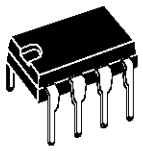
SGS-THOMSON MICROELECTRONICS

TDA2320

PREAMPLIFIER FOR INFRARED REMOTE CONTROL SYSTEMS



N
DIP8
(Plastic Package)

DESCRIPTION

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

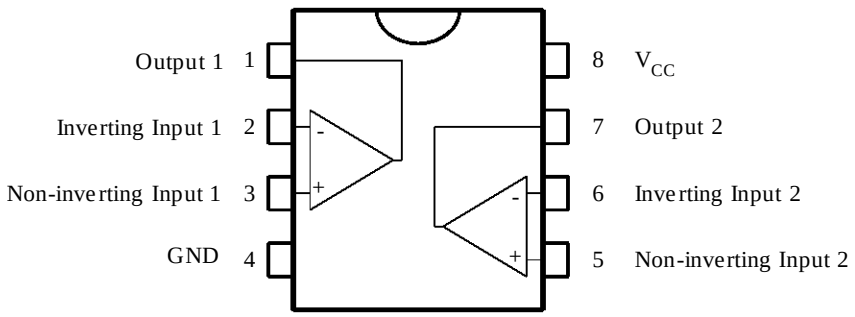
The TDA2320 incorporates a two-stage amplifier with excellent sensitivity and high noise immunity. It can work with a single 5V supply voltage and flash or carrier transmission modes as provided for example by the M709A/M710A/MOS transmitters.

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

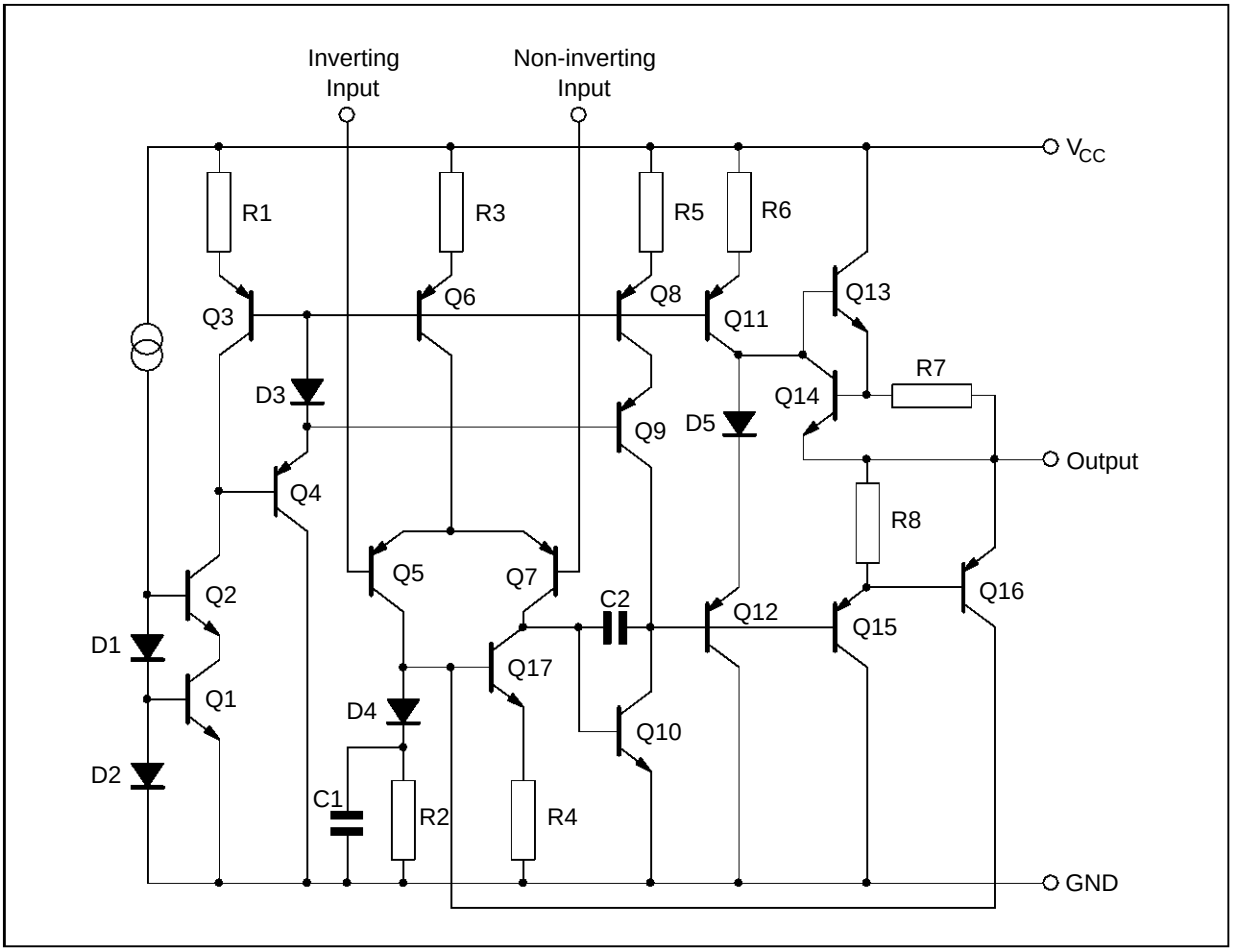
ORDER CODES

Part Number	Temperature Range	Package
		N
TDA2320	-40°C, +105°C	•

PIN CONNECTIONS (top view)



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

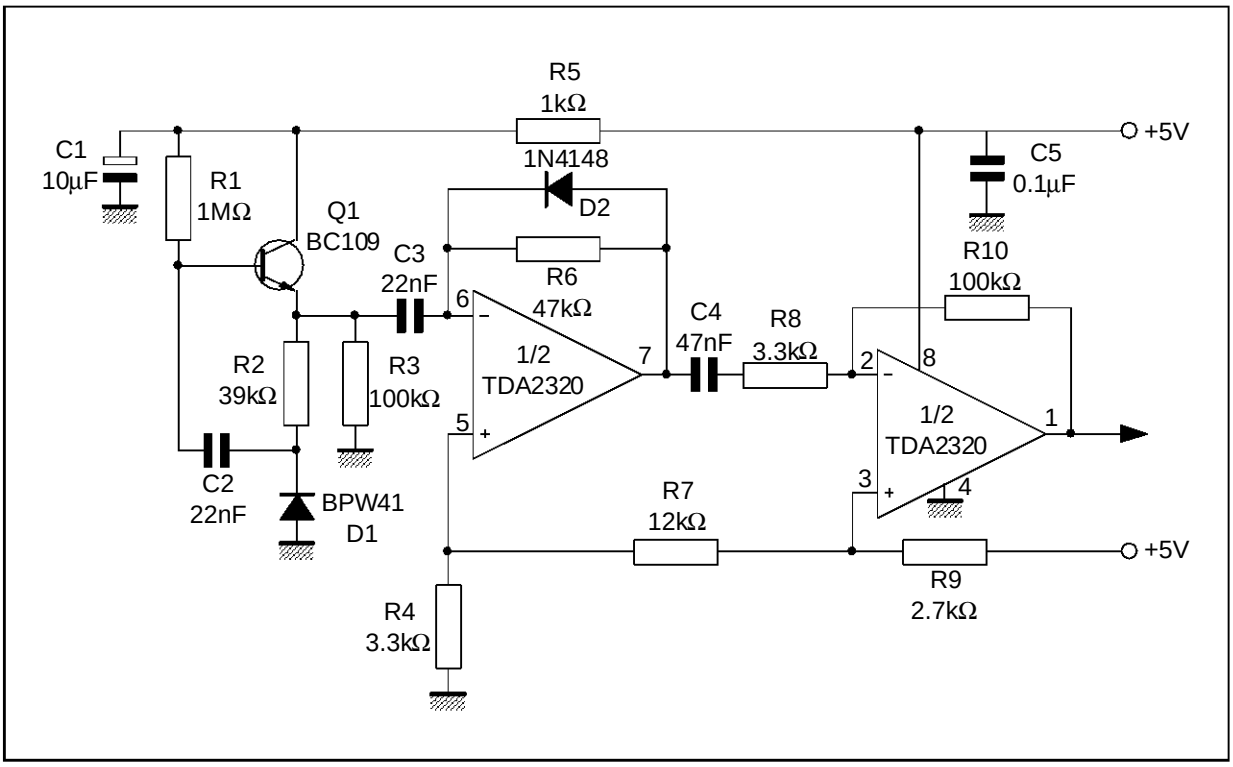
ELECTRICAL CHARACTERISTICS

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

APPLICATION CIRCUIT

FLASH MODE PREAMPLIFIER



APPLICATION INFORMATION

Figure 1 : Application Circuit for Carrier Transmission Mode

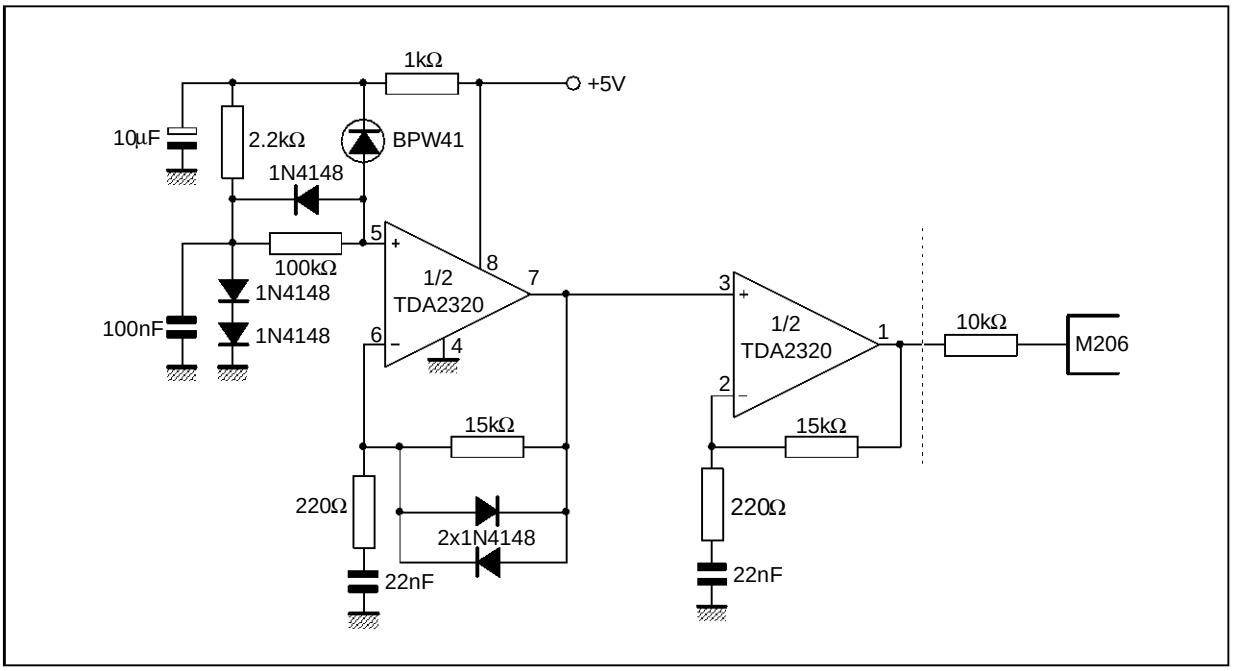


Figure 2 : IR Transmitter Using M709 or M710

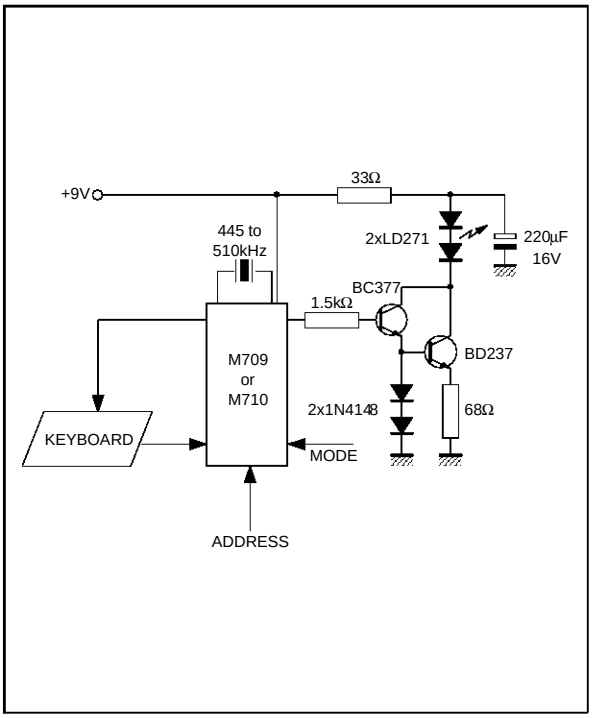
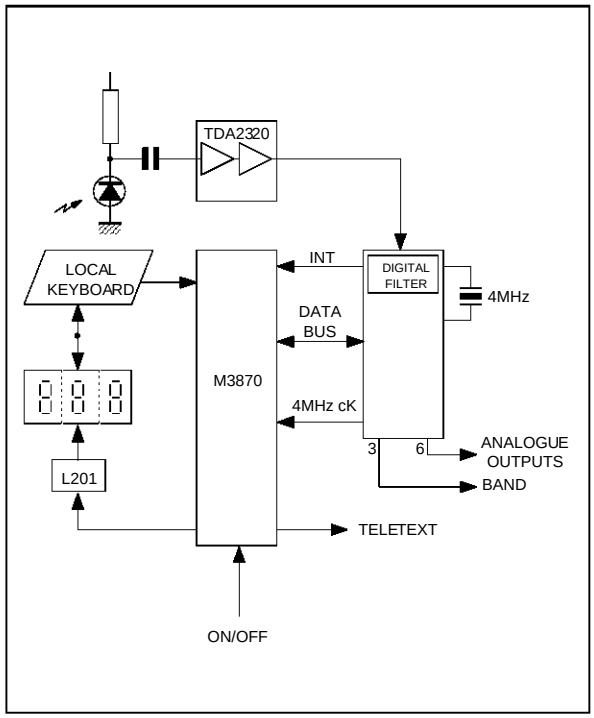
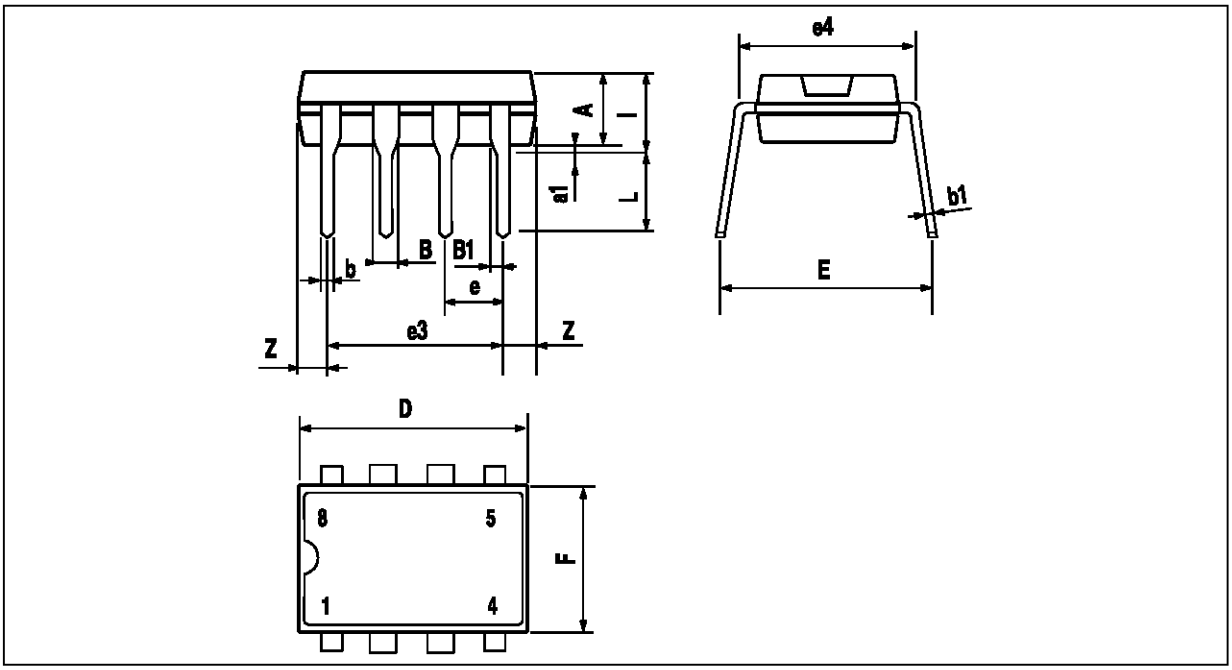


Figure 3 : MMC II - PLL TV Frequency Synthetizer



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

DIP8.TBL

ORDER CODE :