

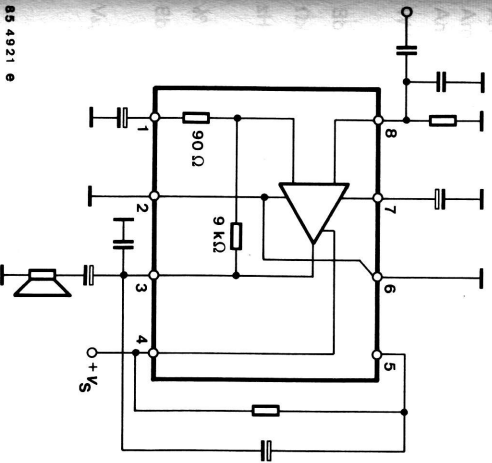


Monolithic Integrated Circuit

Application: Audio-Amplifier for portable radios, cassette recorders and general purposes.

Features:

- Large supply voltage range
 $V_S = 3...16\text{ V}$
- Low cross-over distortion
- Low harmonic distortion
- Audio output power $P_o = 1.6\text{ W}$
- High supply voltage rejection ratio
- Bootstrapped circuit



68 4921 e

Fig. 1 Block diagram and pin connections

Absolute maximum ratings

Reference point Pin 2, Pin 6

Supply voltage	Pin 4	V_S	16	V
Peak output current	Pin 3	I_{om}	850	mA
Power dissipation $T_{amb} = 50^\circ\text{C}$		P_{tot}	1	W
Junction temperature		T_J	150	$^\circ\text{C}$
Storage temperature range		T_{stg}	-25...+150	$^\circ\text{C}$

T2,048.1282 E

Thermal resistance

Junction ambient

R_{thJA} Min. Typ. Max. 100 KW

Electrical characteristics

$V_S = 9V$, reference point: Pin 2, Pin 6, $G_V = 40\text{ dB}$, $f = 1\text{ kHz}$,
 $R_L = 8\ \Omega$, $d = 10\%$, $T_{amb} = 25^\circ\text{C}$, unless otherwise specified

Supply voltage range	Pin 4	V_S	3	16	V
Quiescent output voltage	Pin 3	V_{OS}	4.2	5.2	V
Quiescent drain current	Pin 4	I_{SB}	3	5	mA
		I_{SB}	4.0	7.5	mA
		I_{SB}	4.0	7	mA
Output power	Pin 3	P_o	1.0	1.1	W
		SVR	40	50	dB
Supply voltage rejection ratio	Pin 8	R_i	800	100...28000	$k\Omega$
Input resistance	Pin 8	B			Hz
		Distortion	$P_o = 50\text{ mW}$		
Voltage gain	Pin 3	d	37	40	dB
		G_V			%
Output noise voltage	Pin 3	V_{no}	250	600	μV

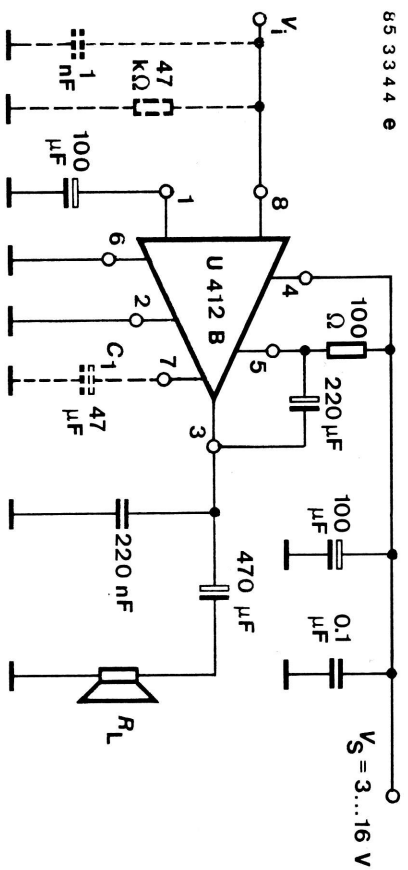
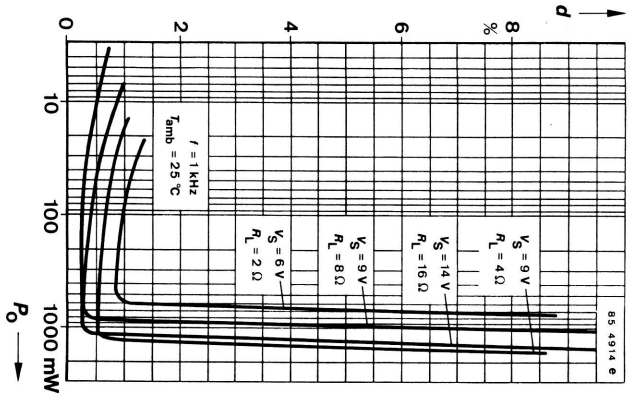
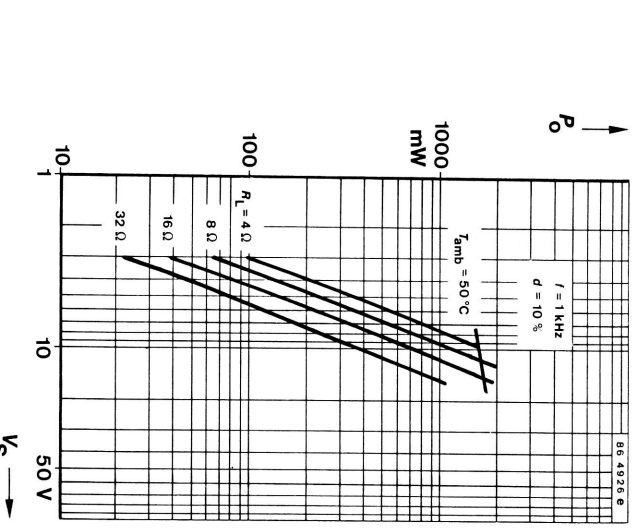
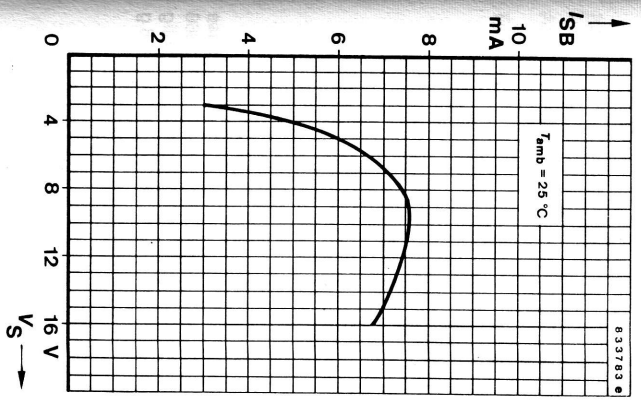
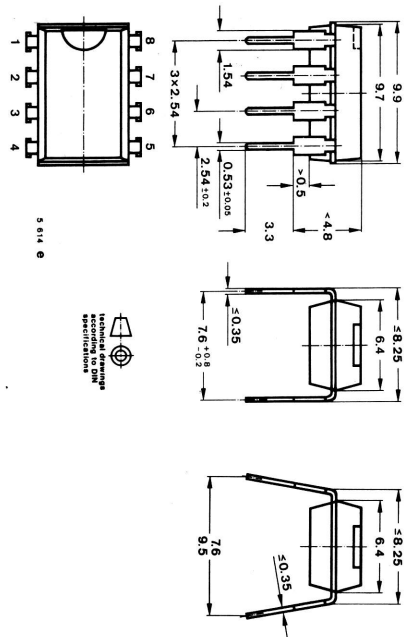


Fig. 2 Test circuit for: P_o , P_{tot} , d , V_{no} , B , G_V , and application note



Dimensions in mm



Case
20 A 8 DIN 41866
DIP 8-polig
Weight max. 0.8 g

Monolithic Integrated Circuit

Application: Audio-Amplifier for portable radios, cassette recorders and general purposes.

Features:

- Large supply voltage range
 $V_S = 3...16\text{ V}$
- Low cross-over distortion
- Low harmonic distortion
- Adjustable voltage gain
 $G_V = 34...54\text{ dB}$
- Audio output power $P_o = 1.5\text{ W}$
- Connection possibility for an external capacitor to suppress hum voltage
- Bootstrap circuit

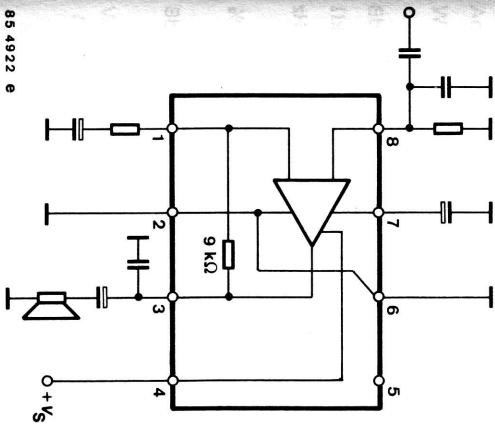


Fig. 1 Block diagram and pin connections

Absolute maximum ratings
Reference point Pin 2, Pin 6

Parameter	Pin 4	Pin 3	Pin 4	Pin 3
Supply voltage	V_S		16	
Peak output current		low		850
Power dissipation			P_{tot}	1
			T_J	150
Junction temperature			T_{stg}	-25...+150
Storage temperature range				°C

T12349.1183 E

Thermal resistance		Min.	Typ.	Max.
Junction ambient	R_{thJA}			100

Electrical characteristics

$V_S = 9\text{ V}$, reference point: Pin 2, Pin 6, $G_V = 40\text{ dB}$, $f = 1\text{ kHz}$, $R_L = 8\ \Omega$, $d = 10\%$, $T_{amb} = 25^\circ\text{C}$, unless otherwise specified

Supply voltage range	Pin 4	V_S	3	16	V
Quiescent output voltage	Pin 3	V_{OS}	3.9	4.7	V
Quiescent drain current	Pin 4	I_{SB}	2	3	mA
		I_{SB}	3.3	7.5	mA
		I_{SB}	3.3	7	mA
Output power		P_O	0.9	1	W
Supply voltage rejection ratio	Pin 8	SVR		30	dB
$V_{min} = 0.35\text{ V}$, $C_1 = 47\ \mu\text{F}$, $f_{min} = 100\text{ Hz}$					
Input resistance	Pin 8	R_I	800		$\text{k}\Omega$
Band width (-3 dB)	Fig. 2	B		100...28000	Hz
Distortion	Fig. 2	d	0.4	1	%
$P_O = 50\text{ mW}$					
Voltage gain, closed loop		G_V	37	40	dB
$R_1 = 91\ \Omega$					
Output noise voltage	Pin 3	V_{no}		250	μV
$R_G = 0$, $B = 22...22000\text{ Hz}$					

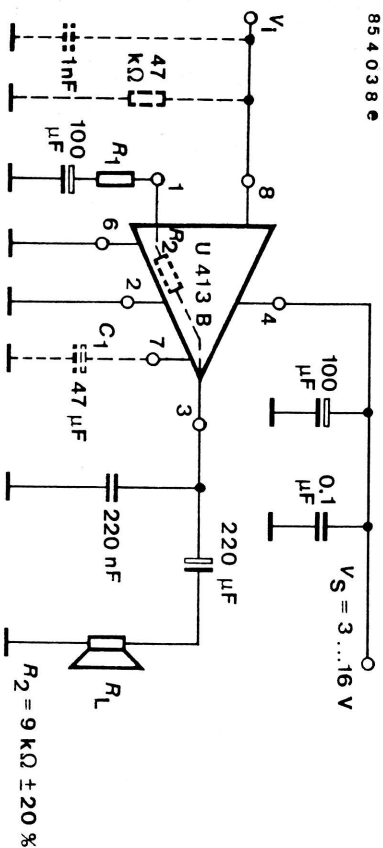
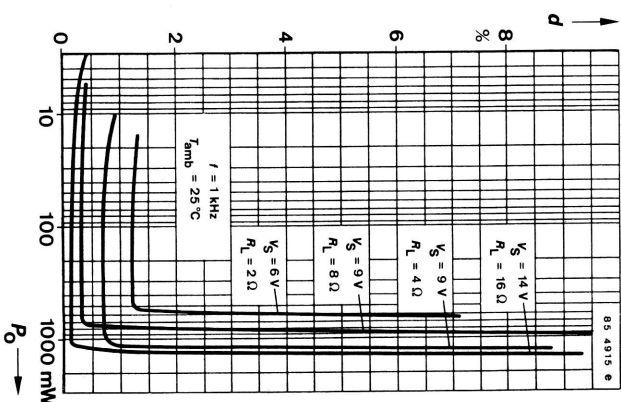
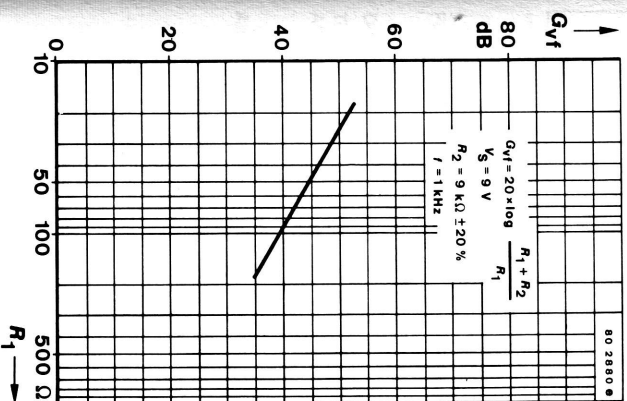
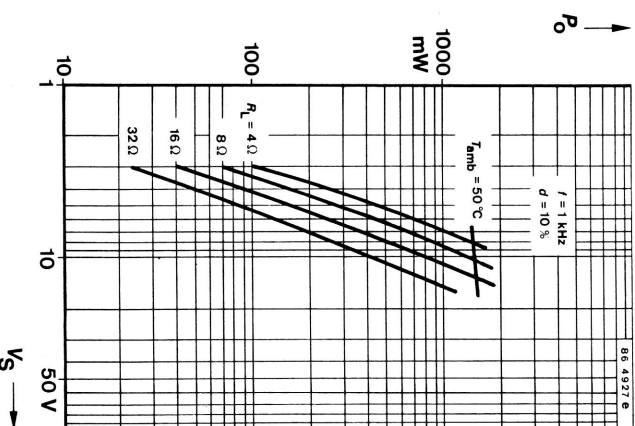
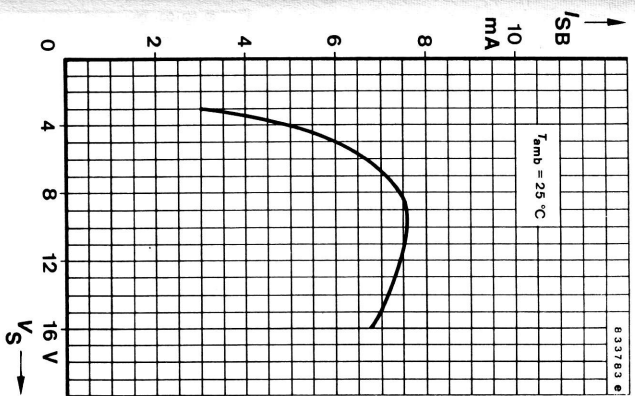
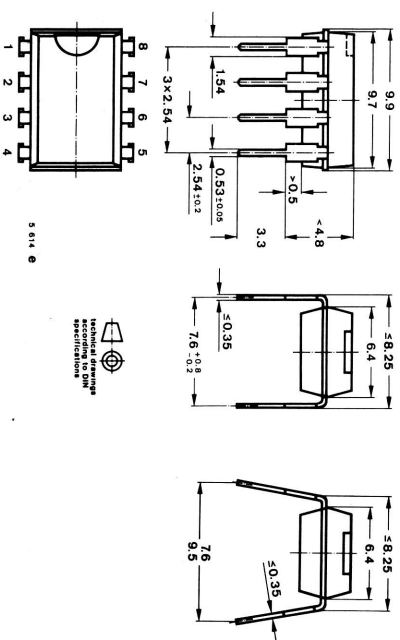


Fig. 2 Test circuit for: P_O , P_{Oav} , d , V_{no} , B , G_V and application note



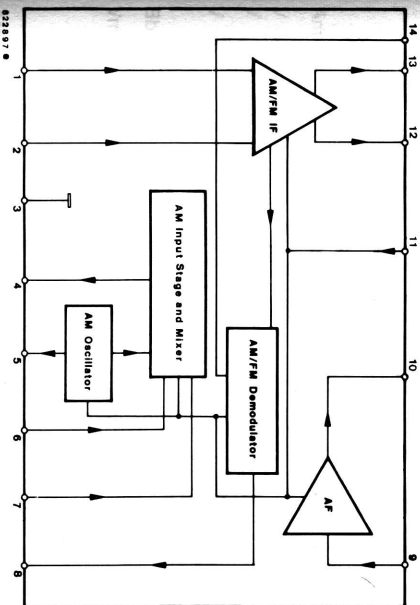


Case
20 A 8 DIN 41866
DIP 8
Weight max. 0.8 g

Monolithic Integrated Circuit

Applications: AM-/FM-/IF-Amplifier for portable radios

- Features:**
- Large supply voltage range
 $V_S = 3 \dots 15$ V
 - High AM-Sensitivity
 - Limiting threshold voltage $V_L = 50 \mu\text{V}$
 - AM-Oscillator for LW, MW and SW
 - AM-FM switching without high frequency voltages
 - Additional audio preamplifier
 $G_A = 10$ dB



- 1 IF-Decoupling
- 2 IF-Input
- 3 Ground
- 4 AM-Mixer output
- 5 AM-Oscillator circuit
- 6 AM-Input
- 7 AM-Decoupling
- 8 Demodulator-Output
- 9 Audio-Input
- 10 Audio-Output
- 11 + V_S
- 12 Demodulator circuit
- 13 Demodulator circuit
- 14 AGC-/AFC-Voltage

Fig. 1 Block diagram and pin connections

Description

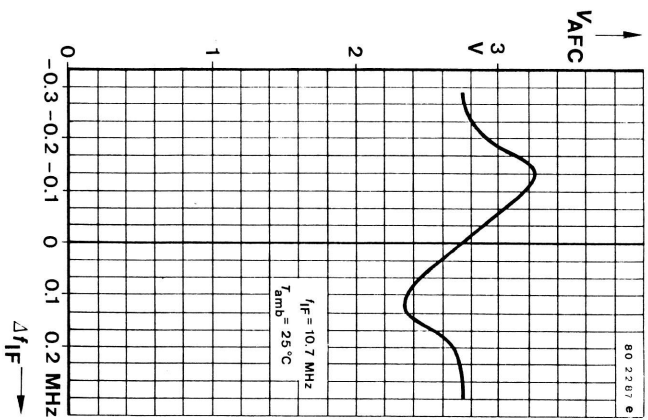
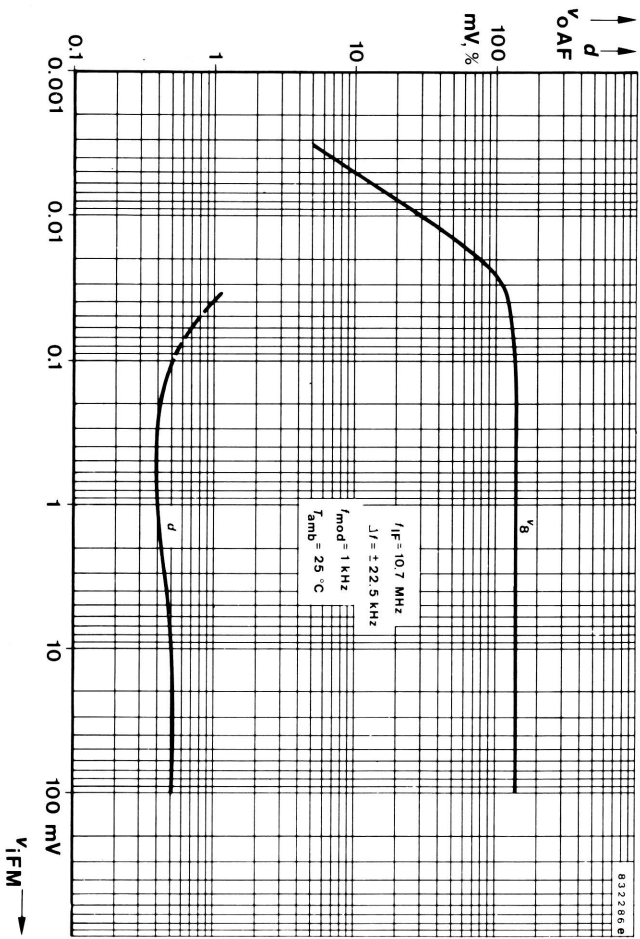
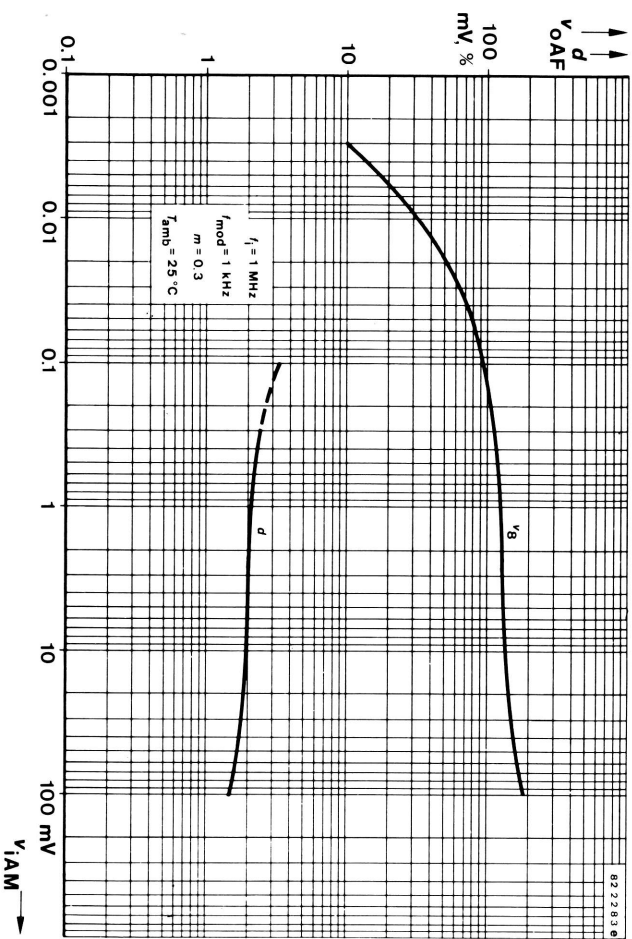
The integrated circuit U 416 B includes, with exception of the FM front end and audio amplifier, a complete AM-/FM-radio-circuit with additional audio preamplifier with $G_A = 10$ dB.

Absolute maximum ratings

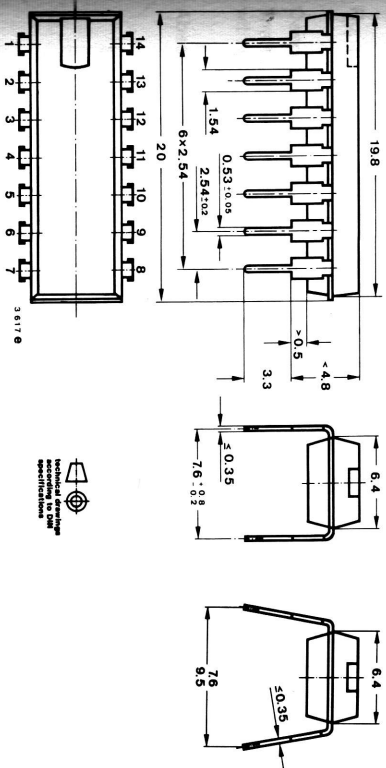
Reference point Pin 3, unless otherwise specified

	Pin 11	V_S	Pin 11	V_S
Supply voltage range		3...15		V
Power dissipation		300		mW
$T_{amb} = 65^\circ\text{C}$		125		$^\circ\text{C}$
Junction temperature				$^\circ\text{C}$
Storage temperature range		-25...+125		$^\circ\text{C}$

T1.2/258.0683 E1



Dimensions in mm



Case
 20 A 14 DIN 41866
 JEDEC MO 001 AA
 Weight max. 1.5 g