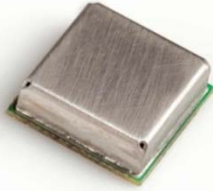


# Threshold Detector 10 - 16 GHz



## Features

- Wide 10-16 GHz Bandwidth
- Superior Sensitivity
- Small Size
- Lower Cost Packaging

API Technologies' Broadband Model LCJ9500 Threshold Detector incorporates both high performance in a lower cost package. This Broadband, Lower Cost Detector allows the user to either control the threshold with either varying voltage levels or resistor values. The model LCJ9500 also features a fast 2  $\mu$ sec rise/fall time, tight over-temperature stability, and superior sensitivity. The design can also be customized to meet a customer's unique requirements.

## Technical Specifications

Parameter	Typical*	Min/Max
Frequency	10 - 16 GHz	10 - 16 GHz
Threshold Control Level •at $P_{IN} = -15$ dBm •at $P_{IN} = -10$ dBm •at $P_{IN} = -5$ dBm •at $P_{IN} = 0$ dBm	0.300 volts / 300 ohms 0.800 volts / 800 ohms 1.500 volt / 1.5 kohms 2.600 volts / 2.6 kohms	-
Threshold Temp. Stability •at $P_{IN} = -15$ dBm •at $P_{IN} = -10$ dBm •at $P_{IN} = -5$ dBm •at $P_{IN} = 0$ dBm	+/- 1 dB +/- 1 dB +/- 1 dB +/- 1 dB	-
Threshold Hysteresis Voltage Control Resistance Control	< 0.1 dB > 0.1 dB	-
Output @ $P_{IN} =$ Threshold	3 volts	-
Rise Time / Fall Time	2 $\mu$ sec	-
DC Supply Voltage	+5 volts	(+/- 2%)
DC Supply Current	100 mA	125 mA

## Maximum (No Damage) Ratings

Storage Temperature	-55°C to +125°C
Max. Operating Temperature	-40°C to +85°C
DC Voltage	+8 volts
Input Drive (CW)	+20 dBm
Input Drive (3 $\mu$ sec Peak Pulse)	+23 dBm

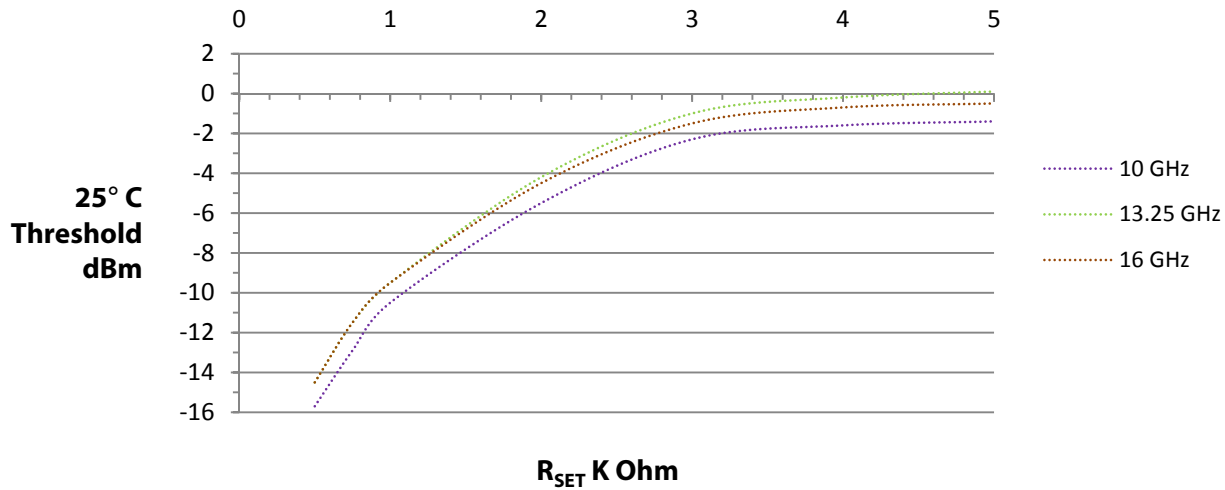
\*Typical values are measured at 25°C, but not guaranteed.

1. Specifications labeled "min." or "max." are guaranteed in a 50 Ohm system over the specified temperature range

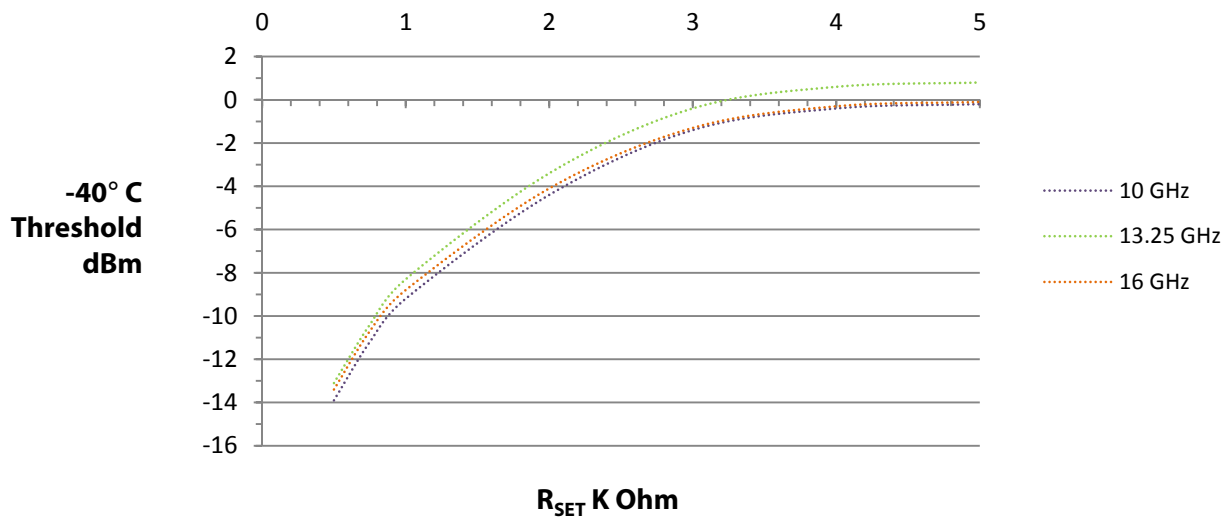
## Mechanical & Electrical

Parameter	Specification
Specification Temperature (Min/Max)	-20°C to +70°C
Housing Size	0.500" L x 0.500" W x 0.120" H
Housing Drawing	LCJ500 Package

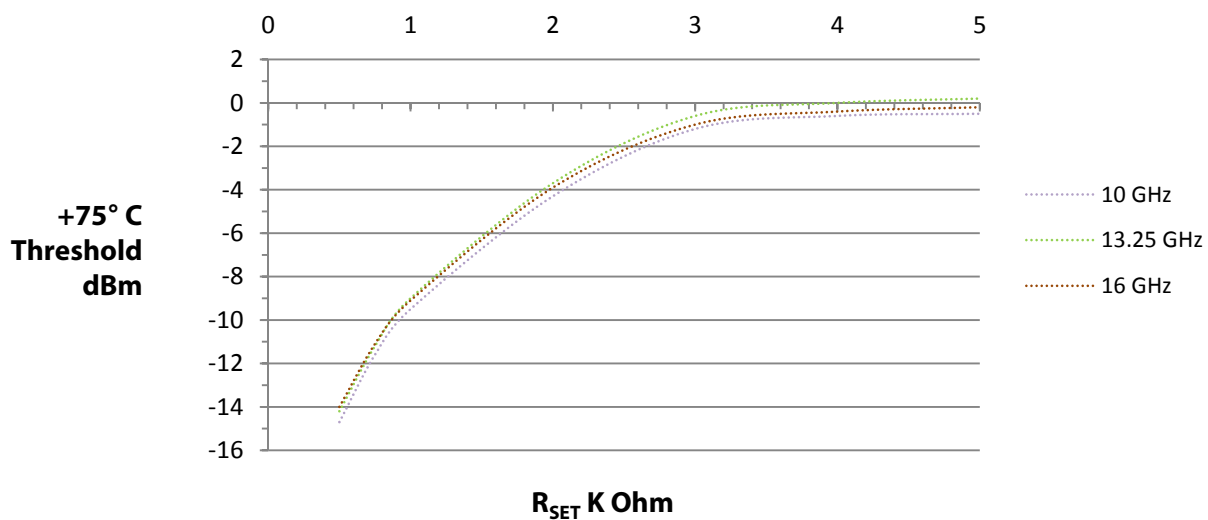
25°C Threshold (dBm)



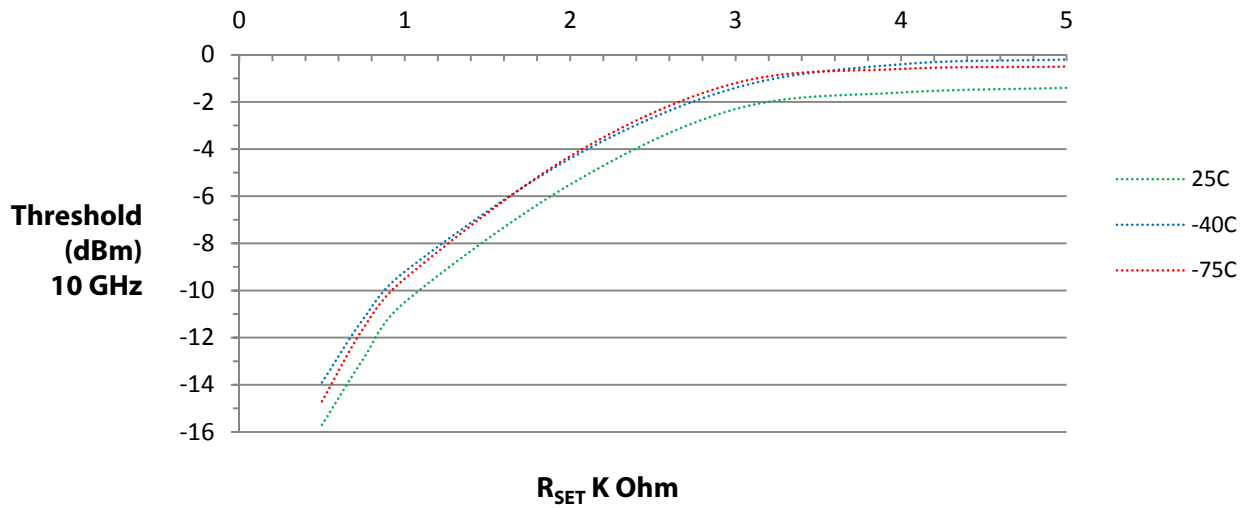
-40°C Threshold (dBm)



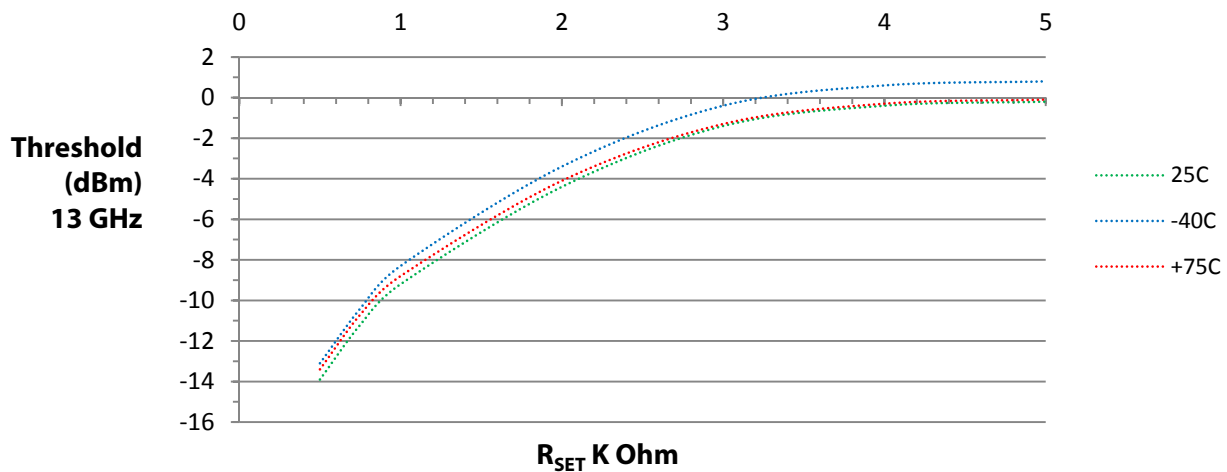
+75°C Threshold (dBm)



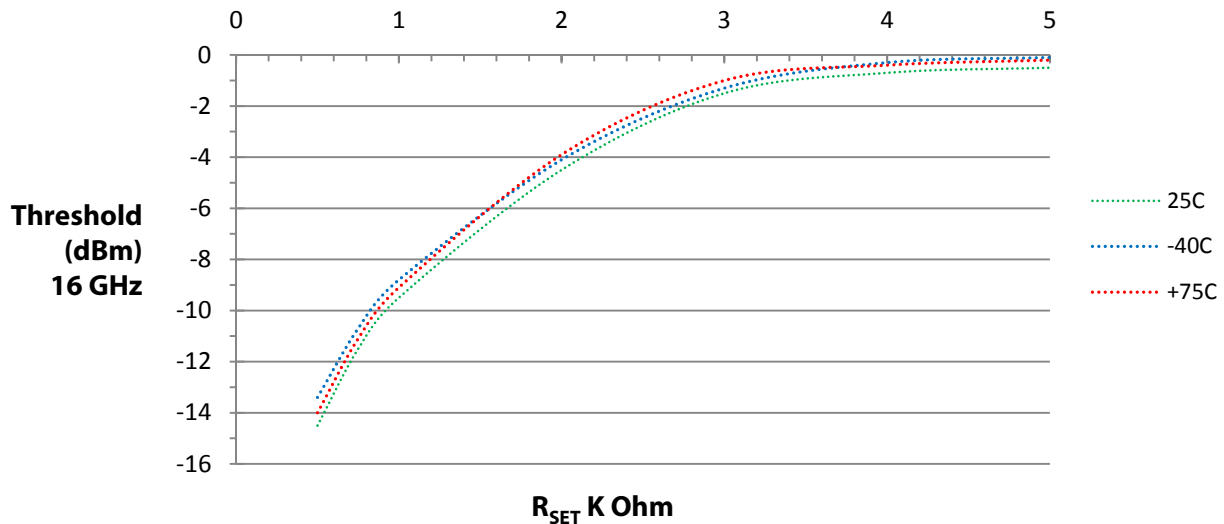
10 GHz Threshold Power



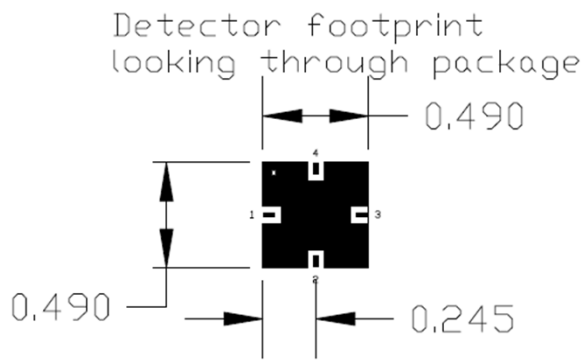
13 GHz Threshold Power



16 GHz Threshold Power



Outline Drawing



Pinout  
1 RF input  
2 Comparator TTL out  
3 Rset/Vthreshold  
4 +5VDC  
Ground pad - RF and DC ground

