

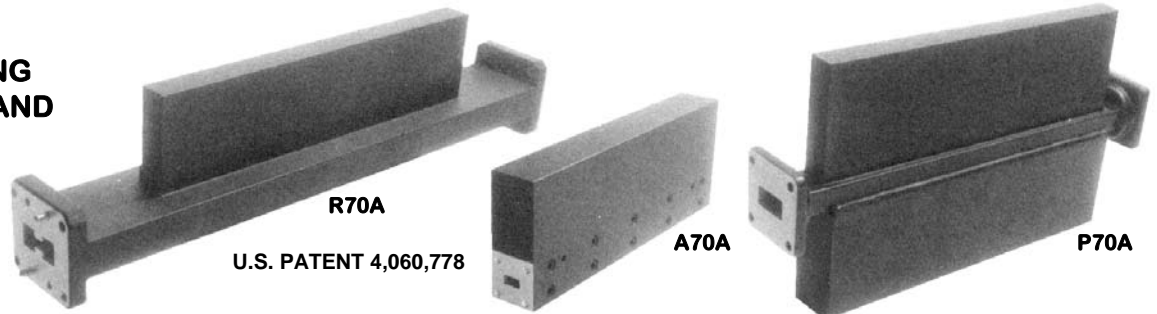


# WAVEGUIDE HARMONIC ABSORPTION FILTERS

## 70A SERIES                      R70A SERIES

**DATA  
SHEET  
No. T41C**

- HIGH POWER
- NON-REFLECTING
- BROAD STOP BAND
- SHARP CUTOFF
- LOW LOSS



### DESCRIPTION

These patented low pass filters transmit energy in the dominant TE<sub>10</sub> mode with minimal loss and absorb internally the next few higher order harmonics while maintaining low VSWR across their passband and stopband. They are ideally suited at the output of high power waveguide transmitters and harmonic-rich broadband sweep oscillators.

By filtering the harmonics out of the fundamental signal, they increase accuracy of power and frequency measurements, condition the signal for further processing and clean the spectral output of the transmitter with many EMI and EMC benefits. These filters also prolong transmitter life by reducing standing waves in the transmission path caused by trapped higher order modes.

The 70A and R70A series cover rectangular and double-ridge waveguide bands respectively. Both may be designed to pass from a narrow communication band up to the full bandwidth of the waveguide used. Their absorptive stopband normally covers the 1<sup>st</sup> and 2<sup>nd</sup> harmonics of the passband which contain most of the energy to be filtered. Other than bandwidth, the available options include folded or compact designs and extended stopband up to the 3<sup>rd</sup> harmonic.

Material is aluminum, flange type is optional, finish is chromate conversion per MIL-C-5541, Class 3 and paint is high-temperature black epoxy enamel.

### SPECIFICATIONS

MODEL NUMBER	WAVEGUIDE SIZE	PASS BAND CHARACTERISTICS			STOP BAND CHARACTERISTICS			POWER		LENGTH (INCHES)
		FREQUENCY (GHz)	INS. LOSS MAX (dB)	VSWR MAX	FREQUENCY (GHz)	ATTEN. MIN (dB)	VSWR MAX	CW (W)	PEAK* (KW)	
<b>70A SERIES RECTANGULAR WAVEGUIDE HARMONIC ABSORPTION FILTERS</b>										
S70A	WR-284	2.60 – 3.95	.15	1.10	5.20 – 11.85	40	2.5	1,500	20	28.0
G70A	WR-187	3.95 – 5.85	.2	1.10	7.90 – 17.55	40	2.5	1,000	10	20.0
J70A	WR-137	5.85 – 8.20	.2	1.10	11.70 – 24.60	40	2.5	800	8	18.0
H70A	WR-112	7.05 – 10.0	.3	1.10	14.10 – 30.0	40	2.5	800	8	12.0
W70A	WR-102	7.0 – 11.0	.3	1.10	14.0 – 33.0	40	2.5	800	8	12.0
X70A	WR-90	8.2 – 12.4	.3	1.10	16.4 – 37.2	40	2.5	500	5	12.0
M70A	WR-75	10.0 – 15.0	.3	1.10	20.0 – 45.0	40	2.5	500	5	9.0
P70A	WR-62	12.4 – 18.0	.4	1.20	24.8 – 54.0	40	2.5	500	5	7.5
K70A	WR-42	18.0 – 26.5	.5	1.20	36.0 – 79.5	40	2.5	200	2	6.0
A70A	WR-28	26.5 – 40.0	.7	1.20	53.0 – 90.0	40	2.5	200	2	6.0
<b>R70A SERIES DOUBLE-RIDGE WAVEGUIDE HARMONIC ABSORPTION FILTERS</b>										
R75A	WRD-180C24	18.0 – 40.0	.7	1.40	46.0 – 90.0	40	2.5	200	2	6.0
R76A	WRD-110C24	11.0 – 26.5	.6	1.40	30.5 – 79.5	40	2.5	200	2	7.5
R70A	WRD-750D24	7.5 – 18.0	.4	1.25	20.7 – 40.0	40	2.5	500	5	9.0
R77A	WRD-650D28	6.5 – 18.0	.4	1.25	20.7 – 40.0	40	2.5	500	5	12.0
R78A	WRD-580D28	5.8 – 16.0	.4	1.25	18.0 – 40.0	40	2.5	500	5	12.0
R71A	WRD-475D24	4.75 – 11.0	.4	1.20	12.6 – 33.0	40	2.5	800	8	14.0
R79A	DR-19	4.8 – 11.0	.4	1.20	12.6 – 33.0	40	2.5	800	8	14.0
R72A	WRD-350D24	3.5 – 8.2	.4	1.15	9.4 – 24.6	40	2.5	1,000	10	18.0

\*Sea Level Pressure

### ORDERING INFORMATION

Select model number and specify passband frequencies, stopband attenuation desired.

