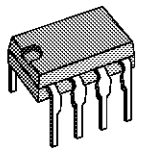
SGS-THOMSON MICROELECTRONICS

TDA2320

PREAMPLIFIER FOR INFRARED REMOTE CONTROL SYSTEMS



N
DIP8
(Plastic Package)

ORDER CODE : TDA2320N

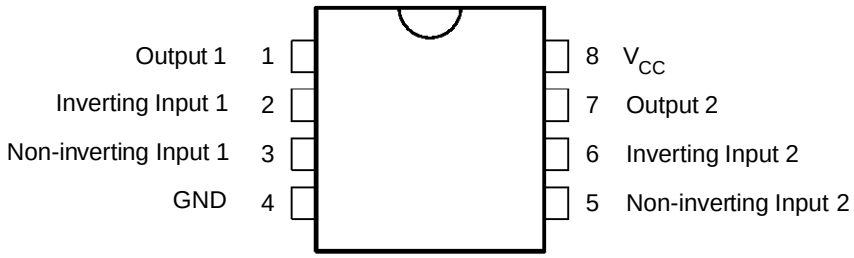
DESCRIPTION

The TDA2320 is a monolithic integrated circuit in Dip package specially designed to amplify the IR signal in remote controlled TV or radio sets. It directly interfaces with the digital control circuitry.

The TDA2320 incorporates a two-stage amplkifier with excellent sensitivity and high noise immunity. It can work with a single 5V supply voltage and flash or carrier transmission modes as provided for example by the M709A/M710A/MOS transmitters.

The TDA2320 is particularly intended to be used in conjunction with the M104 and M206 + M3870 remote control receivers.

PIN CONNECTIONS (top view)



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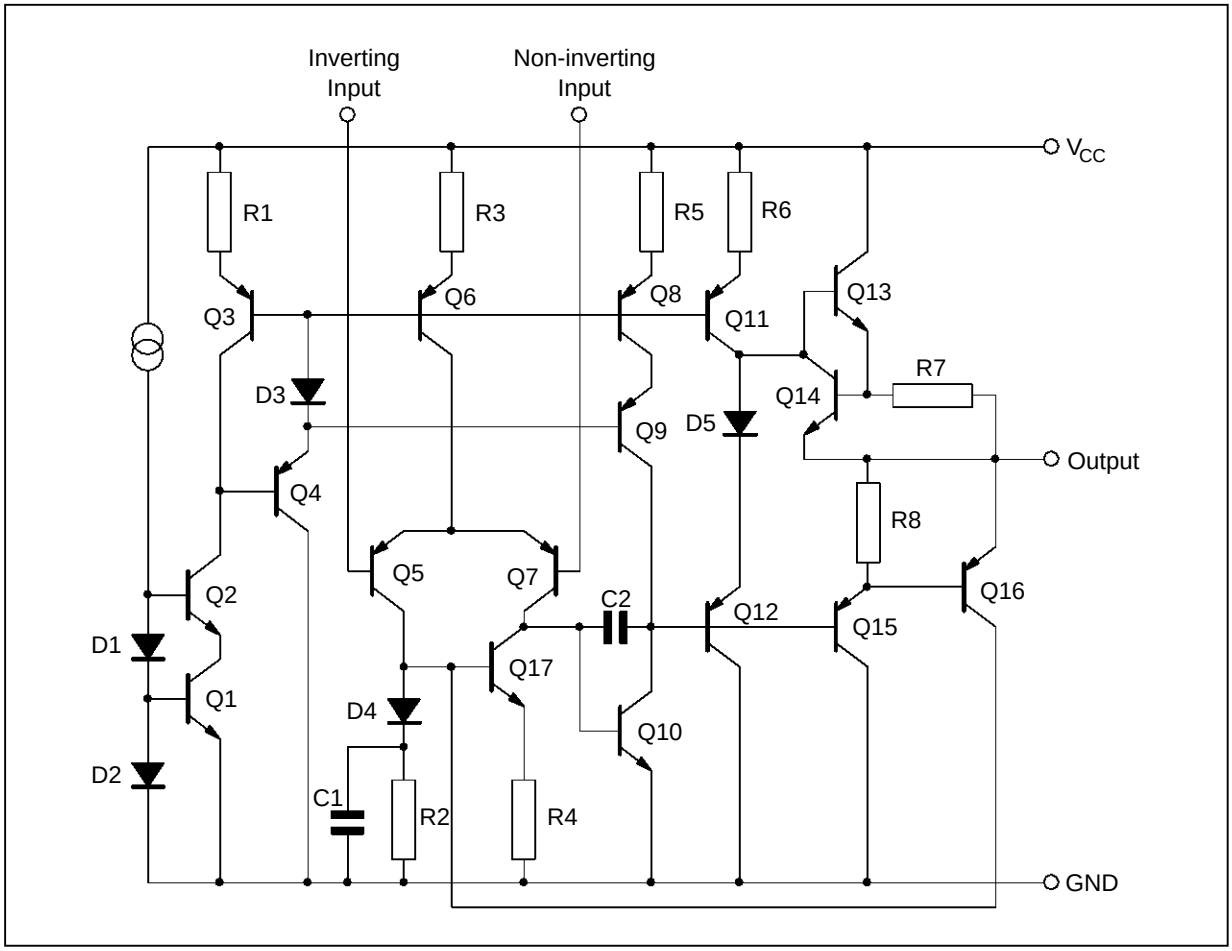
SCHEMATIC DIAGRAM (1/2 TDA2320)



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CC}	Supply Voltage	20	V
P_{tot}	Total Power Dissipation at T_{amb} = 70°C	400	mW
T_{stg}, T_j	Storage and Junction Temperature	–40 to 150	°C

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ELECTRICAL CHARACTERISTICS

V_{CC} = 5V, T_{amb} = 25°C) (unless otherwise specified) (refer to the test circuits)

Symbol	Parameter	Min.	Typ.	Max.	Unit
V_{CC}	Supply Voltage	4		20	V
I_{CC}	Supply Current V_{CC} = 20V		 0.8	 2	mA
I_{ib}	Input Bias Current		100	500	nA
V_{io}	Input Offset Voltage R_s < 10kΩ		 0.5		mV
I_{io}	Input Offset Current		15		nA
A_{vd}	Large Signal Voltage Gain f = 1kHz f = 100kHz	64	 70 30		dB
V_{OPP}	DC Output Voltage Swing		2.5		V
GBP	Gain-bandwidth Product f = 100kHz	 1.5	 3		MHz
SR	Slew Rate R_L = 2kΩ		 1.5		V/µs
e_n	Equivalent Input Noise Voltage f = 40kHz R_s = 10kΩ		 20		$\frac{nV}{\sqrt{Hz}}$
SVR	Supply Voltage Rejection Ratio f = 100Hz		 80		dB

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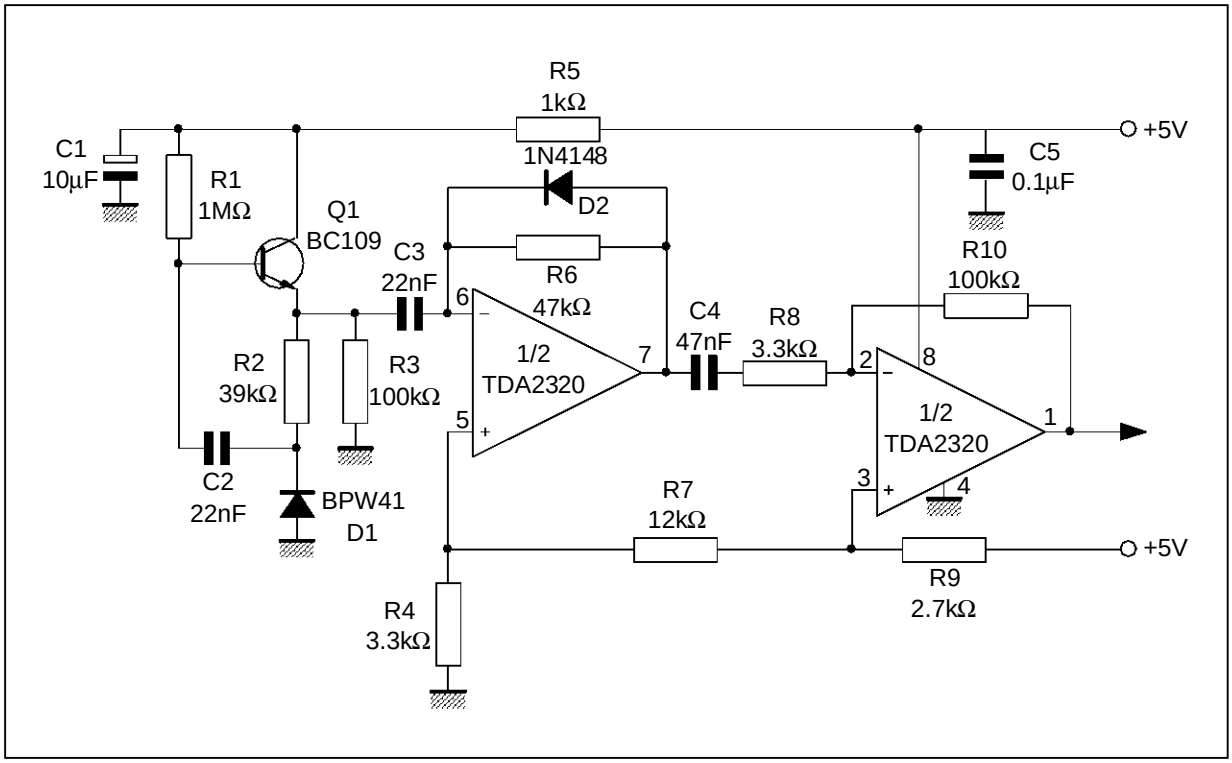
APPLICATION CIRCUIT

FLASH MODE PREAMPLIFIER



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APPLICATION INFORMATION

Figure 1 : Application Circuit for Carrier Transmission Mode

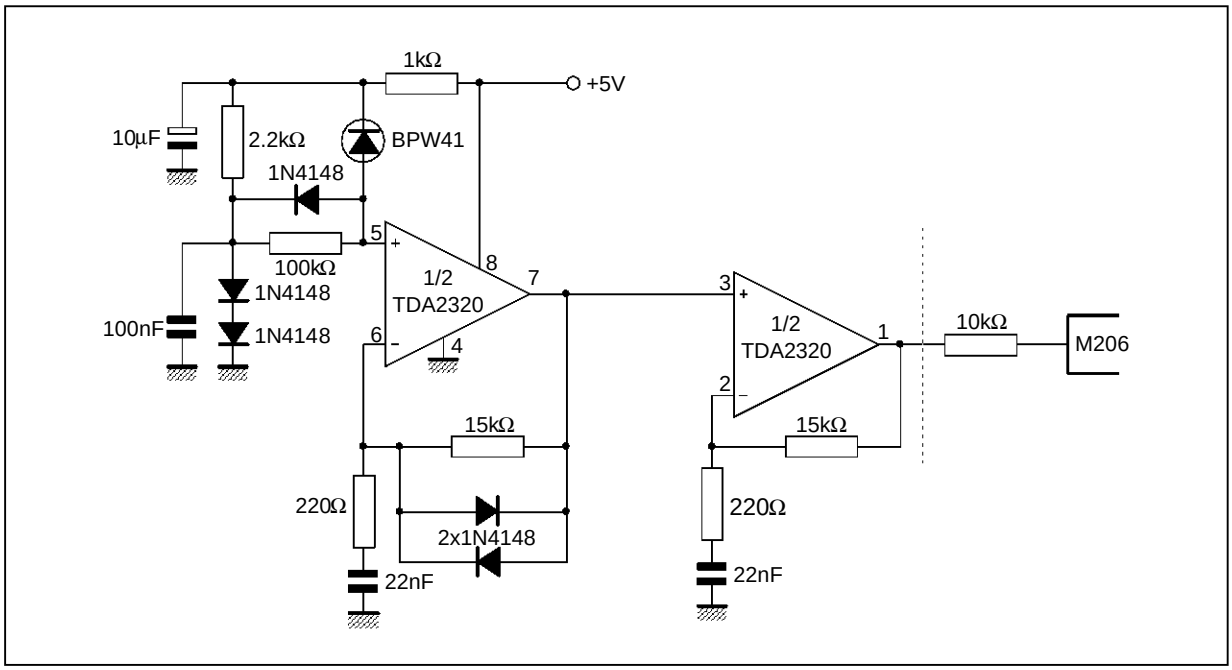


Figure 2 : IR Transmitter Using M709 or M710

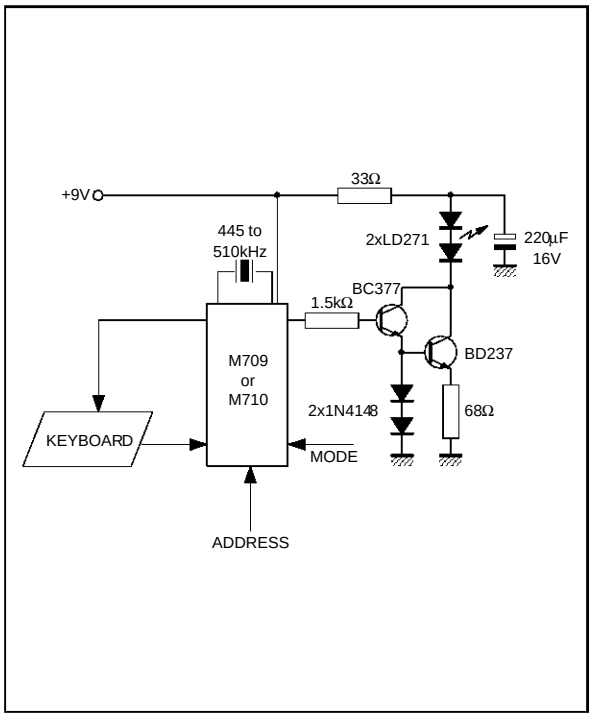
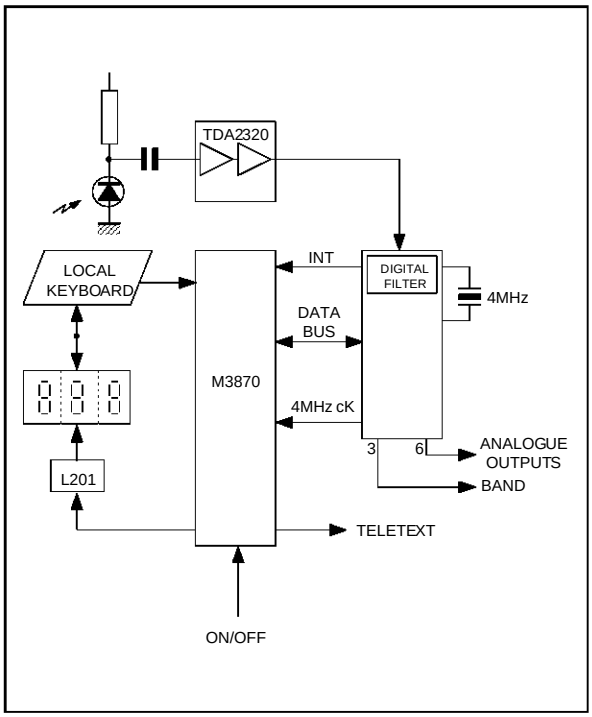
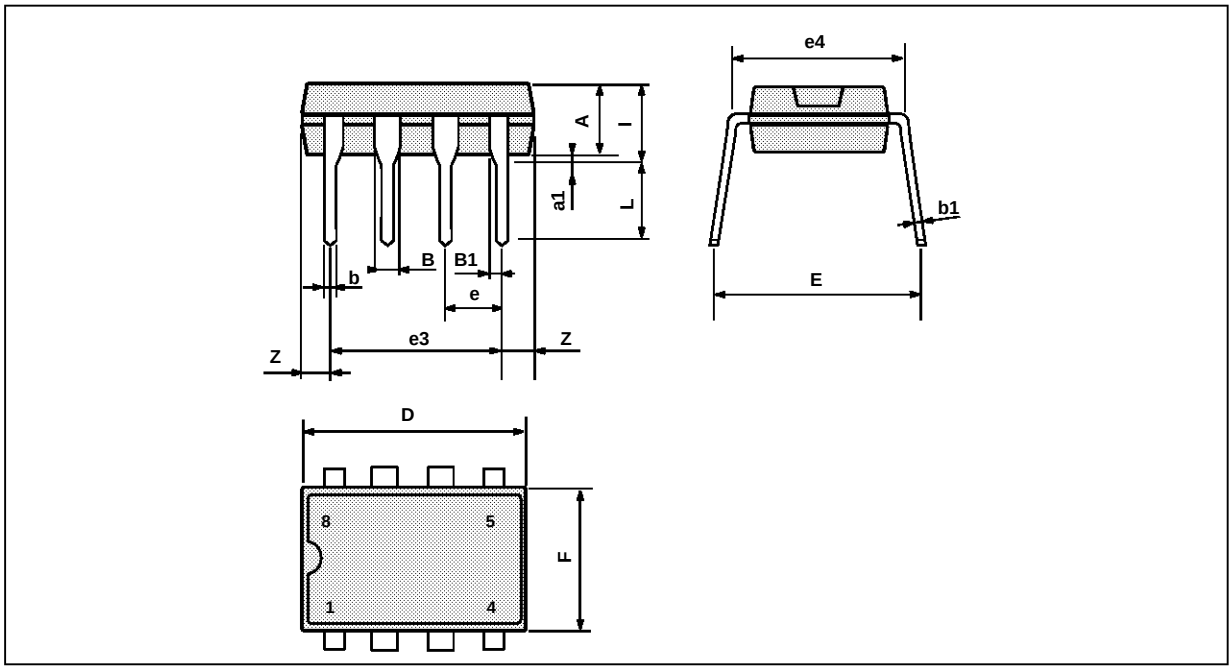


Figure 3 : MMC II - PLL TV Frequency Synthetizer



PACKAGE MECHANICAL DATA

8 PINS -PLASTIC DIP



PM-DIP8.EPS

Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A		3.32			0.131	
a1	0.51			0.020		
B	1.15		1.65	0.045		0.065
b	0.356		0.55	0.014		0.022
b1	0.204		0.304	0.008		0.012
D			10.92			0.430
E	7.95		9.75	0.313		0.384
e		2.54			0.100	
e3		7.62			0.300	
e4		7.62			0.300	
F			6.6			0260
i			5.08			0.200
L	3.18		3.81	0.125		0.150
Z			1.52			0.060

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