

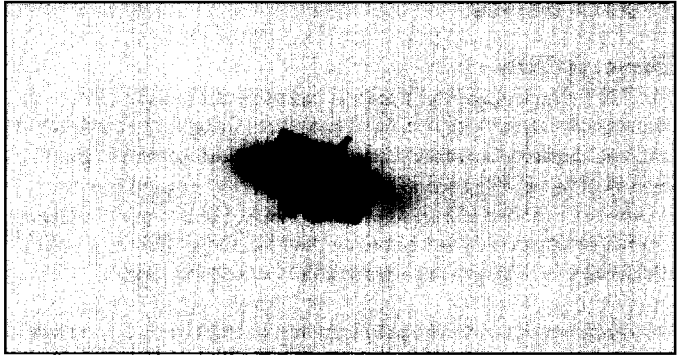
7709H Series

Description

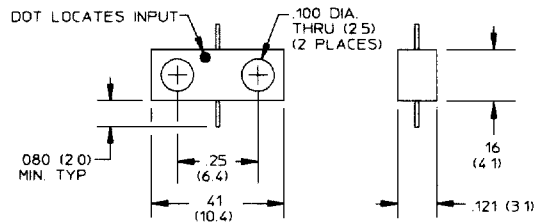
The 7709H series is intended for secure mechanical attachment in stripline (and microstrip) assemblies, where RF and video interconnections are soldered in place.

The usable input power range is from T_{SS} to +20 dBm. Square law response is from T_{SS} to approximately -15 dBm, linear range is between -15 dBm and approximately +6 dBm with saturation through +20 dBm and burnout occurring beyond +23 dBm. For higher RF input power handling, see the 7715 series of limiter-detectors. Extension/shift of the square law and linear regions is accomplished with multiple diode circuits, available on special order.

The high sensitivity (K) and RF power handling of these detectors makes them particularly useful in signal processing and RF power monitors in receivers, exciters, radar, guidance and broadband countermeasure equipment.



Mechanical Outline



±.002
Leads are .012 (0.3) diameter (std.). May be supplied as optional tabs.

Specifications*

Frequency Range (GHz)	Voltage ² Sensitivity (K) Min. (mV/mW)	Flatness Max. (dB)	T_{SS} ³ Typ. (-dBm)	RF Bypass Capacitance Typ. (pF)	Rise ⁴ Time Typ. (nS)	Video ⁵ Resistance Typ. (Ohms)	Part Number ¹
2.0-8.0	2000	±0.6	51	20	15	300	7709H-0021
8.0-18.0	2000	±1.0	51	12	10	300	7709H-0022
2.0-18.0	1800	±1.5	50	20	15	300	7709H-0023

Notes:

1. Detectors are normally supplied with negative (-) output voltage polarity, referenced to case ground. Positive (+) output polarity is available for most parts. To designate, add suffix "P" to end of part numbers.
2. Minimum open circuit voltage sensitivity (K) in mV/mW is measured with 100 microamps forward bias applied via video port, with -20 dBm RF input power into 30K ohm, external video load resistance (R_L).
3. Tangential signal sensitivity (T_{SS}) is measured using a video amplifier restricted to 2 MHz bandwidth and having a noise contribution of 3 dB maximum.

4. Pulse rise time (t_r) in nanoseconds, is measured into an external load (R_L) of 1.0K ohms with 12 picofarads in parallel, and 100 microamps bias applied.
5. Video resistance is measured at -20dBm with 100 μ A bias.
6. Video protection against ESD and transients is available. One or more shunt diodes clamp any reverse voltages present at video output port. RF input is generally protected via dc return.

* Performance curves can be found at the end of the Detector section.

