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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)

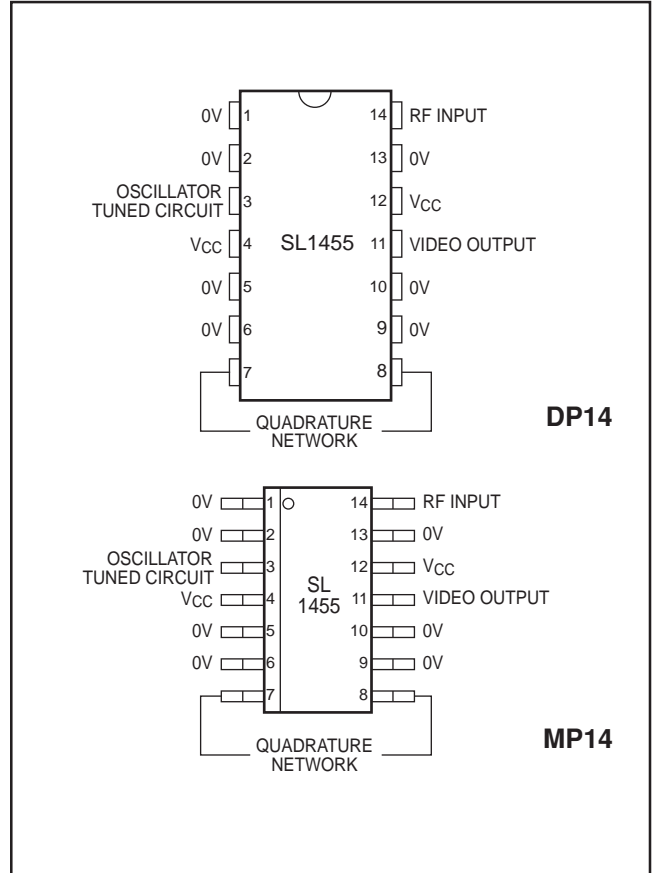


Fig. 1 Pin connections - top view (not to scale)

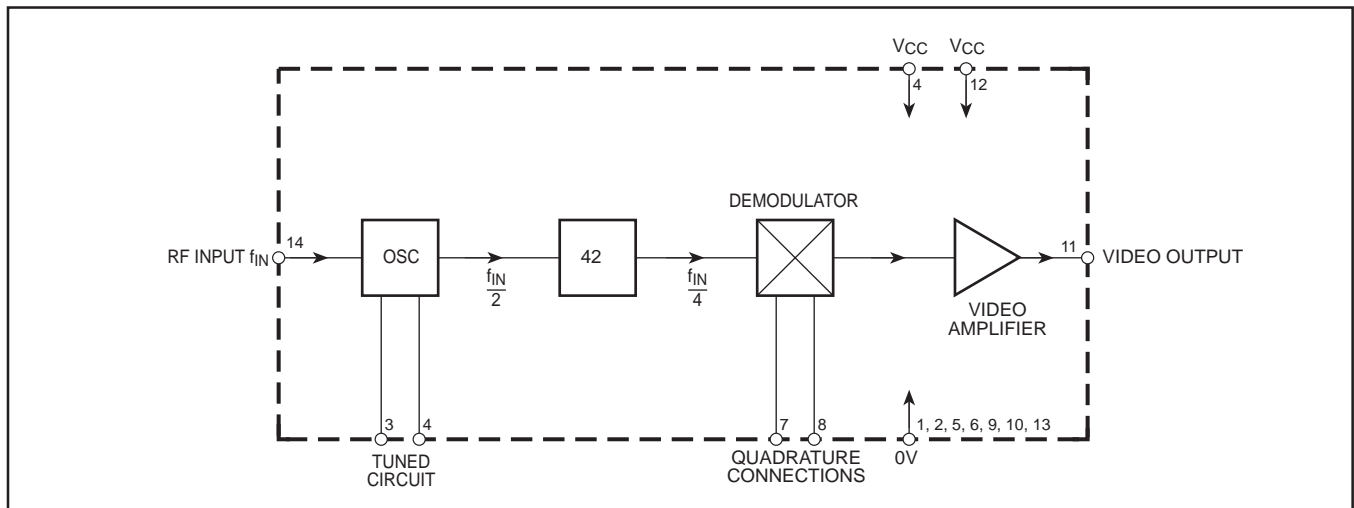


Fig. 2 Block diagram

ELECTRICAL CHARACTERISTICS

These characteristics are guaranteed over the following conditions (unless otherwise stated):

$$T_{AMB} = +25^{\circ}\text{C}, V_{CC} = +4.5\text{V to } +5.5\text{V}.$$

Characteristic	Pin	Value			Units	Conditions
		Min.	Typ.	Max.		
Supply voltage	12,4	4.5	5.0	5.5	V	$V_{CC} = 5\text{V}$
Supply current	12,4	25	30	35	mA	
Differential gain			$< \pm 1$		%	$\Delta f = 21.4\text{MHz p-p}$. Demodulated staircase referred to input staircase before modulation.
Differential phase			$< \pm 1$		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	$\Delta f = 21.4\text{MHz p-p}$
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).

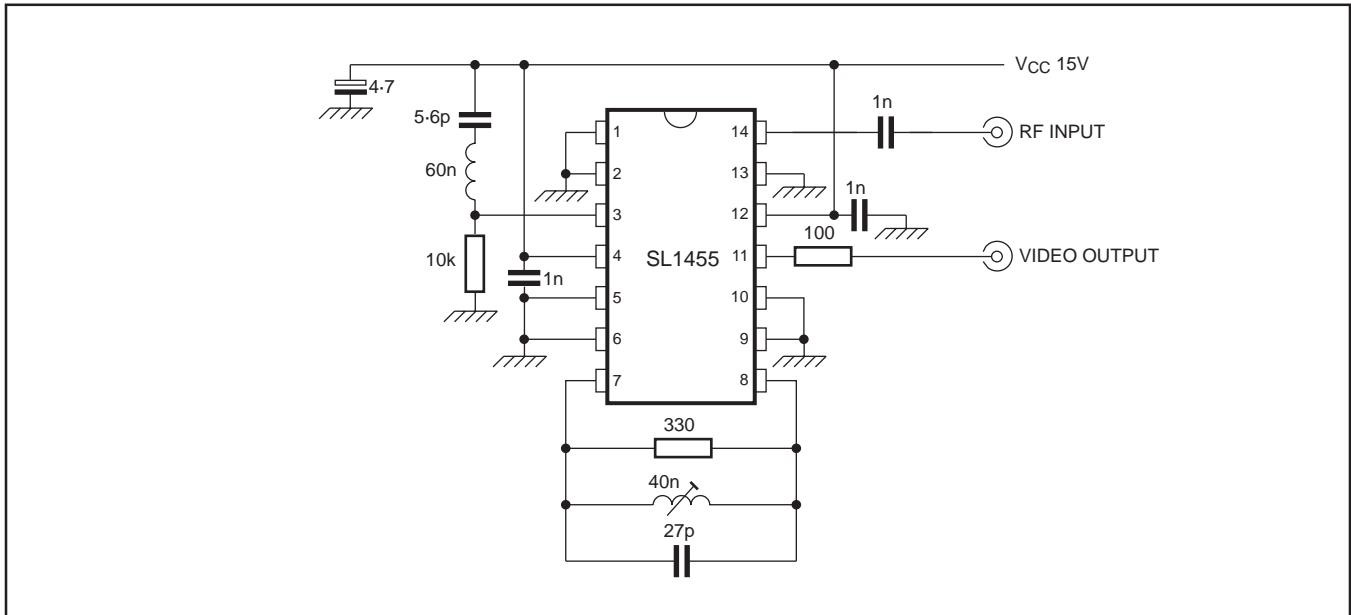
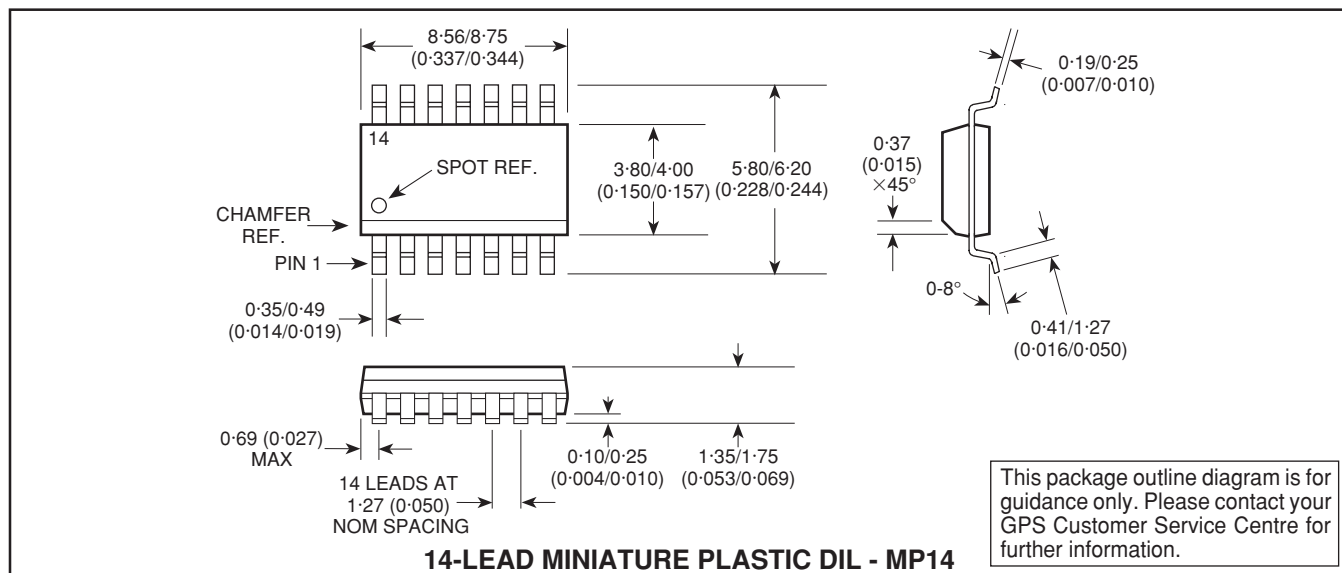
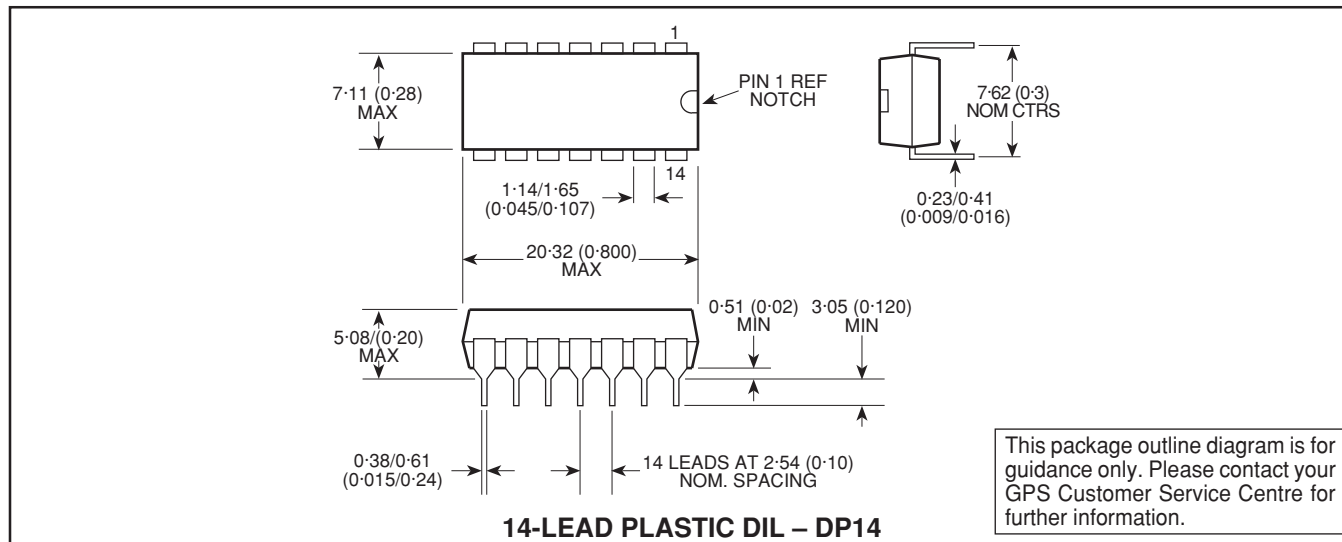


Fig. 3 Typical application: 612MHz threshold extended demodulator

NOTES

PACKAGE DETAILS

Dimensions are shown thus: mm (in)

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