

SL1455

WIDEBAND FM DEMODULATOR WITH THRESHOLD EXTENSION

The SL1455 is a wideband FM demodulator with threshold extension. It is intended for use in satellite receivers with an IF between 300MHz and 700MHz. The device features electrostatic protection on all pins.

FEATURES

- 7dB Noise Threshold Obtainable
- Low External Component Count
- Negligible Differential Gain and Phase Error
- Wide Operating Frequency Range 300 to 700MHz
- Demodulates FM Signals with up to 28MHz Pk to Pk Deviation

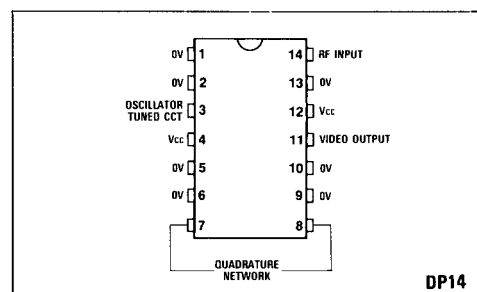


Fig.1 Pin connections (top view)

APPLICATIONS

- DBS Receivers
- Wideband Data Communications Demodulator

ABSOLUTE MAXIMUM RATINGS

Operating temperature range	-10° C to 80° C
Supply voltage	7V
Storage temperature range	-55° C to 125° C

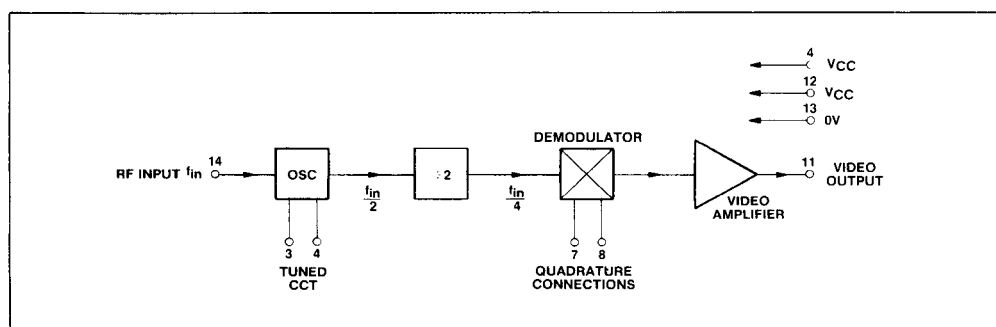


Fig. 2 Block diagram of SL1455

SL1455

ELECTRICAL CHARACTERISTICS

Test conditions (unless otherwise stated):
 $T_{amb} = 25^{\circ}C$ $V_{CC} = 4.5V - 5.5V$

Characteristic	Pin	Value			Units	Conditions
		Min.	Typ.	Max.		
Supply voltage	12,4	4.5	5	5.5	V	$\Delta f = 21.4MHz$ p-p. Demodulated staircase referred to input staircase before modulation
Supply current	12,4	25	30	35	mA	
Differential gain			$<\pm 1$		%	
Differential phase			$<\pm 1$		Deg	
IF range		300	610	700	MHz	Demodulated colour bar waveform referred to waveform before modulation
Input level	14		22	400	mV rms	
Noise threshold			7		dB	See Note 1
Output level	11		1.3		V pk to pk	21.4MHz pk to pk deviation
Intermodulation products	11		-60		dB	See Note 2
Video bandwidth			10		MHz	

NOTES

- All parameters from Noise threshold to Video bandwidth are determined by the application circuit. These results were gained with the circuit in Fig.3.
- Signal 1 4.433MHz : Deviation = 21.4MHz pk-pk
 Signal 2 6MHz : Deviation = 3MHz pk-pk (PAL and Sound Subcarriers)

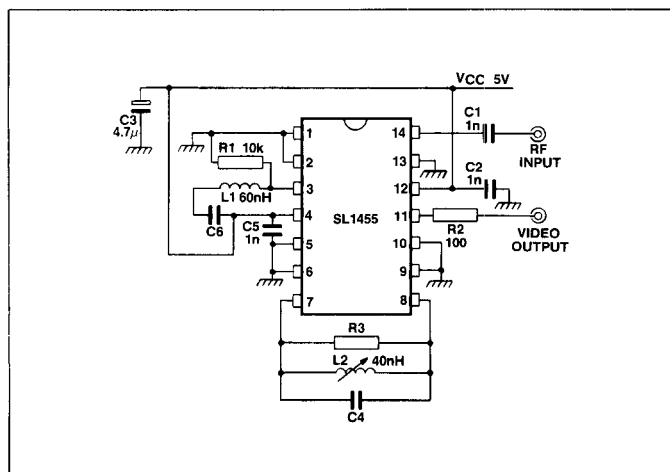


Fig.3 Typical application, 612MHz threshold extended demodulator.