

MODEL 504FP
Non-Reflective VHF Limiter



Features:

- Does not distort incoming signals
- Will not degrade system impedance
- Input low-pass filter rejects out of band signals
- Hermetically sealed Kovar package

The model 504 is a VHF Band RF signal limiter intended for front end protection in transmitter co-located environments. Unlike conventional diode based limiters, the model 504 does not distort (clip) the incoming signals nor degrade the system's match (impedance). When in limiting, the 504 proportionately attenuates the incoming signals, preserving the system's linear performance and match. The unit is housed in an hermetic Kovar package.

Electrical Characteristics:

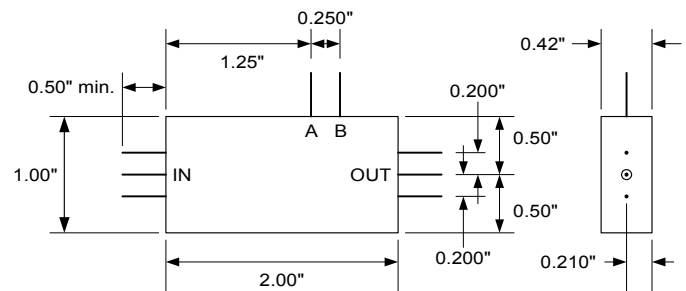
- Frequency Range: 30 – 512 MHz
- Insertion Loss (below threshold): 2.0 dB
- Maximum Attenuation (above threshold): 30 dB
- Limiting Threshold: -3 to +17 dBm, user adjustable
- Transient Time: 100 μ S
- Maximum Input Level: +33 dBm
- Inter-modulation Distortion, OIP³: +45 dBm
- Impedance: 50 Ω
- Return Loss / VSWR: -14 dB / 1.5:1
- DC Power (+Vcc): +12 to +15VDC @ 125 mA

Mechanical Characteristics:

RF Connectors: Pins - See Below

Environmental:

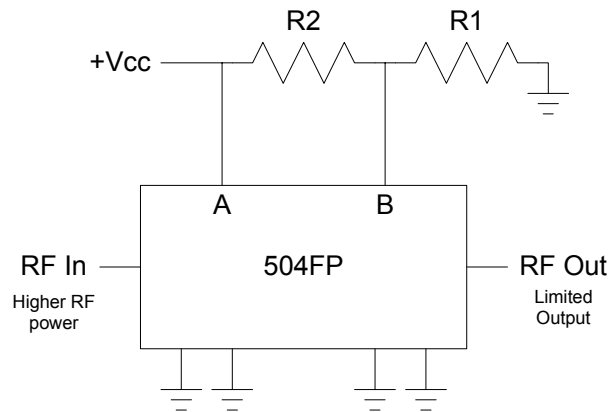
Operating Temperature: -20° to +70° C



0.030" dia. Pins, 8 places

Unmarked pins are ground. Pin A is the +Vcc.
 Pin B is the threshold adjust, user select resistors.

Setting the Limiting Threshold:



Threshold dBm	Voltage (B)	12V operation		15V operation	
		R1	R2	R1	R2
-3	0.81	130	1800	240	4220
-2	0.84	150	2000	160	2700
-1	0.88	698	8870	150	2400
0	0.91	180	2200	130	2000
1	0.94	270	3160	121	1800
2	0.98	110	1240	150	2150
3	1.01	120	1300	160	2200
4	1.05	110	1150	120	1600
5	1.08	100	1000	160	2050
6	1.12	110	1070	120	1500
7	1.15	160	1500	100	1200
8	1.19	1000	9100	200	2320
9	1.22	130	1150	240	2700
10	1.26	130	1100	200	2200
11	1.29	1100	9100	150	1600
12	1.33	150	1200	160	1650
13	1.36	130	1000	200	2000
14	1.39	120	910	1000	9760
15	1.43	270	2000	270	2550
16	1.46	220	1600	240	2210
17	1.50	430	3000	200	1800

Absolute Ratings: (operation above these levels may cause permanent damage)

DC Supply Voltage, +Vcc (A): 18 VDC

Maximum RF Input Level: +33 dBm

Maximum Threshold Voltage (B): +1.5 Volts

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