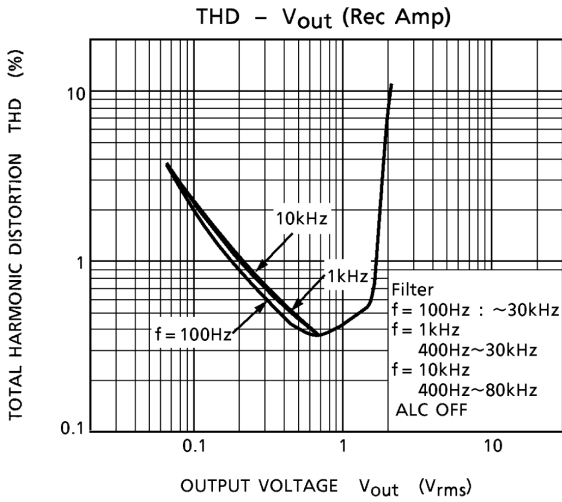
Characteristic	Symbol	Test Circuit	Test Condition	Min.	Typ.	Max.	Unit
Quiescent current	I _{ccq}	—	—	—	9.5	15	mA
Play Back Amp.	Output noise voltage	V _{no} (pre)	Normal mode, R _g = 2.2kΩ, NAB EQ BW = 20Hz~20kHz, G _v = 40dB	—	150	350	μV _{rms}
	Total harmonic distortion	THD (pre)	V _{out} = 0.2V _{rms} , f = 1kHz normal mode	—	0.05	0.1	%
	Maximum output voltage	V _{om} (pre)	THD = 1.0%, R _L = 10kΩ, f = 1kHz normal mode	0.9	1.4	—	V _{rms}
	Open loop voltage gain	G _{vo} (pre)	f = 1kHz, R _L = 10kΩ V _{in} = 13.8μV _{rms} (-95dBV)	80	93	—	dB
	Cross talk	C.T. (ch) (pre)	V _{out} = 0.775V _{rms} (0dBm), f = 1kHz R _g = 2.2kΩ, normal mode	-70	-77	—	dB
	Ripple rejection ratio	R.R. (pre)	V _{ripple} = 0.775V _{rms} (0dBm) f _{ripple} = 100Hz, normal mode R _g = 2.2kΩ, LPF = ~30kHz	—	-40	—	dB
	Voltage gain	G _{vn} (pre)	V _{in} = 7.75mV _{rms} (-40dBm) f = 1kHz, normal NAB, R _L = 10kΩ	—	40	—	dB
Pre amp → rec amp C.T	C.T. (P / R)	—	f = 1kHz, V _{out} (pre) = 0.775V _{rms} (0dBm), normal (pre)	—	-53.5	—	dB
Rec amp → pre amp C.T	C.T. (R / P)	—	f = 1 kHz, V _{out} (rec) = 0.775 V _{rms} (0dBm), normal (pre)	—	-77.5	—	dB
Recording Amp.	Output noise level	V _{no} (rec)	R _g = 2.2 kΩ, BW = 20 Hz~20 kHz ALC off, G _v = 60dB	—	1.3	2.7	mV _{rms}
	Total harmonic distortion	THD (rec)	V _{out} = 0.5V _{rms} , f = 1kHz ALC off, R _L = 10kΩ	—	0.35	0.9	%
	Maximum output level	V _{om} (rec)	THD = 1%, R _L = 10kΩ, f = 1kHz ALC off	1.2	1.5	—	V _{rms}
	Open loop voltage gain	G _{vo} (rec)	f = 1kHz, R _L = 10kΩ, V _{in} = 3.16μV _{rms} (-110dBV)	76	86	—	dB
	ALC range	R (ALC)	—	3dB up	—	50	—

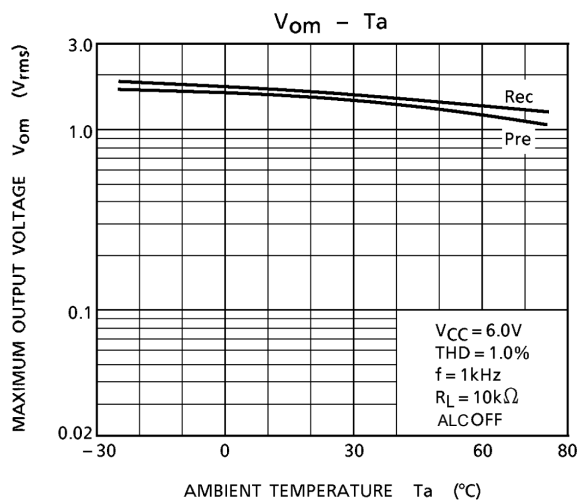
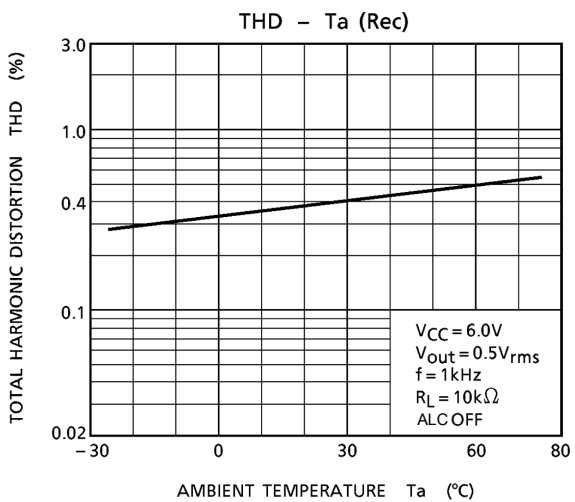
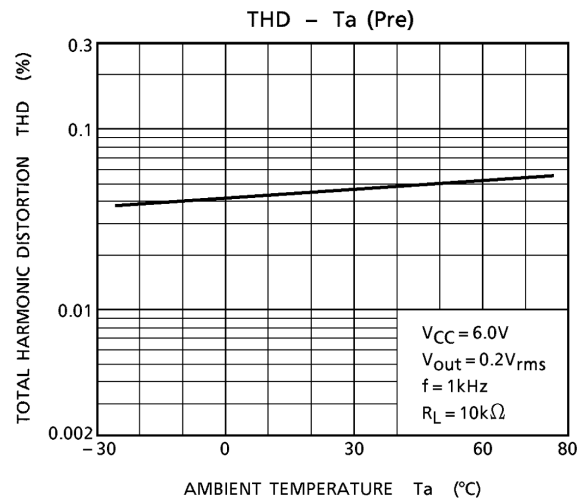
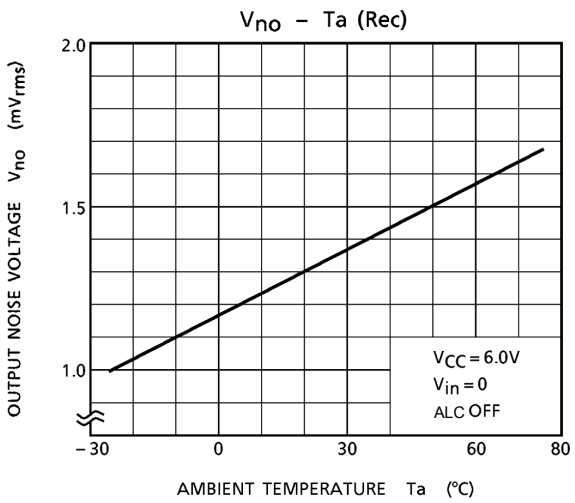
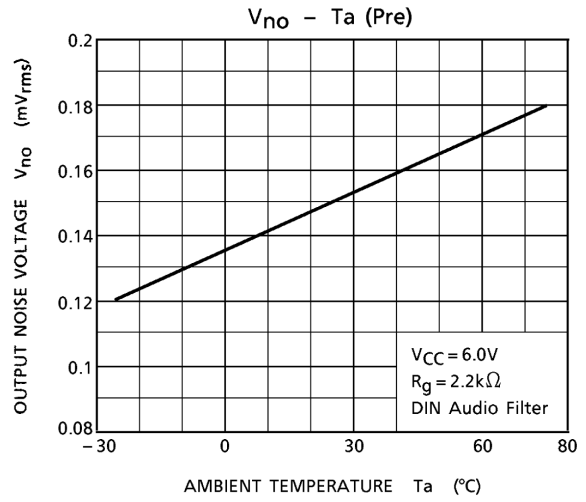
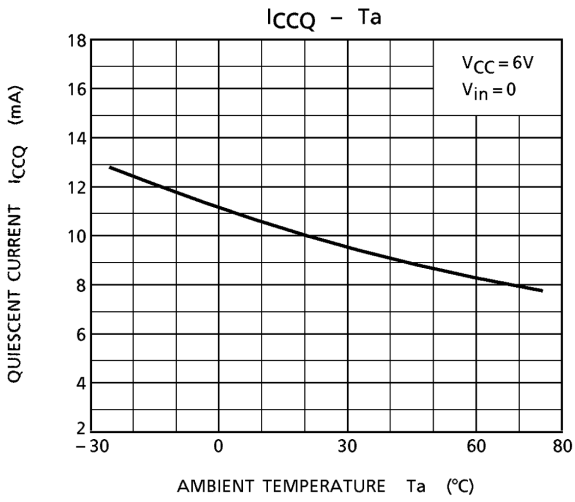
Characteristic	Symbol	Test Circuit	Test Condition	Min.	Typ.	Max.	Unit	
Recording Amp.	Total harmonic distortion (ALC)	THD (ALC)	—	$V_{in} = 0.0775V_{rms}$ (-20dBm) $f = 1kHz$, dual input, $R_L = 10k\Omega$	—	0.3	0.9	%
	ALC balance	B (ALC)	—	$V_{in} = 0.0775V_{rms}$ (-20dBm) dual input, $f = 1kHz$, $R_L = 10k\Omega$	-2	0	+2	dB
	ALC level	V (ALC)	—	$V_{in} = 0.0775V_{rms}$ (-20dBm) $f = 1kHz$, $R_L = 10k\Omega$	0.75	1.0	1.2	V_{rms}
	Ripple rejection ratio	R.R. (rec)	—	$V_R = 0.775V_{rms}$ (0dBm), $f = 100Hz$ $R_g = 2.2k\Omega$, LPF = ~30kHz	—	38	—	dB
	Voltage gain	G_{vn} (rec)	—	$f = 1kHz$ (flat), $R_L = 10k\Omega$ $V_{in} = 1mV_{rms}$ (-60dBV)	—	61	—	dB
	Cross talk (ALC off)	C.T. (ch)	—	$V_{out} = 0.775V_{rms}$ (0dBm), $f = 1kHz$ $R_g = 2.2k\Omega$, ALC off	40	54	—	dB
	Cross talk (ALC on)	C.T. (ch)	—	$f = 1kHz$, $R_g = 2.2k\Omega$, ALC on $V_{in} = 0.0775V_{rms}$ (-20dBm)	40	52	—	dB

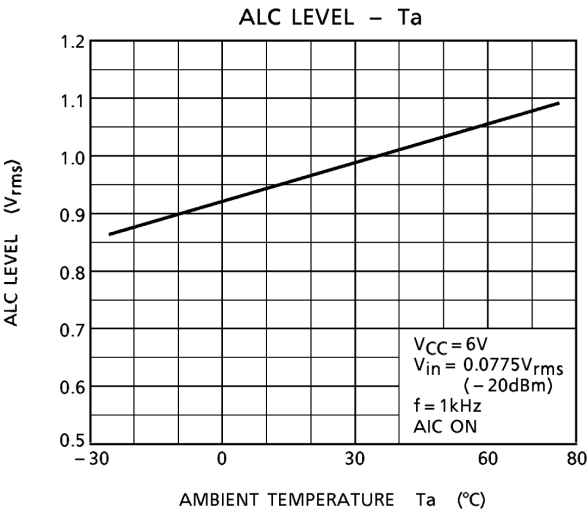
Test Circuit







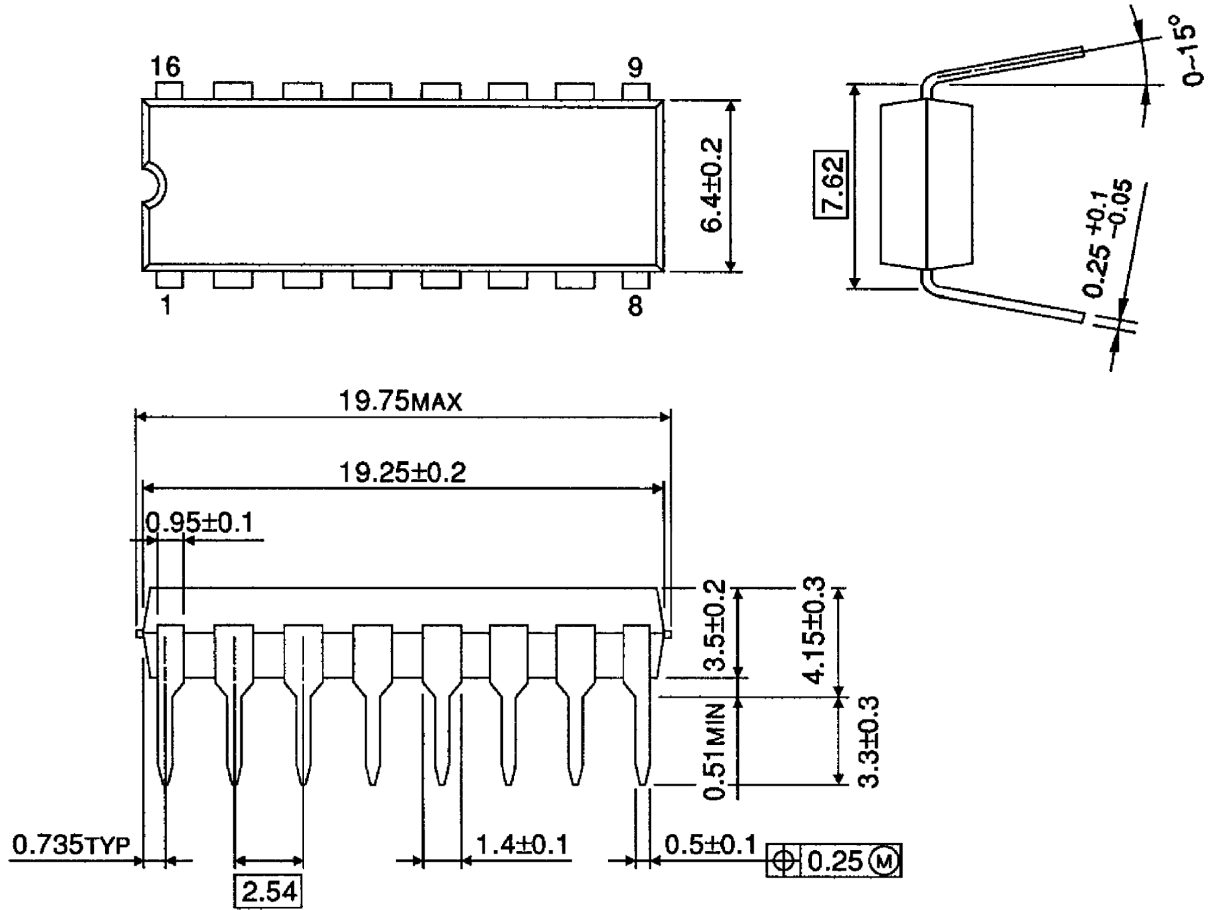




Package Dimensions

DIP16-P-300-2.54A

Unit : mm



Weight: 1.00g (typ.)

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