

**MODEL KAW2051M12**
**125 WATTS CW**
**450 MHz - 500 MHz (476MHz +/- 5MHz)**

The Model KAW2051M12 is an RF power amplifier designed for linear accelerator applications operating with signals in the 450 MHz to 500 MHz frequency range. No tuning, band switching, or adjustments of any kind are required to operate this unit. Power output is in excess of 125 Watts into a 50-Ohm load. Power gain is a minimum 55 dB.

Construction of this model is in a 5½-inch high cabinet, 14½ inches deep, exclusive of handles, and 11½ inches wide. It is intended for bench-top use, but may be supplied with 19-in rack mounting kit installed. Input and output connectors are N-type female and are located on the front. Forced-air cooling is by a highly reliable, tube-axial fan mounted at the rear.

Protection against excessive heat rise of the amplifier module heatsink is by a temperature-sensing switch that interrupts the gate bias supply to the amplifier devices when activated. Operation resumes automatically when temperature has returned to normal operating temperature.

**SPECIFICATIONS**

|  |   |
|--|---|
| RATED POWER OUTPUT .....                                 | 125 Watts (at 476 MHz $\pm$ 5 MHz)  |
| FREQUENCY RESPONSE.....                                  | 450 MHz - 500 MHz instantaneously   |
| INPUT FOR RATED OUTPUT .....                             | -3 dBm  |
| LARGE SIGNAL GAIN VARIATION OVER FREQUENCY .....         | $\pm$ 1.5 dB (full span at half power)  |
| LARGE SIGNAL GAIN VARIATION OVER FREQUENCY .....         | $\pm$ 0.5dB (476 MHz $\pm$ 5 MHz span at half power)                                |
| SMALL SIGNAL GAIN VARIATION OVER FREQUENCY.....          | $\pm$ 0.5dB (476MHz $\pm$ 1 MHz in presence of 30W carrier)                         |
| GAIN VARIATION OVER TEMPERATURE.....                     | $\pm$ 1dB   |
| GAIN .....   | 55 dB minimum   |
| INPUT/OUTPUT IMPEDANCE.....                              | 50 Ohm nominal  |
| INPUT/OUTPUT VSWR .....                                  | < 1.5:1   |
| OUTPUT VSWR .....  | < 1.5:1 with circulator   |
| OUTPUT PROTECTION .....                                  | 10:1 any phase mismatch tolerance   |
| SPURIOUS .....   | < -90 dBc   |
| THIRD ORDER INTERCEPT POINT (2 tones 0.2 MHz @ 25W)..... | 58 dBm typical  |
| NOISE FIGURE .....                                       | 10 dB maximum   |
| GROUP DELAY @ 476 MHz.....                               | 50 ns maximum   |
| PROTECTION .....   | Over-temperature  |
| MODULATION CAPABILITY.....                               | Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal |
| HARMONIC DISTORTION .....                                | -45 dBc maximum   |



CONTROLS ..... ON/OFF  
INDICATORS ..... SYSTEM ON, TEMP FAULT  
MONITOR (FORWARD POWER) ..... Type N (rear panel) (30dB ± 0.1 dB @ 476 MHz)  
RF CONNECTORS ..... Type N female (rear panel)  
OPERATING TEMPERATURE ..... -10 to 40 °C  
COOLING ..... Forced air (self contained fan)  
PRIMARY POWER ..... 110/220 V<sub>AC</sub>, 47 - 63Hz, 120 VA maximum  
SIZE (W x H x D) ..... 29.2 x 13.3 x 40.7 cm, 11½ x 5¼ x 16 in.  
WEIGHT ..... 7.7 kg, 17 lb.

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REV A