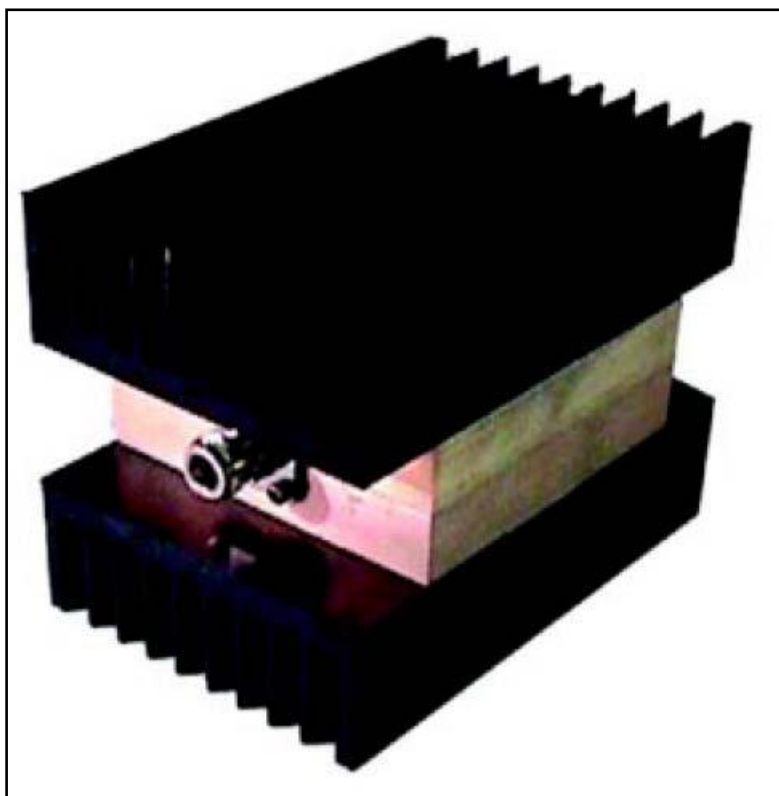

EDL150-FM

User manual



Manufactured by  Italy



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1. Introduction

The **EDL150-FM** is a *dummy load* produced by RVR Elettronica SpA to be used with FM transmitter with nominal power up to 150 W.

Dummy loads are mainly used as laboratory test devices and are often included in redundant (1+1 or N+1) transmission systems, in which the output of the spare transmitter is normally connected to the dummy load for test purposes.

The **EDL150-FM** is particularly suited for the use in compact transmission systems, thanks to its small form-factor. The quadratic construction enables a simple installation.

2. Working Principle

Simply speaking, the **EDL150-FM** is just a 50 Ω resistive load, optimized to work in the audio FM band.

The applied power is dissipated by four 50 Ω power resistors connected in a series/parallel configuration (see the enclosed schematic), able to compensate the parasitic capacitance of the resistors, to obtain a return loss better than 26 dB on the whole 87.5 - 108 MHz band.

The resistors are fixed on a metal heatsink, and three fans generate the air flow to let the heat pass to the environment.



WARNING: Always connect the power source (the transmitter) using the interlock connectors, to avoid the possibility of an excessive temperature rise that could damage the dummy load and even the transmitter itself!



WARNING: don't cover the airflow grid, to ensure proper functioning of the device.

3. Power Derating

The power that the EDL150-FM can continuously dissipate depends on the temperature of the environment.

Since the dummy load can work at a temperature up to 90 °C before the protection device is triggered, figure 2 gives the acceptable working area of the device.

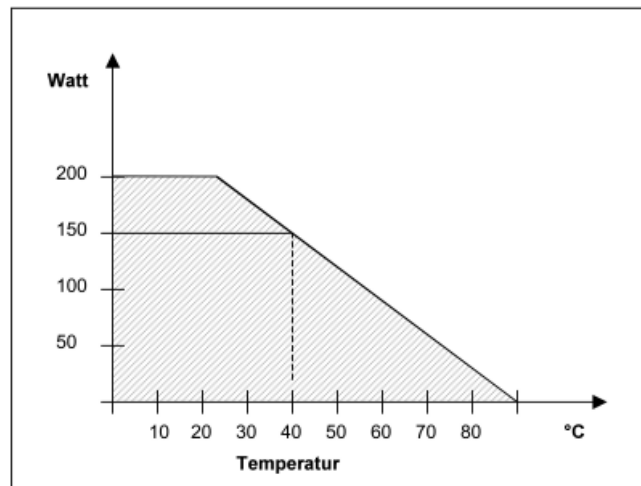


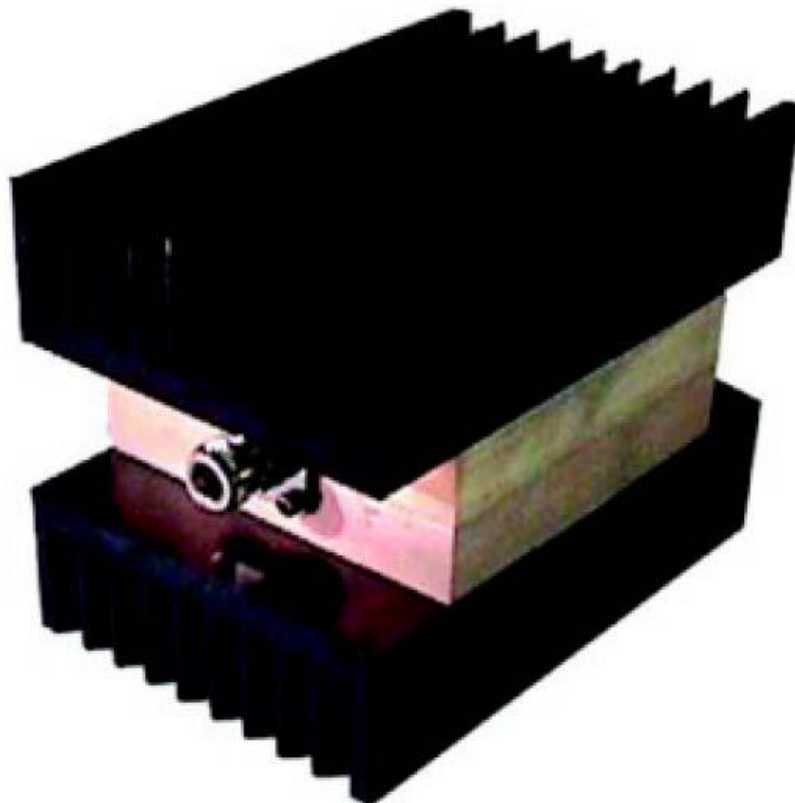
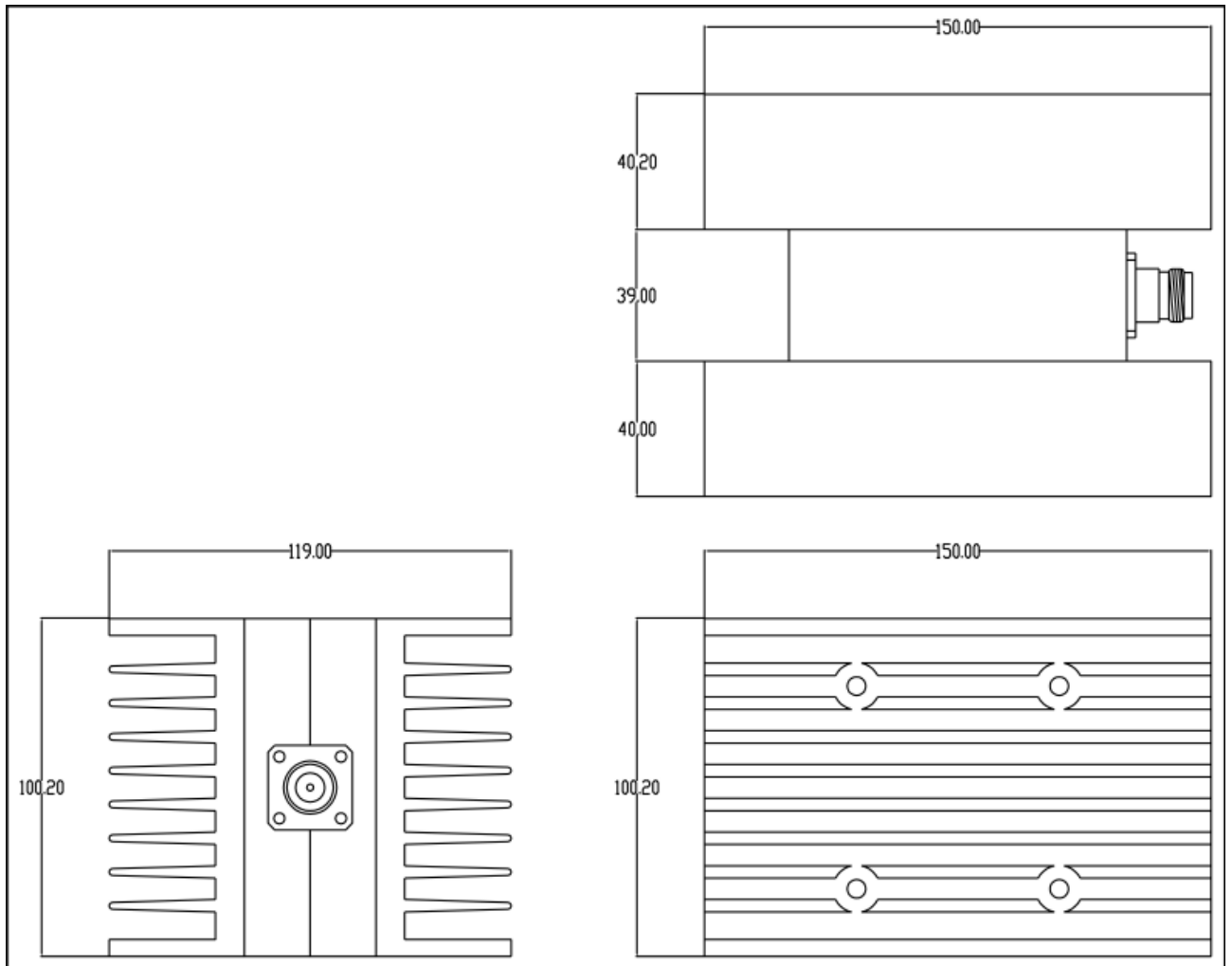
Illustration 1: Admitted function-types

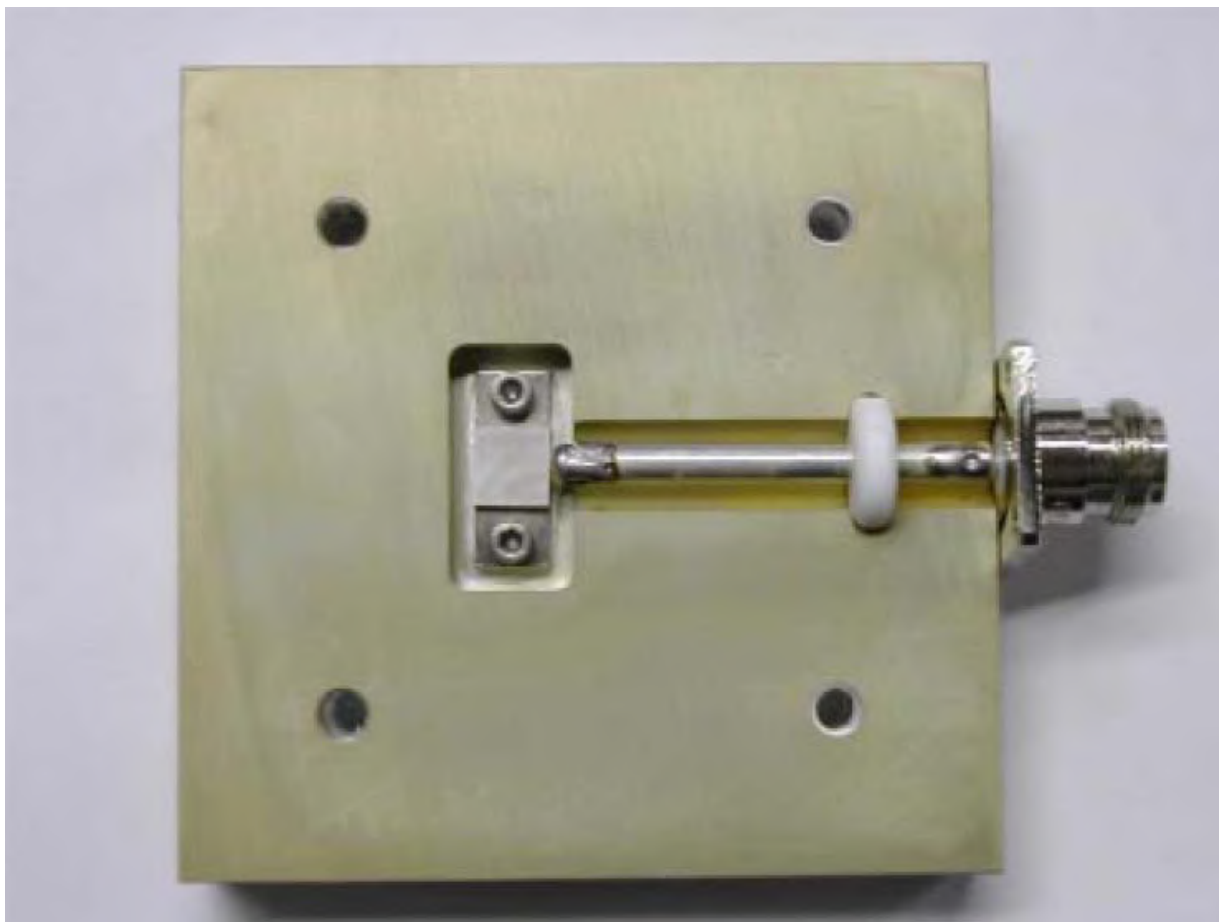
4. Technical characteristics

Frequency band	87.5 - 108.0 MHz
Nominal power at 40°C	150 W
Power derating at $t > 40\text{ °C}$	3 W/°C
Return loss	> 26 dB
Size	(L x H x D) 120 x 100 x 150 mm
Weight	2.5 kg

6. Images

This chapter contains the schematic of EDL150-FM as well as some pictures.

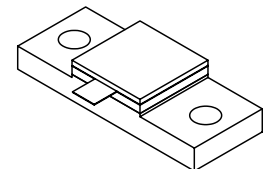
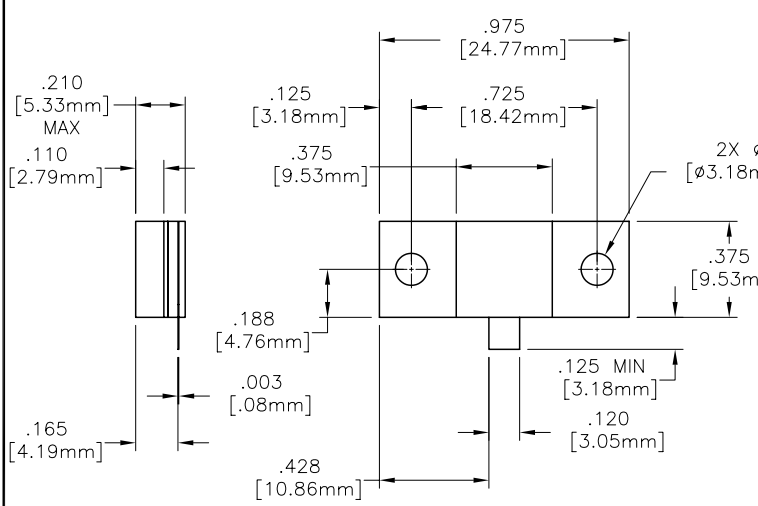




EDD

NOTES: UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE $\pm .010"$ [$.254\text{mm}$].

CAD#32-1004J DRAWING NO.: 32-1004 REV. J



MATERIALS:
 MTG. FLANGE: COPPER PER ASTM B301
 SUBSTRATE: BERYLLIUM OXIDE
 COVER: ALUMINA
 TAB: BERYLLIUM COPPER PER QQ-C-533
 RESISTIVE FILM: NICHROME

FINISH:
 MTG. FLANGE: NICKEL PER QQ-N-290
 TAB: TIN PLATE PER MIL-T-10727

TECHNICAL:
 NOMINAL IMPEDANCE (OHMS): 50
 FREQUENCY RANGE (GHZ): DC-1.0 GHz
 TEMPERATURE COEFFICIENT: ± 200 PPM/ $^{\circ}\text{C}$ MAX
 OPERATING TEMPERATURE ($^{\circ}\text{C}$): -55° TO $+150^{\circ}$
 VSWR (MAX): 1.35:1 DC-0.5
 AVERAGE POWER (WATTS): 250
 DC RESISTANCE: 50 OHMS $\pm 5\%$

ECN#	N/A	APVD	DATE	REFERENCE	8851 OLD KANSAS AVE. STUART, FL. 34997 561-286-9300			
UNLESS OTHERWISE SPECIFIED 1. DO NOT SCALE DRAWING 2. DIMENSIONS ARE IN INCHES 3. DIMENSIONS ARE AFTER PLATING 4. CORNERS, EDGES AND FILLETS: R MAX 5. SURFACE ROUGHNESS 6. REMOVE ALL BURRS				MATERIAL	TITLE			
TOLERANCES .X \pm .XX \pm .XXX \pm ANGLES X \pm				FINISH	TERMINATION, FLANGE MOUNT, 250 WATT			
J	ECN#01485	PSC 06/03/02		SCALE	CAGE CODE ID NO.	SIZE	DRAWING NO.:	REV.
H	ECN#00956	PSC 08/15/01	08/15/01	2/1	2Y194	A	32-1004	J
REV.	DESCRIPTION	DRAWN	APVD.	MFG:	CHKD.:	DRAWN:	SHEET	OF
				MJK 08/15/01	NAK 08/15/01	PSC 08/09/01		