

Waveguide loads

Low reflection, PM 7220-series

The PM 7220-series terminations have a very low VSWR, specified less than 1.05 over the full waveguide range. They are constructed with a long dissipative dielectric taper securely fastened to the waveguide.

Low power miniaturized, PM 7222-series

These loads have a total length not much more than the thickness of a standard waveguide flange. The patented absorber gives the load a total VSWR of less than 1.10 over the full waveguide frequency range. Power absorption is 0.5–1 W depending on frequency.

Medium power, PM 7224-series

This series of loads are intended for average power levels of 15–20 W, in applications where the available space is restricted. Max ambient temperature is +50°C.

High power, PM 7223-series

The PM 7223-series loads are high power loads for high-power transmitters. They can dissipate high power without any degradation in reflection coefficient.

The loads employ transverse cooling fins and the actual dissipation of power takes place in a thin layer on the walls within the waveguide. The length of the waveguide where most of the power is dissipated is essentially empty and does not contain any object which might reduce the peak power capacity. This capacity is equal to that of the empty guide itself and can be increased by pressuration.

The average power handling capacity of the termination is restricted by the requirements that the temperature of the dissipation material should not exceed 300°C. Because of the excellent thermal conduction between the dissipative material and the waveguide wall, forced air will greatly increase the power handling capacity of the terminations.

Specifications

Waveguide size	Frequency range GHz	Flange mates	Model	Power		VSWR	Weight gram	Length mm
				peak kW	avg W*			
R 32 WR 284 WG 10	2.6 – 3.95	UAR 32	PM 7222S	2	2	1.10	100	33
			PM 7223S	3500	3000	1.05	6200	400
R 48 WR 187 WG 12	3.95– 5.85	UAR 48	PM 7222G	1	1	1.10	100	22
			PM 7223G	1600	1000	1.05	1200	300
R 70 WR 137 WG 14	5.85– 8.2	UAR 70	PM 7222J	0.7	0.7	1.10	80	17
R 84 WR 112 WG 15	7.05–10.0	UBR 84	PM 7223H	600	350	1.05	400	160
R 100 WR 90 WG 16	8.2 –12.4	UBR 100	PM 7220X	80	2	1.02	250	160
			PM 7222X	0.5	0.5	1.10	40	11
			PM 7224X	80	10	1.10	150	30
			PM 7223X	350	250	1.05	150	140
R 120 WR 75 WG 17	10.0 –15.0	MIL-F-3922/70-005	PM 7222M	0.5	0.5	1.15	35	11
R 140 WR 62 WG 18	12.4 –18.0	UBR 140	PM 7222P	0.5	0.5	1.10	30	8
			PM 7224P	40	5	1.10	25	20
			PM 7223P	200	150	1.05	130	90
WRD 475 D 24	4.75–11.0		PM 7220DX	–	10	1.05	130	200
			PM 7223DX	–	600	1.05	560	240
WRD 750 D 24	7.5 –18.0		PM 7220DP	–	10	1.05	70	150
			PM 7223DP	10	400	1.07	420	200

* at +25°C for PM 7223-series, derate linearly to 0 W at 300°C.

