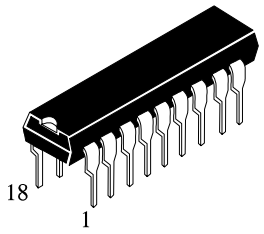
KK3726AN

Universal Speech Circuit with Dialler Interface

The KK3726AN is a low voltage speech network which includes Mic amp. transmit amp, receive amp. and stabilized DC-supply It handles the voice signal performing the 2/4 wire interface and changing the gain on both sending and receiving amplifiers to compensate for line attenuation by sensing the line length through the line current.
Application dependent parameters such as amplitude of each amp, sidetone level, line balance and frequency response are controlled by external components. Each gain can be controlled by external component exchange.

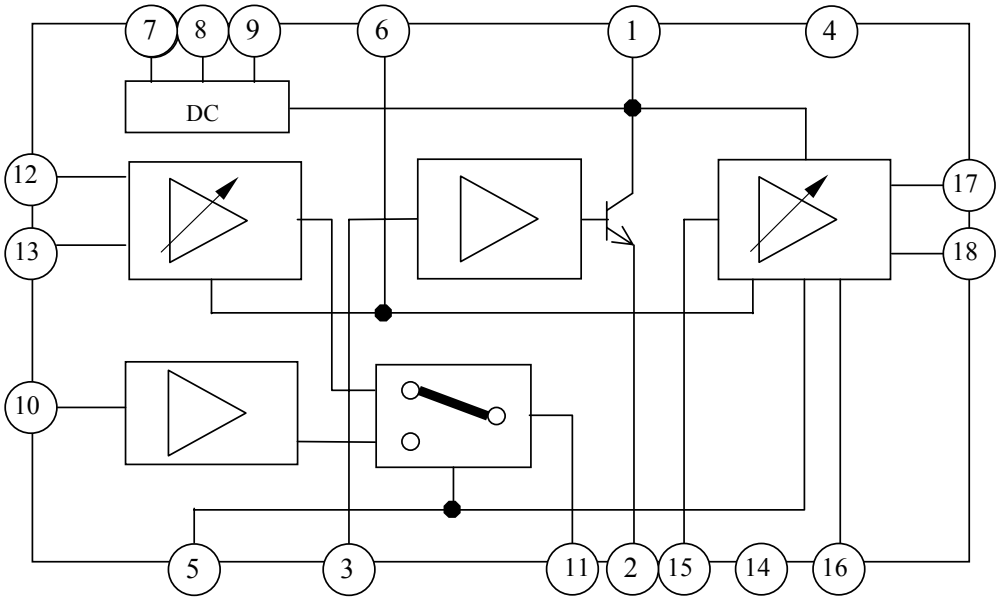


N SUFFIX
PLASTIC

ORDERING INFORMATION
KK3726AN
T_A = -40° to 70° C

- Uses a minimum of external components (7 Capacitors & 11 Resistors)
- Low Voltage Operating
- Symmetrical inputs for microphones, provided good balance to ground
- DTMF signal input with confidence tone
- Mute input for DTMF dialling
- Line loss compensation (line current dependent) for microphone and earpiece amplifiers
- Gain control curve adaptable to exchange supply
- DC line voltage adjustment facility

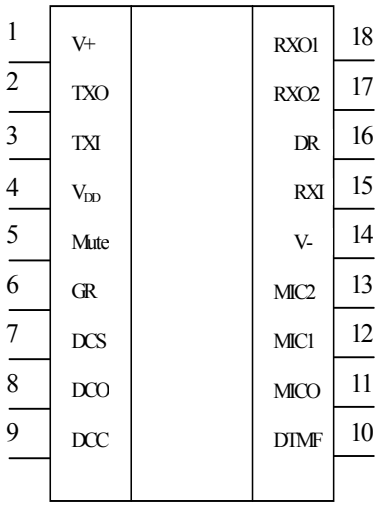
BLOCK DIAGRAM



PIN DESCRIPTION

Pin No	Designation	Description
1	V +	Positive power line and transmit amplifier output.
2	TXO	Transmit amplifier output. The resistor which is connected this pin to V - sets the DC resistance of circuit. The value of resistor is suitable for 47 to 100 .
3	TXI	Transmit amplifier input. Input impedance is 17k ± 20%.
4	V_{DD}	Positive power supply pin for internal circuitry. This pin will be connected to a decoupling capacitor 47 F - 100 F.
5	MUTE	Mute input : Active low .
6	GR	Gain regulation control input
7	DCS	Sense input to the DC supply
8	DCO	Output from the DC supply
9	DCC	Control output from the DC supply
10	DTMF	Dual-tone Multi-Frequency Input
11	MIC0	Microphone a ifier output.
12, 13	MIC1, MIC2	Microphone amplifier inputs. Input impedance is 1.7k . 20%
14	V-	Negative power line
15	RXI	Receive amplifier input. . Input impedance is ~38k . 20%
16	DR	Receive amplifier driving capability control input
17, 18	RXO1, RXO2	Receive amplifier output. Output impedance is 3 (Typ).

PIN CONFIGURATION



MAXIMUM RATINGS

Symbol	Parameter	Min	Max	Unit
V_{LN}	Positive line voltage, t_p = 2s	0	18	V
I_{line}	Line current continious	0	130	mA
Tstg	Storage temperature	-55	+125	C
T_J	Operating temperature range	-40	+70	C

No input should be set on higher level than pin4

ELECTRICAL CHARACTERISTICS

(T_{amb} = 25 C)

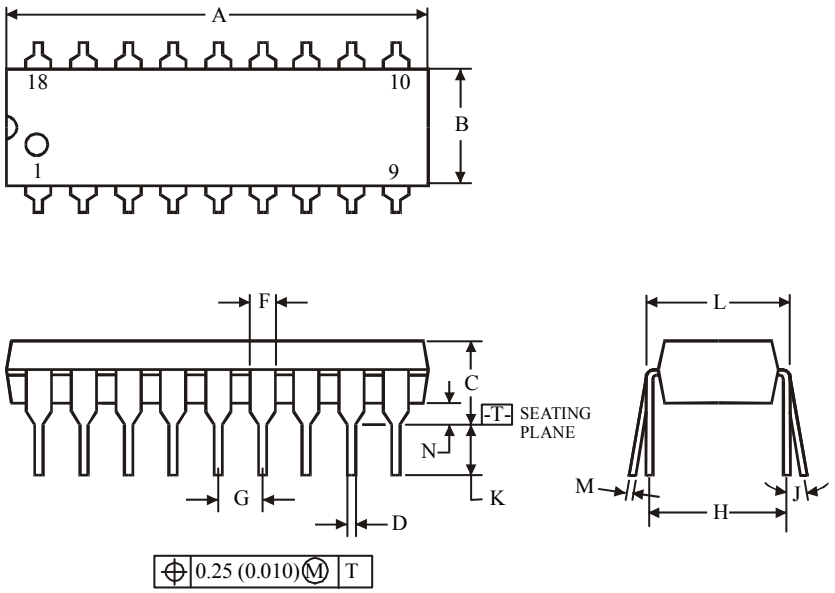
Characteristic	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Line Voltage	VLN	IL = 15mA IL = 100mA	3.3 11.0	3.7 13.0	4.1 15.0	V
TX Gain	GV (TX)	 RL = 0 RL = 400 RL = 900 – 2.2 k	 41 43.5 46	 43 45.5 48	 45 47.5 50	dB
TX Range of Regulation	ΔGTX	RL = 0 - 900 , 1 kHz	3	5	7	dB
TX Frequency Response	ΔGTX(RES)	200Hz to 3400 Hz			± 1	dB
TX Dynamic Output Voltage	VO(TX)	200Hz to 3400 Hz, IL = 20 – 100 mA		1.5		Vp-p
TX Max Output Voltage	VOTX(MAX)	200Hz to 3.4 kHz, IL = 0 - 100mA		3		Vp-p
TX Input Impedance	ZI (TX)	1 kHz	13.5	17	20.5	kΩ
Mute Input Voltage	VI (MUTE)				0.3	V
RX Gain	GV (RX)	RL = 0Ω RL = 400Ω RL = 900Ω - 2.2 kΩ	-18.5 -16 -13.5	-16.5 -14 -11.5	-14.5 -12 -9.5	dB
RX Range of Regulation	ΔGRX	RL =0 - 900Ω, 1 kHz	3	5	7	dB
RX Frequency Response	ΔGRX(RES)	200 Hz – 3400 Hz	-1		1	dB
RX Dynamic Output Voltage	VO(RX)	200 Hz – 3400 Hz IL = 20 – 100 mA		0.5		Vp-p
RX Max Output Voltage	VORX(MAX)	200 Hz – 3400 Hz IL = 0 - 100mA		0.9		Vp-p
RX output impedance	ZO(RX)	1 kHz		3		Ω
Microphone input impedance	ZI (Mic)	1 kHz		1.7		kΩ
Transmitter output noise				-75		dB
Receiver output noise				- 85		dB
DC supply voltage		IL = 21 – 100 mA IDC = 0 mA IDC = 2 mA	 2.1 1.95	 2.35 2.2	 2.6 2.45	 V V
DC supply current			2			mA
DTMF transmitting gain			24.5	26.5	28.5	dB
DTMF input impedance			20	25	30	kΩ

●

PACKAGE DIMENSIONS

N SUFFIX PLASTIC

(MS – 001AC)



Symbol	Dimensions, mm	
	MIN	MAX
A	22.35	23.37
B	6.10	7.11
C		5.33
D	0.36	0.56
F	1.14	1.78
G	2.54	
H	7.62	
J	0°	10°
K	2.92	3.81
L	7.62	8.26
M	0.20	0.36
N	0.38	

NOTES:

1. Dimensions “A”, “B” do not include mold flash or protrusions. Maximum mold flash or protrusions 0.25 mm (0.010) per side.