FM IF AMPLIFIER AND DETECTOR

Technology: Bipolar

Features:

- o No selection of volume-input characteristics
- o Independent sound output for VTR and headphone
- o Additional sound input
- o High ripple rejection
- o High residual carrier suppression prevents harmonic distortions

Case:

14 pin dual inline plastic

Absolute maximum ratings

Reference point pin 1, unless otherwise specified

Supply voltage	Pin 11	V_S	18	V
Volume setting voltage	Pin 5	V_5	6	V
Reference supply current	Pin 4	I_{Ref}	5	mA
Resistor between pin 13 and pin 14		R_p	1	kΩ
Power dissipation T_{amb} = 60 °C		P_{tot}	400	mW
Ambient temperature range		T_{amb}	- 15 ... + 70	°C
Storage temperature range		T_{stg}	- 25 ... + 125	°C

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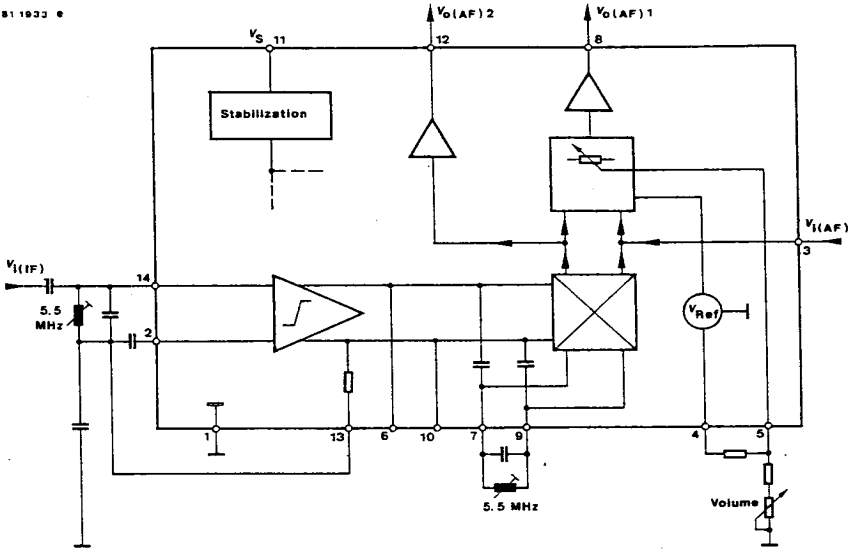

Fig. 1 Block diagram

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Electrical characteristics

V_S = 12 V, T_{amb} = 25 °C,
Reference point pin 1,
unless otherwise specified

			Min.	Typ.	Max.	
Supply voltage range	Pin 11	V_S	10		18	V
Supply current	Pin 11	I_S	9.5		17.5	mA
Reference voltage	Pin 4	V_{oRef}	4.2	4.8	5.5	V
Output resistance	Pin 4	R_{Ref}		12		Ω
Frequency range		f		0...12		MHz
IF voltage amplification f = 5.5 MHz	Pin 6/14	G_{IF}		68		dB
IF output voltage, when limited, each output f = 5.5 MHz	Pin 6+10	$V_{o(IF)}$		250		mV_{pp}
Input limiting voltage f= 5.5 MHz, Δf= ± 50 kHz f_{mod} = 1 kHz, Q≈45[1])	Pin 14	$V_{i(IF)}$		30	60	µV
Input impedance	Pin 14	R_i	15	40		kΩ
		C_i		4.5	6	pF
AM rejection f= 5.5 MHz, Δf= ± 50 kHz, Q≈45[1]) f_{mod} = 1 kHz, m = 30 %, V_i = 500 µV		k_{AM}	50	60		dB
DC voltage at AF output V_i = 0	Pin 8	$V_{o(AF)1}$		4		V
	Pin 12	$V_{o(AF)2}$		5.6		V
Ripple rejection	Pin 11/8	k_{Br}		35		dB
	Pin 11/12	k_{Br}		30		dB
IF residual voltage without C_D	Pin 8	$V_{o(IF)1}$		20		mV
	Pin 12	$V_{o(IF)2}$		30		mV

1) Operation quality factor

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			Min.	Typ.	Max.	
AF output voltage V_i = 10 mV, f = 5.5 MHz, Δf = ± 50 kHz, f_{mod} = 1 kHz, R_5 = 20 kΩ						
Q = 45[1]), k = 4 %	Pin 8	$V_{o(AF)1}$		1.3		V
	Pin 12	$V_{o(AF)2}$		1.0		V
Q = 20[1]), k = 1 %	Pin 8	$V_{o(AF)1}$		0.65		V
	Pin 12	$V_{o(AF)2}$		0.5		V
Input resistance	Pin 3	r_i		2		kΩ
Output resistance	Pin 8+12	$r_{o1}=r_{o2}$		1.1		kΩ
AF voltage gain R_5 = 20 kΩ	Pin 8/3	G_{v1}		7.5		dB
AF damping Fig. 3 R_5 = 13 kΩ	Pin 8	$-G_{v1}$	20	28	36	dB
Volume setting range	Pin 8	$\Delta V_{o(AF)1}$	70	85		dB

Mute function

Switching current	I_{sw}			400	µA
Switching voltage	V_{mute}	3			V

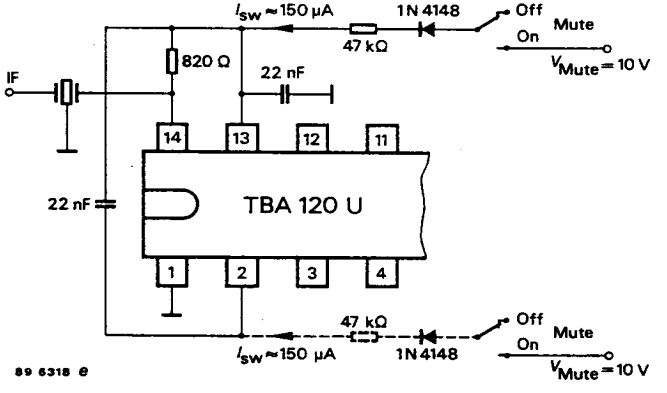

Fig. 2

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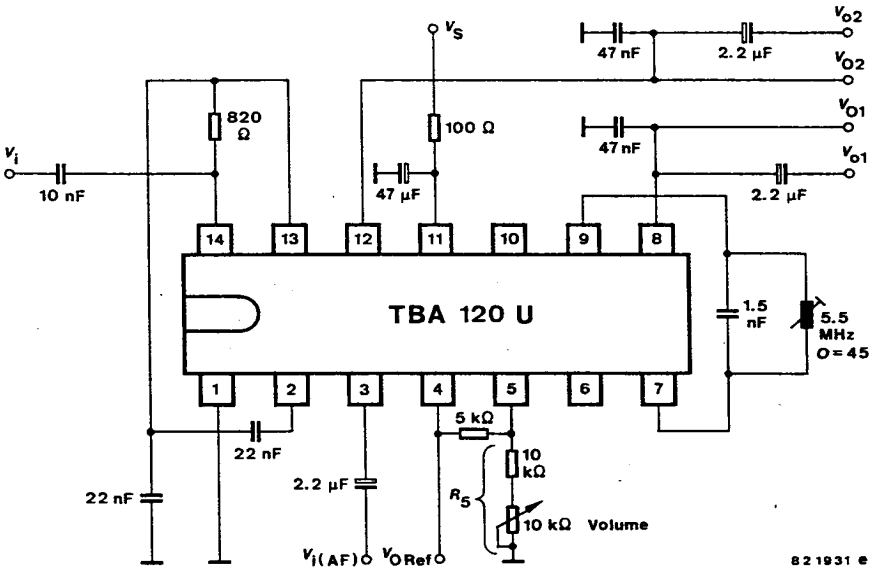

Fig. 3 Test circuit

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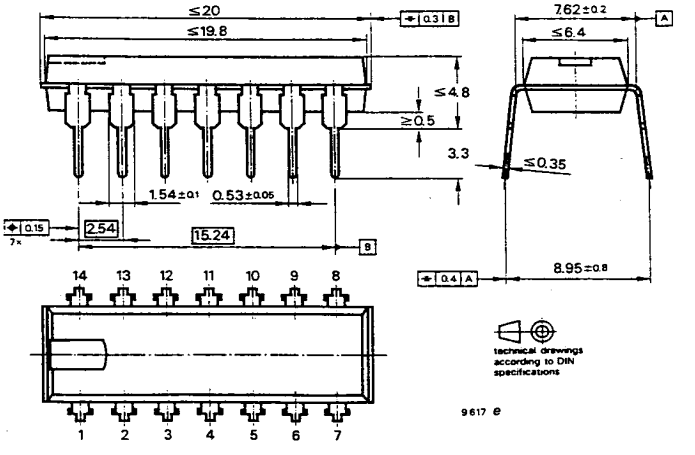
Dimensions in mm



Case
JEDEC MO 001
DIP 14-leads

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