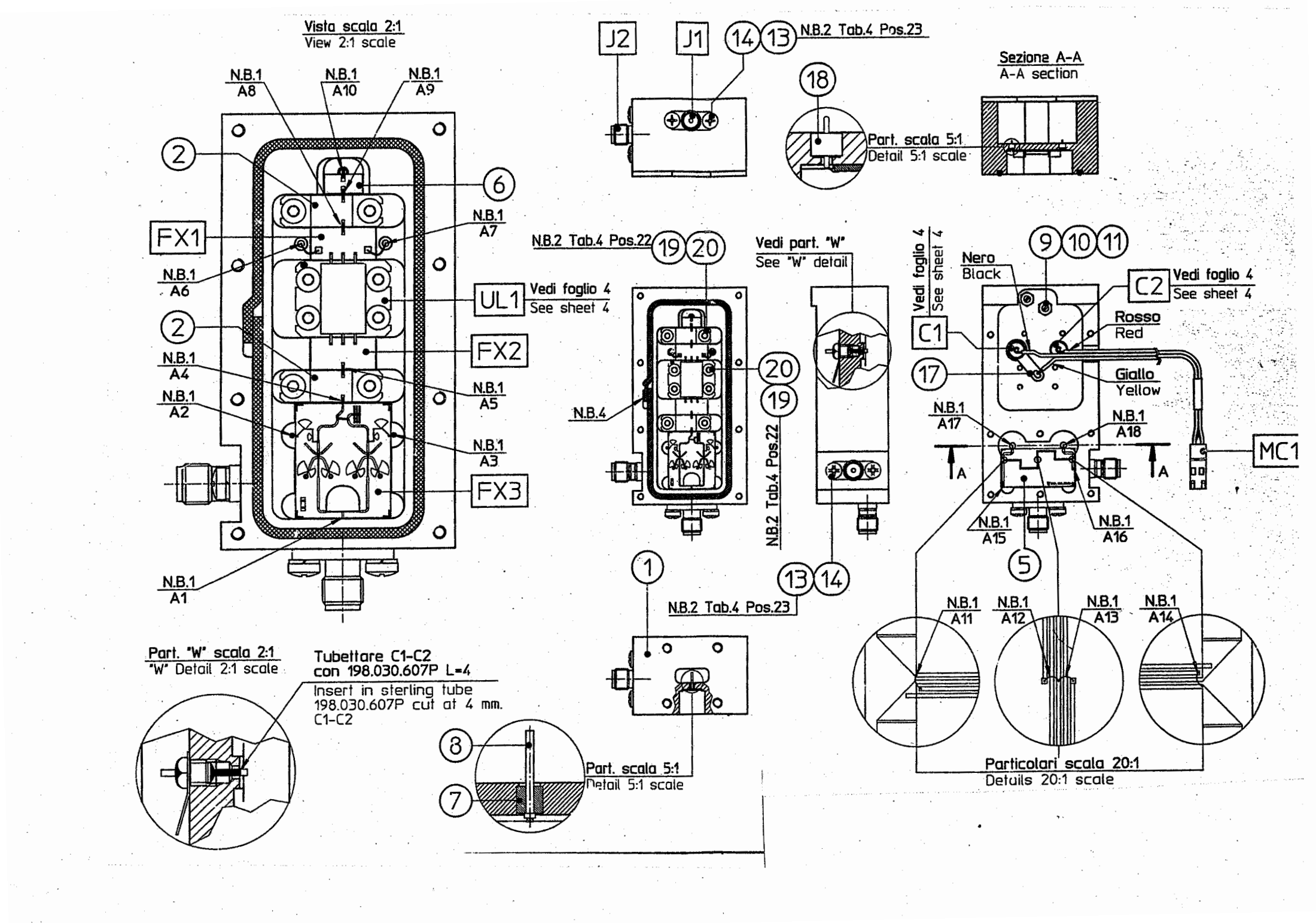
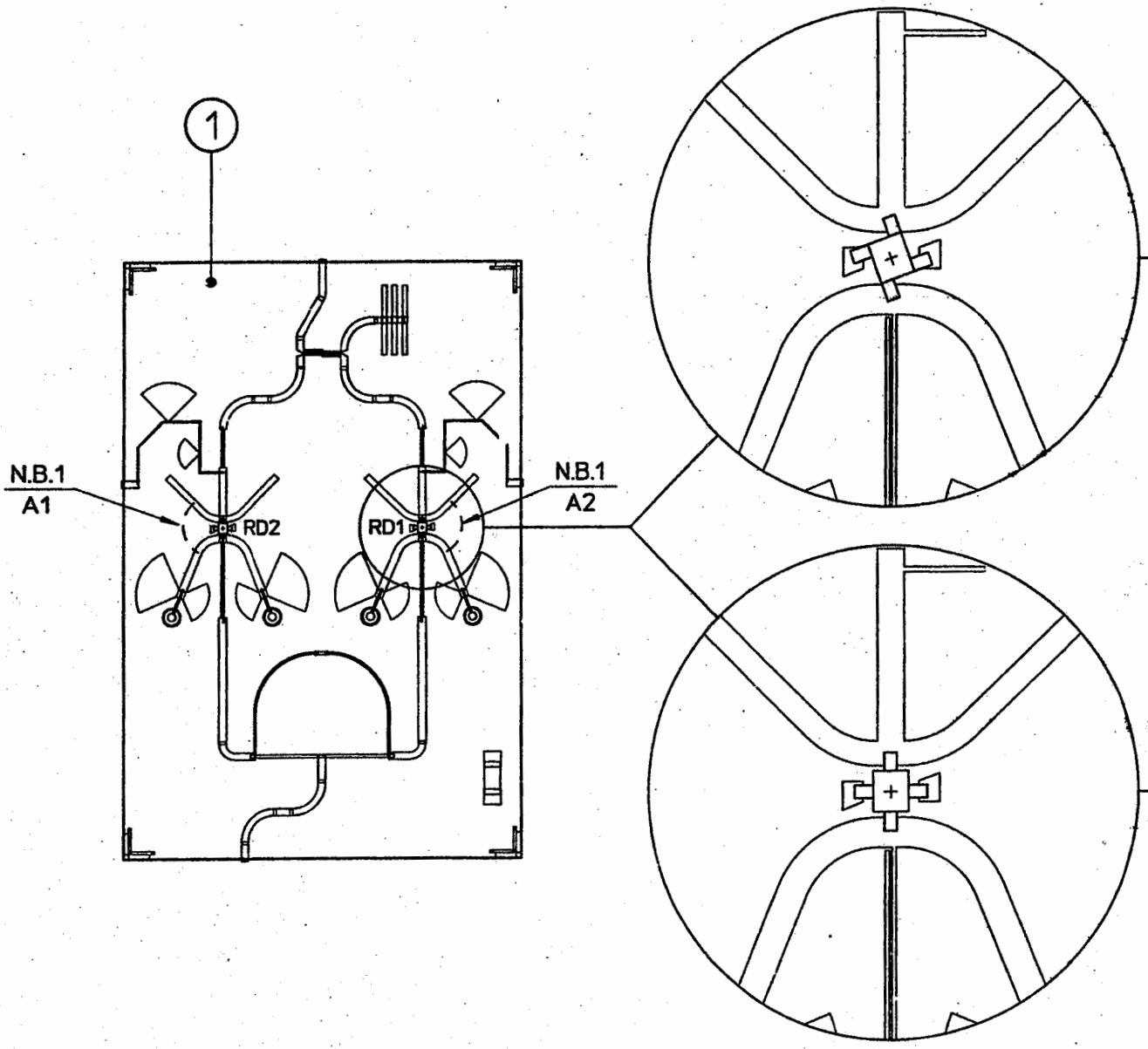

Vista scala 2:1
View 2:1 scale
N.B.1 A8
N.B.1 A10
N.B.1 A9
2
6
FX1
N.B.1 A7
N.B.1 A6
UL1
Vedi foglio 4
See sheet 4
2
FX2
N.B.1 A4
N.B.1 A5
N.B.1 A2
N.B.1 A3
FX3
N.B.1 A1
J2
J1
14
13
N.B.2 Tab.4 Pos.23
18
Part. scala 5:1
Detail 5:1 scale
Sezione A-A
A-A section
N.B.2 Tab.4 Pos.22
19
20
N.B.4
Vedi part. "W"
See "W" detail
20
19
N.B.2 Tab.4 Pos.22
13
14
1
N.B.2 Tab.4 Pos.23
8
7
Part. scala 5:1
Detail 5:1 scale
Part. "W" scala 2:1
"W" Detail 2:1 scale
Tubettare C1-C2
con 198.030.607P L=4
Insert in sterling tube
198.030.607P cut at 4 mm.
C1-C2
Vedi foglio 4
See sheet 4
C1
9
10
11
Nero
Black
C2
Vedi foglio 4
See sheet 4
Rosso
Red
17
Giallo
Yellow
N.B.1 A17
N.B.1 A18
MC1
A
A
N.B.1 A15
N.B.1 A16
5
N.B.1 A11
N.B.1 A12
N.B.1 A13
N.B.1 A14
Particolari scala 20:1
Details 20:1 scale



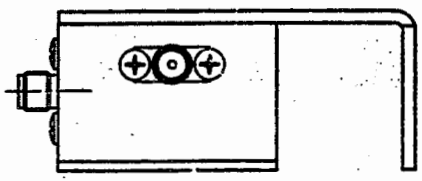
Part. di mtg. RD1-RD2 tipo "B" scala 20:1

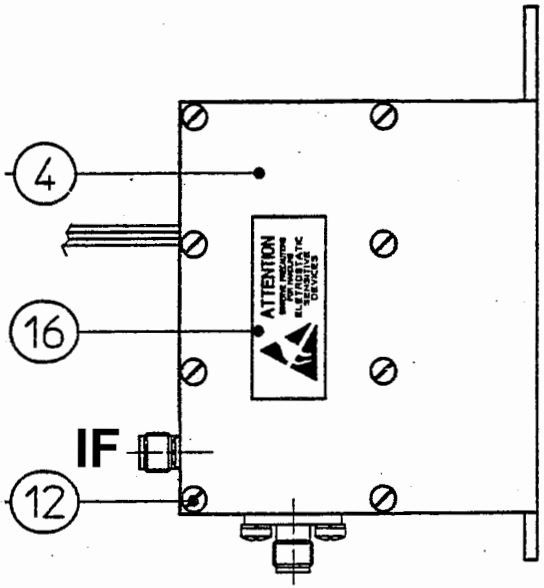
Mounting detail RD1-RD2 type "B" 20:1 scal

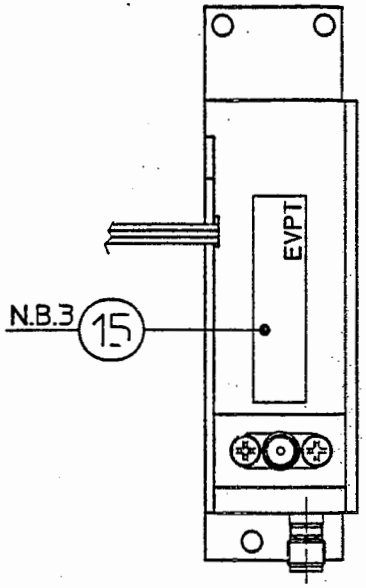
Part. di mtg. RD1-RD2 tipo "A" scala 20:1

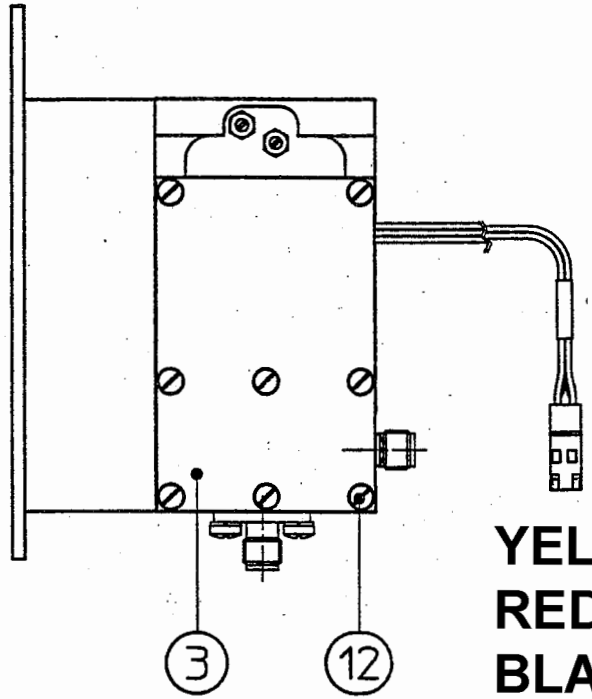
Mounting detail RD1-RD2 type "A" 20:1 scal

POWER SUPPLY

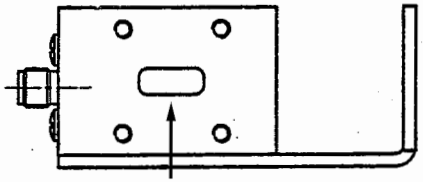




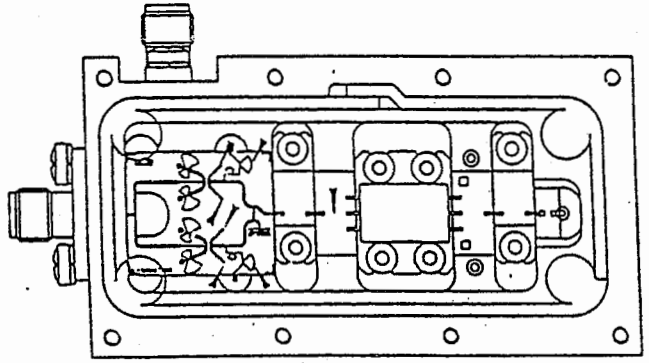


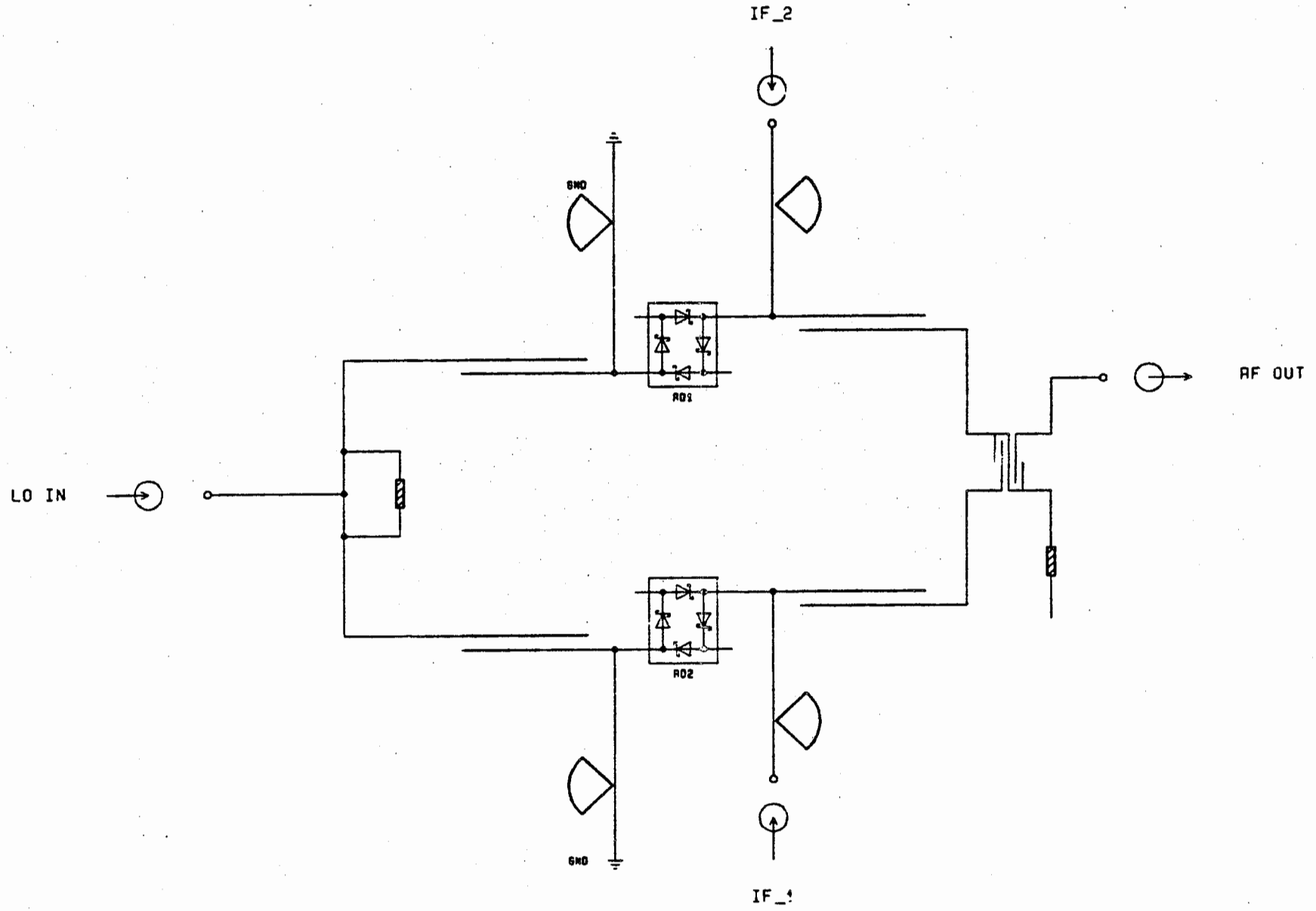


YELLOW = GND
RED = +8V
BLACK = -5V



INPUT RF
(RX ANT.)




IF_2
GND
RD1
RF OUT
LO IN
RD2
GND
IF_1

HEWLETT PACKARD

GaAs Beam Lead Schottky Barrier Ring and Bridge Diodes

Technical Data

HSCH-9301
HSCH-9351

Features

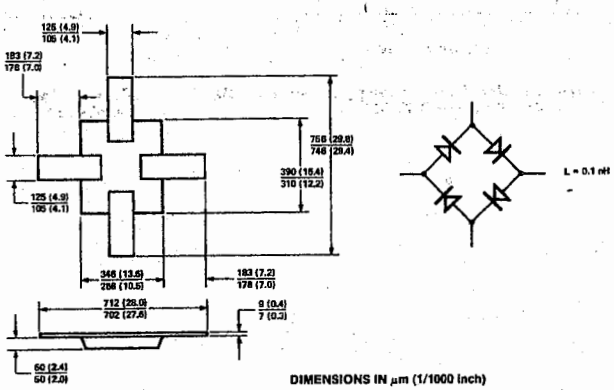
- Gold Tri-Metal System For Improved Reliability
- Low Capacitance
- Low Series Resistance
- High Cutoff Frequency
- Polyimide Passivation

Description

The HSCH-9301 ring quad and the HSCH-9351 bridge quad are advanced gallium arsenide Schottky barrier diodes. These devices are fabricated utilizing molecular beam epitaxy (MBE) manufacturing techniques and feature rugged construction and consistent electrical performance. A polyimide coating provides scratch protection and resistance to contamination.

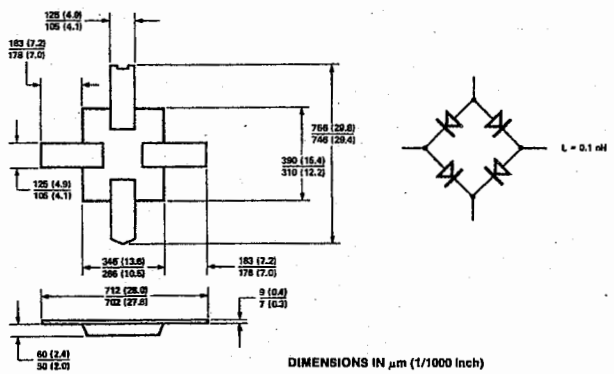
Applications

This line of Schottky diodes is optimized for use in mixer applications at millimeter wave frequencies. Some suggested mixer types are double balanced for the ring quad and biased double balanced for the bridge quad. The bridge quad can also be used in sampling circuits.



DIMENSIONS IN μm (1/1000 inch)

HSCH-9301



DIMENSIONS IN μm (1/1000 inch)

HSCH-9351
Junction Side Up

Assembly Techniques

Thermocompression bonding is recommended. Welding, ultrasonic bonding, solder, or conductive epoxy may also be used. For additional information see Application Note 979, "The Handling and Bonding of Beam Lead Devices Made Easy," or Application Note 992, "Beam Lead Attachment Methods," or Application Note 993, "Beam Lead Device Bonding to Soft Substrates."

GaAs diodes are ESD sensitive. Proper precautions should be used when handling these devices.

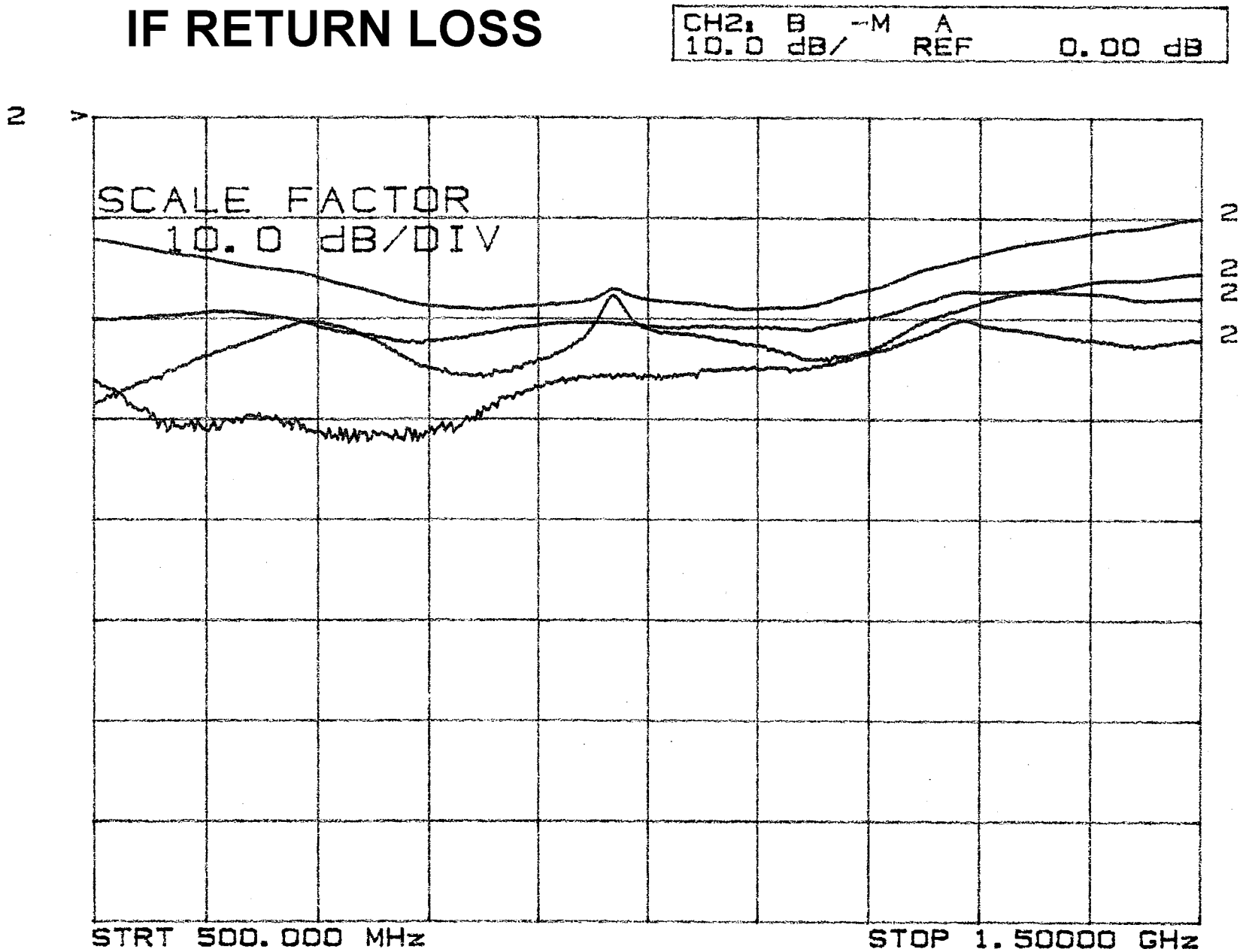
Maximum Ratings

Power Dissipation at T_{LEAD} = 25°C ..... 75 mW per junction
Measured in an infinite heat sink derated linearly to zero at maximum rated temperature
Operating Temperature ..... -65°C to +150°C
Storage Temperature ..... -65°C to +150°C
Mounting Temperature ..... 235°C for 10 seconds
Minimum Lead Strength ..... 6 grams

Electrical Specifications at T_A = 25°C

Part Number			HSCH-9301			HSCH-9351		
Symbol	Parameters and Test Conditions	Units	Min.	Typ.	Max.	Min.	Typ.	Max.
C_M	Measured Capacitance V_R = 0 V, f = 1 MHz	pF		0.075	0.100		0.075	0.100
C_{TA}	Total Adjacent Capacitance V_R = 0 V, f = 1 MHz	pF		0.110			0.110	
C_{TD}	Total Diagonal Capacitance V_R = 0 V, f = 1 MHz	pF		0.075			0.075	
ΔC_M	Measured Capacitance Difference V_R = 0 V, f = 1 MHz	pF		0.003	0.010		0.003	0.010
R_S	Series Resistance	Ω			6			6
V_F	Forward Voltage I_F = 1 mA	mV		700	800		700	800
ΔV_F	Forward Voltage Difference I_F = 1 mA	mV			20			20
V_{BR}	Reverse Breakdown Voltage $V_R = V_{BR}$ measure $I_R \leq 10$ μA (per junction)	V				4.5		

IF RETURN LOSS



INPUT RETURN LOSS