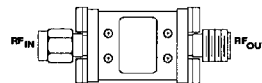


FEATURES

- Full Band 2 to 18 GHz Performance
- All Thin-Film Construction
- 200 W/1000 W Peak Power Handling Option
- VSWR less than 1.8:1
- Insertion Loss Less Than 2.8 dB

APPLICATIONS

- Protection for Detectors, Mixers, and Amplifiers
- EW Receiver Circuit Protection
- Wideband System Protection



AHL Case, p. 16-7

DESCRIPTION

These AHL Series passive limiters are used to protect sensitive components from high peak or CW power levels while maintaining low insertion loss and VSWR under low power conditions. Avantek uses all thin-film design technology for superb reliability and repeatability. All hybrid components are eutectically die attached and thermocompression bonded. The units incorporate all required ground returns and DC

blocks, providing a complete component in a miniature hermetic package.

Avantek offers two series of passive microwave limiters. The low loss (-0) series is designed to handle up to 200 watts peak and 2 watts CW. The high power (-1) series will handle 1000 watts peak and 4 watts (CW). Peak power ratings are for one microsecond pulses at a 0.1 percent duty cycle.

AVANPAK™ THIN-FILM RF LIMITERS (Guaranteed Specifications at +25°C Case Temperature)

Frequency	2.0 to 4.0 GHz		4.0 to 8.0 GHz		8.0 to 12.0 GHz		12.0 to 18.0 GHz	
	Insertion Loss (dB) Max	VSWR Max	Insertion Loss (dB) Max	VSWR Max	Insertion Loss (dB) Max	VSWR Max	Insertion Loss (dB) Max	VSWR Max
AHL0402-00X	1.0	1.8	—	—	—	—	—	—
AHL0802-00X	1.0	1.8	1.3	1.8	—	—	—	—
AHL1202-00X	1.0	1.8	1.3	1.8	1.8	1.8	—	—
AHL1802-00X	1.0	1.8	1.3	1.8	1.8	1.8	2.2	1.8
AHL0402-10X	1.4	1.8	—	—	—	—	—	—
AHL0802-10X	1.4	1.8	1.8	1.8	—	—	—	—
AHL1202-10X	1.4	1.8	1.8	1.8	2.2	1.8	—	—
AHL1802-10X	1.4	1.8	1.8	1.8	2.2	1.8	2.8	1.8

- NOTES: 1. See page 9-5 for Model Number descriptions.
 2. All specifications at -10 dBm input power.
 3. Limiting threshold +10 dBm, typical, +6 dBm minimum.
 4. Flat leakage: 100 mW maximum with 200 watts (-0 series) or 1000 watts (-1 series) peak; 1.0 microsecond pulse width; 0.1% duty cycle.
 5. Spike leakage: 0.1 erg maximum with 20 nanosecond risetime pulses for -0 models; 0.2 erg maximum with 20 nanosecond risetime pulses for -1 models.
 6. Contact Factory for Selected Broader Bandwidths.

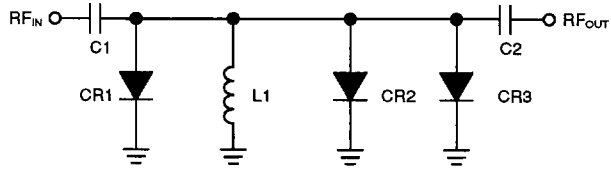
MAXIMUM RATINGS

RF Input Power (CW/Pulse)	
-0XX	2 W CW/200 W 1 μsec Pulse Width
-1XX	4 W CW/1000 W 1 μsec Pulse Width
Operating Case Temperature	-55°C to +85°C
Storage Temperature	150°C
"R" Series Burn-In Temperature	125°C

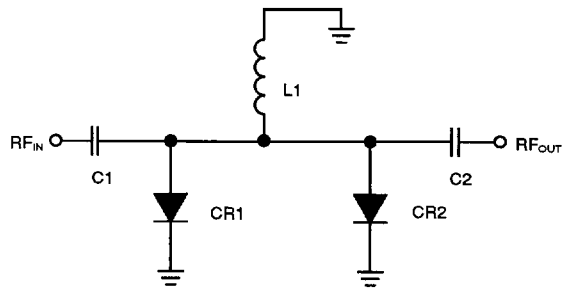
WEIGHT: (typical) with Connectors and Spacer = 10.5 grams; without Connectors and Spacer = 5.0 grams

SCHEMATICS

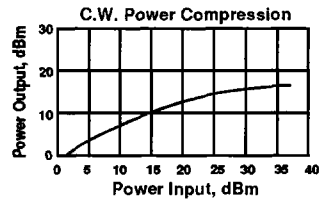
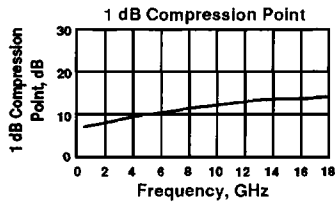
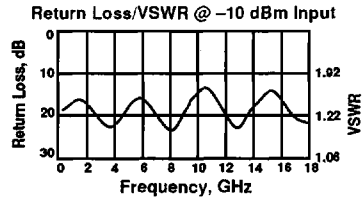
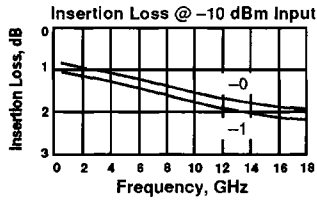
AHL1802-1



AHL1802-0



TYPICAL PERFORMANCE AT 25°C



MODEL NUMBERING DESCRIPTION

TYPICAL PART NUMBER

AHL1202-104



CONNECTOR OPTION TABLE		
Dash No.	Input	Output
XX1	FEM	FEM
XX2	NONE	NONE
XX3	MALE	MALE
XX4	MALE	FEM
XX5	FEM	MALE

POWER HANDLING OPTION		
Dash No.	C.W. (Watts) Maximum	Peak (Watts) Maximum
OXX	2	200
1XX	4	1000