

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)

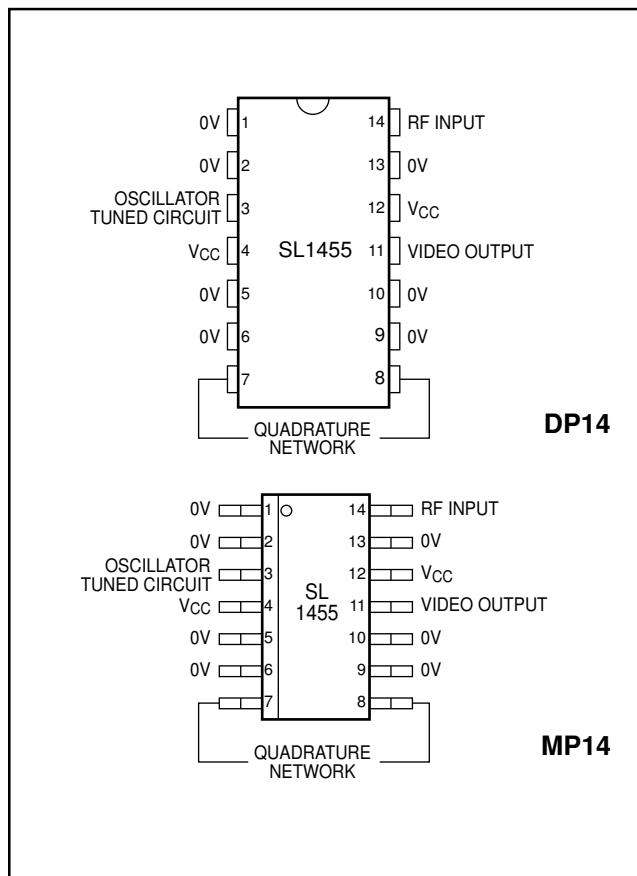


Fig. 1 Pin connections - top view (not to scale)

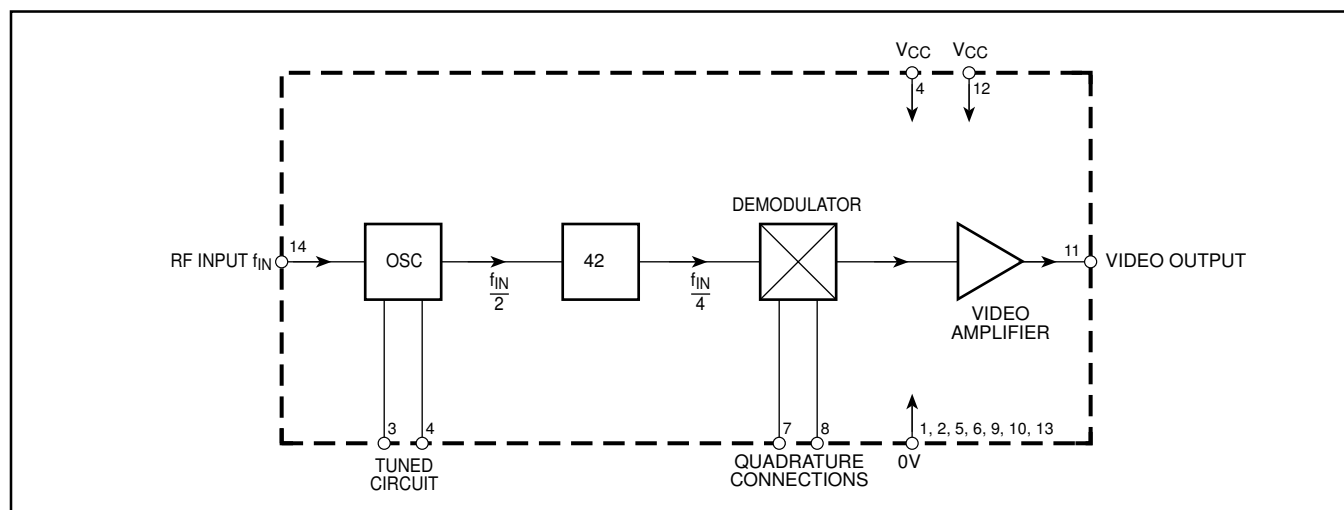


Fig. 2 Block diagram

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	$V_{CC} = 5\text{V}$ $\Delta f = 21.4\text{MHz}$ p-p. Demodulated staircase referred to input staircase before modulation. Demodulated colour bar waveform referred to waveform 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	See note 1 $\Delta f = 21.4\text{MHz}$ p-p See note 2
Input level	14		22	400	mVrms	
Noise threshold			7		dB	
Output level	11		1.3		V p-p	
Intermodulation products	11		-60		dB	
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).

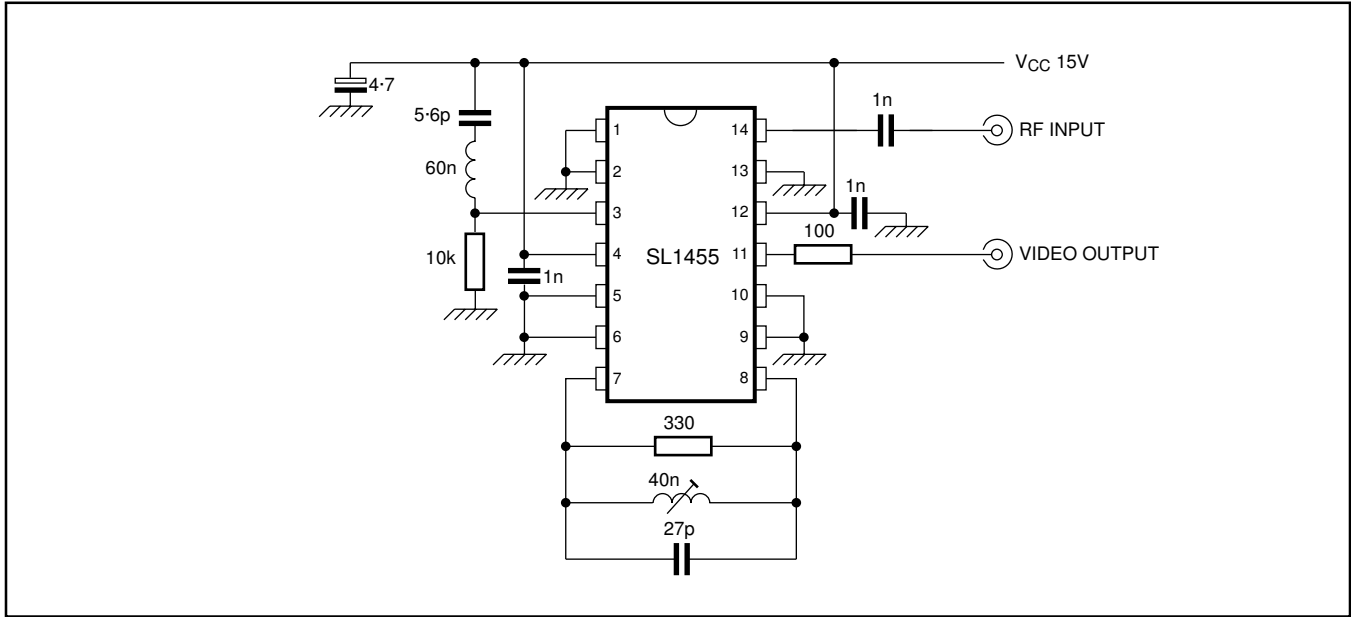


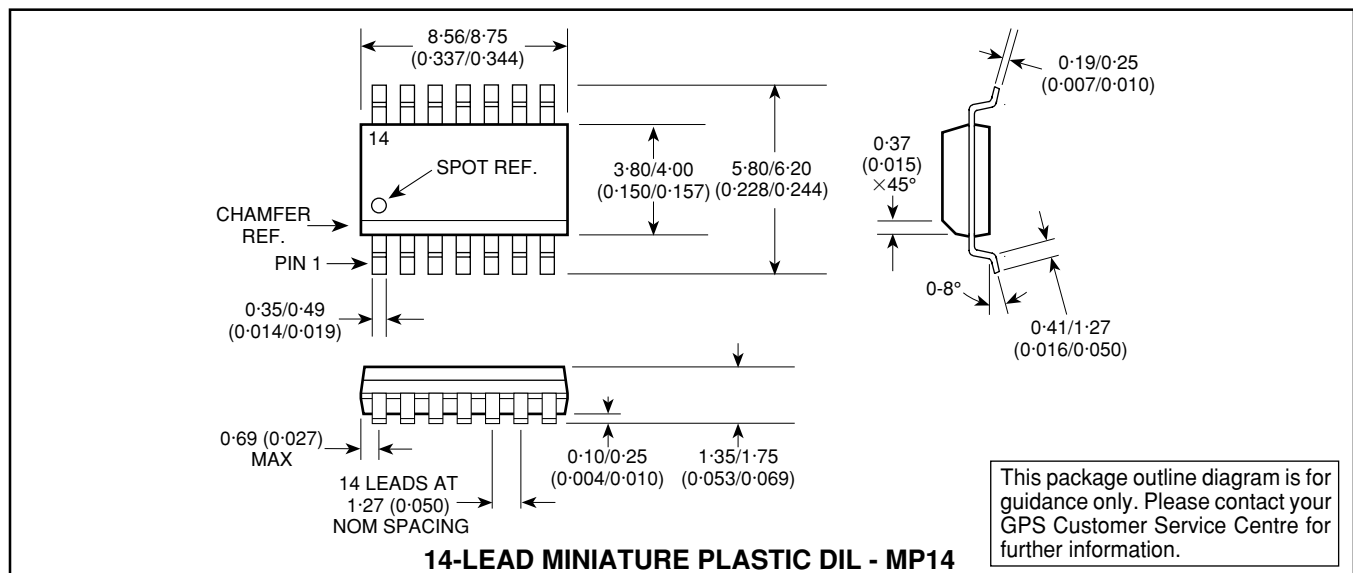
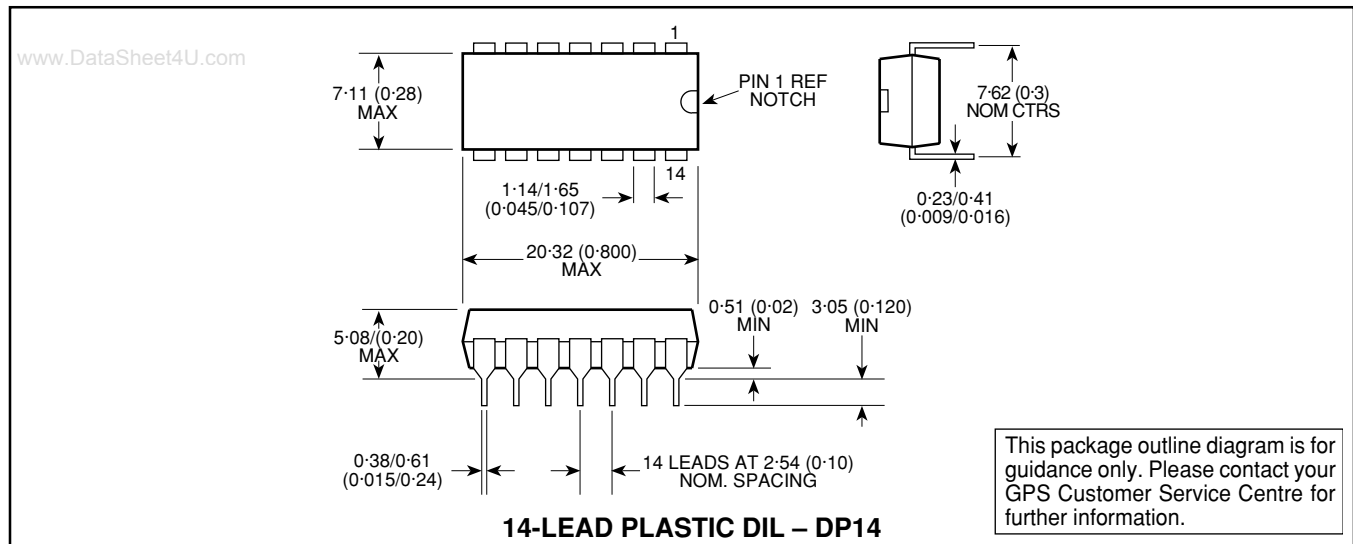
Fig. 3 Typical application: 612MHz threshold extended demodulator

NOTES

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PACKAGE DETAILS

Dimensions are shown thus: mm (in)

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