

DAQ6104 0.1 TO 6.0 GHz ANALOG DETECTOR

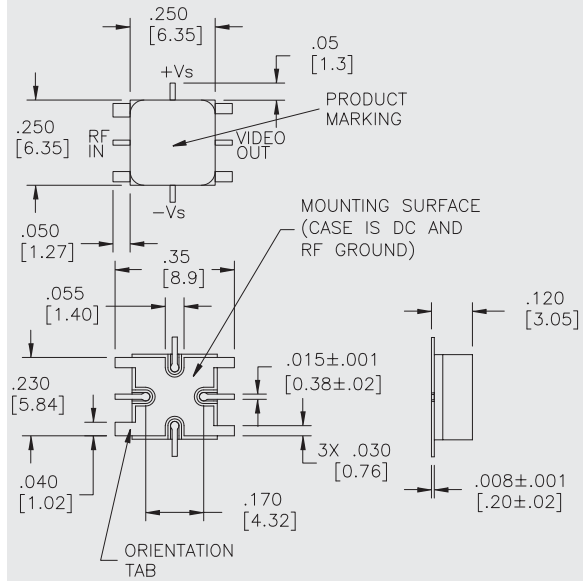
Typical Values @ +25 °C

Wide Frequency Range	0.1 to 8.0 GHz
Wide Power Range	-25.0 to +12.0 dBm
Temperature Stability	± 0.5 dB
Flatness	± 0.75 dB
Low VSWR	1.5:1
Cougar Q Package	

DAQ6104

DAQ6104

SM-25 for Detectors

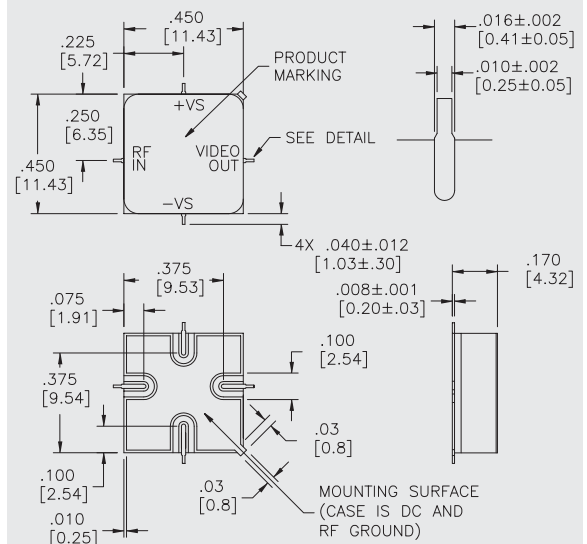


SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	0.05-7.0 GHz	0.1-6.0 GHz	0.1-6.0 GHz
Input Power Range (Min.)	-25 to +12 dBm	-20 to +10 dBm	-20 to +10 dBm
VSWR (Max.)	0.05-6.0 GHz 1.5:1† 0.1-5.0 GHz 1.3:1†	2.0:1† 1.7:1†	2.0:1† 1.7:1†
Sensitivity, Vout (Min.)	190 mV†	150 mV†	150 mV†
Power Flatness (Max.)	±0.75 dB^	±1.0 dB^	±1.0 dB^
Temperature Stability (Max.)	±0.5 dB	±0.75 dB	±0.75 dB
Output Offset Voltage, no RF (Max.)	±2.0 mV	±10.0 mV	±10.0 mV
1 dB Square Law Departure	-10 dBm	—	—
Tangential Sensitivity	-37 dBm^^	—	—
Pulse Response, Pin = -15 dBm	0.3 µsec‡	1.0 µsec‡	1.0 µsec‡
Supply Current, no RF	2 +mA, 2 -mA	—	—
Supply Current, Pin = +5 dBm	10 +mA, 2 -mA	—	—

DAS6104

SMT0-8 Package for Detectors



DIMENSIONS ARE IN INCHES [MILLIMETERS]

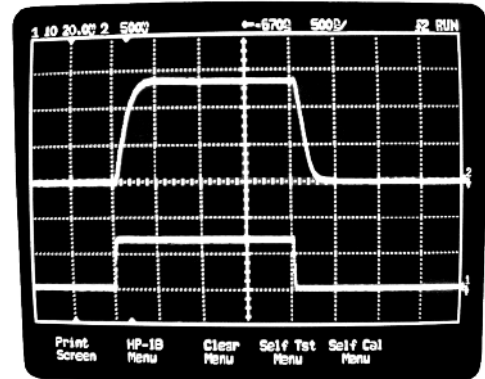
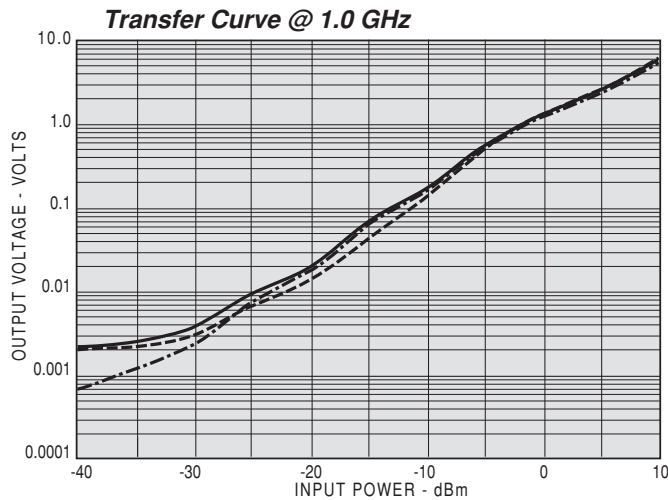
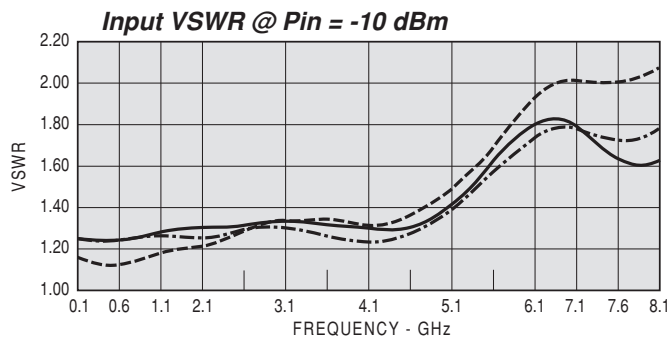
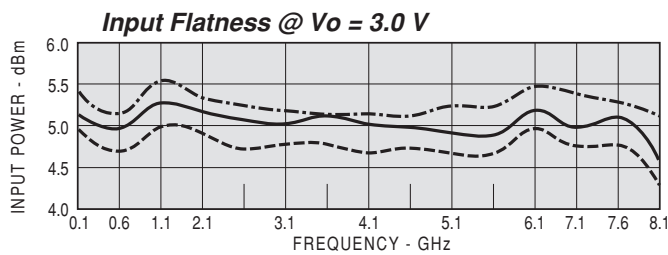
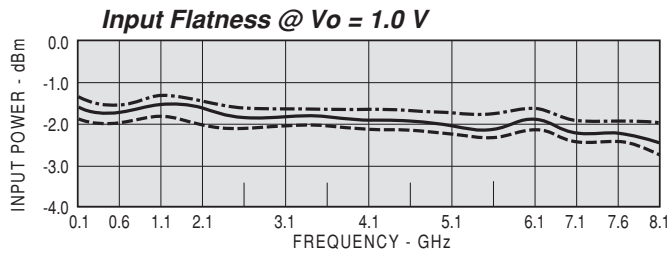
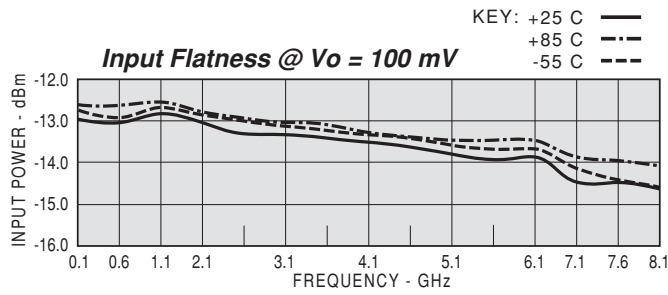
MAXIMUM RATINGS

DC Voltage (no RF)	±22 V
Continuous RF Input Power	+20.0 dBm
Operating Case Temperature	-55 °C to +125 °C
Storage Temperature	-65 °C to +150 °C
Burn-In Temperature	+150 °C
Detector Thermal Resistance (θjc)	+800 °C/Watt
Temperature Rise @ 16 dBm (Tjc)	+4.5 °C

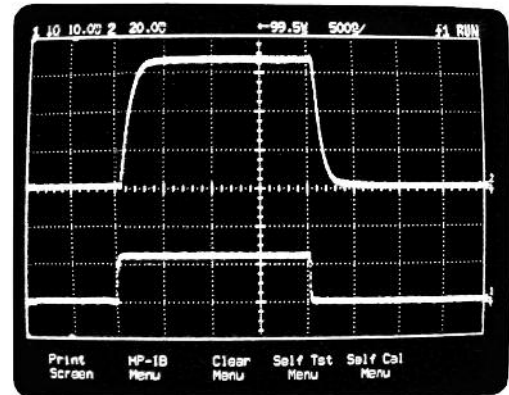
APPLICATION NOTES

- ✦ Average power detection is obtained at power levels below approximately -10 dBm.
- ✦ For best pulse response both supply pins should be bypassed with an additional 1.0 µF capacitor. The unit contains 0.01 µF internal capacitors.

TYPICAL PERFORMANCE



Pulse Response @ $P_{in} = 0$ dBm



Pulse Response @ $P_{in} = -15$ dBm

Top Trace: Detector Response
Bottom Trace: RF Input
Time Base: 500 ns/div