SL1455

WIDEBAND LINEAR FM DETECTOR 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.

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 p-p Deviation
- Electrostatic Protection*

* Normal ESD handling precautions should be observed

APPLICATIONS

- DBS Receivers
- Wideband Data Communications Demodulation

ABSOLUTE MAXIMUM RATINGS

Operating temperature range	−10°C to +80°C
Supply voltage	7V
Input voltage	2·5V p-p
Storage temperature	−55°C to +150°C
Junction temperature	+175°C

ORDERING INFORMATION

SL1455 NA DP (14-lead plastic DIL package)
SL1455 NA MP (14-lead miniature plastic DIL package)

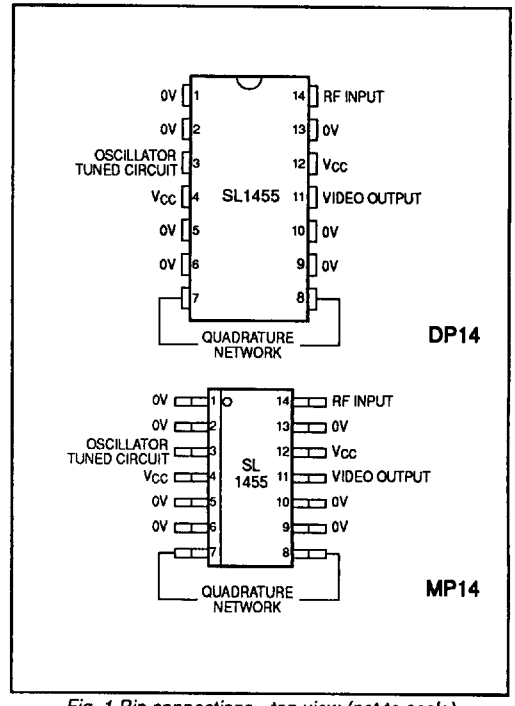

Fig. 1 Pin connections - top view (not to scale)

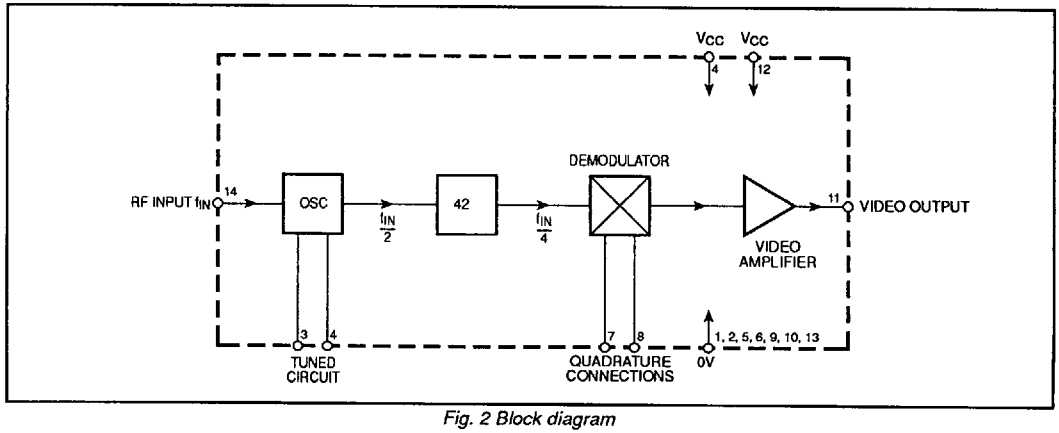

Fig. 2 Block diagram

ELECTRICAL CHARACTERISTICS

These characteristics are guaranteed over the following conditions (unless otherwise stated):
T_{AMB} = +25°C, V_{CC} = +4·5V to +5·5V.

Characteristic	Pin	Value			Units	Conditions
		Min.	Typ.	Max.		
Supply voltage	12,4	4·5	5·0	5·5	V	V_{CC} = 5V
Supply current	12,4	25	30	35	mA	
Differential gain			<±1		%	Δf = 21·4MHz p-p. Demodulated staircase referred to input staircase before modulation.
Differential phase			<±1		Deg	Demodulated colour bar waveform referred to waveform before modulation.
IF range		300	610	700	MHz	
Input level	14		22	400	mVrms	
Noise threshold			7		dB	See note 1
Output level	11		1·3		V p-p	Δf = 21·4MHz p-p
Intermodulation products	11		−60		dB	See note 2
Video bandwidth			10		MHz	

NOTES
1. All characteristics from Noise Threshold to Video Bandwidth are measured using the application circuit Fig. 3.
2. Signal 1: 4·433MHz, deviation = 21·4MHz p-p.
   Signal 2: 6MHz, deviation = 3MHz p-p (PAL and sound subcarriers).

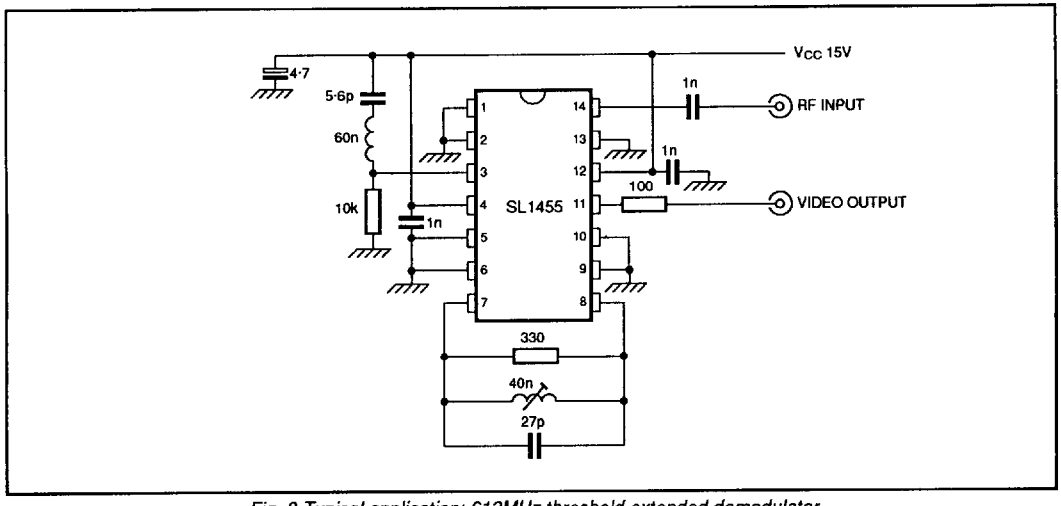

Fig. 3 Typical application: 612MHz threshold extended demodulator