SYLVANIA

engineering data service

SYLVANIA

6334

MECHANICAL DATA

Ambient Temperature Range (Non-Operating) . . . . -40 to +100° C
Mounting Position . . . . . Any
(Use 3 db Short Slot Hybrid Couplers)

ELECTRICAL DATA

FREQUENCY RANGE 8490-9578 Mc

VSWR Presented to Antenna[1]
- 8490 Mc . . . . . 1.4 Max.
- 8655-9487 Mc . . . . . 1.2 Max.
- 9578 Mc . . . . . 1.4 Max.

VSWR Presented to Transmitter[2]
- 8490-9578 Mc . . . . . 1.2 Max.
  (po = 40 kw, Pulse Width = 1.0 μsec, prr = 1000 pps)

IGNITOR CHARACTERISTICS

Open Circuit Voltage	-700 Volts dc
Current	100 μa dc
Voltage Drop (Each Ignitor)	-200 to -375 Volts dc
Ignition Time (Each Ignitor)	5 Sec. Max.

LOW POWER LEVEL UNFIRED CHARACTERISTICS

Duplexer Loss[3] (I_i = 100 μa)

8490 Mc	1.0 db Max.
8565 Mc	0.9 db Max.
9000 Mc	0.9 db Max.
9487 Mc	0.9 db Max.
9578 Mc	1.0 db Max.

HIGH POWER LEVEL FIRED CHARACTERISTICS

Flat Leakage Power (40 KW)	20 mw Max.
Spike Leakage Energy (40 KW)	.1 erg Max.
Recovery Time (200 KW)	7 μsec Max.
Recovery Time (100 KW)	5 μsec Max.
Arc Loss[4] (4 KW)	0.8 db Max.

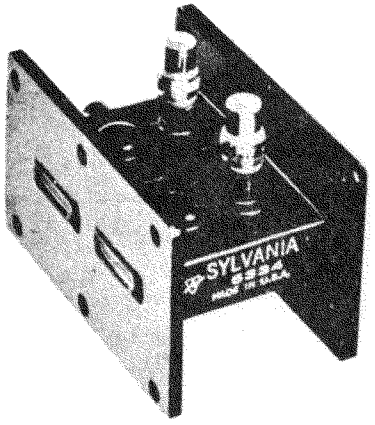
NOTES:

1. *The tube is mounted in a short slot hybrid duplexer with matched loads on the receiver, dummy load and transmitter arms. The VSWR looking into the antenna arm shall be less than the values specified.*
2. *With the circuit of Note 1, and with a high power load whose VSWR is less than 1.05 on the antenna arm, the VSWR in the magnetron arm shall be less than the value specified.*
3. *The tube is mounted on a short slot hybrid duplexer with a matched load on the dummy load arm. The movable short on the magnetron arm is shifted through all phases.*
4. *With the tube mounted as in Note 1, and with a high power load whose VSWR is less than 1.10 on the antenna arm, the power loss in the arc shall be within the limits specified.*

The above tests shall be conducted with the 6334 mounted between two short slot hybrid couplers. The VSWR of the hybrids shall not exceed 1.10 from 8490 to 9578 megacycles. Each hybrid shall split the power evenly within 0.25 db.

QUICK REFERENCE DATA

The Sylvania Type 6334 is a dual band pass TR tube consisting essentially of two Type 1B63A's with a common gas fill and joined by a common waveguide side wall. The 6334 covers a frequency range of 8500-9600 Mc.



SYLVANIA ELECTRIC PRODUCTS INC.

ELECTRONICS DIVISION
WOBURN, MASS.

Prepared and Released By The TECHNICAL PUBLICATIONS SECTION EMPORIUM, PENNSYLVANIA

10-54-82

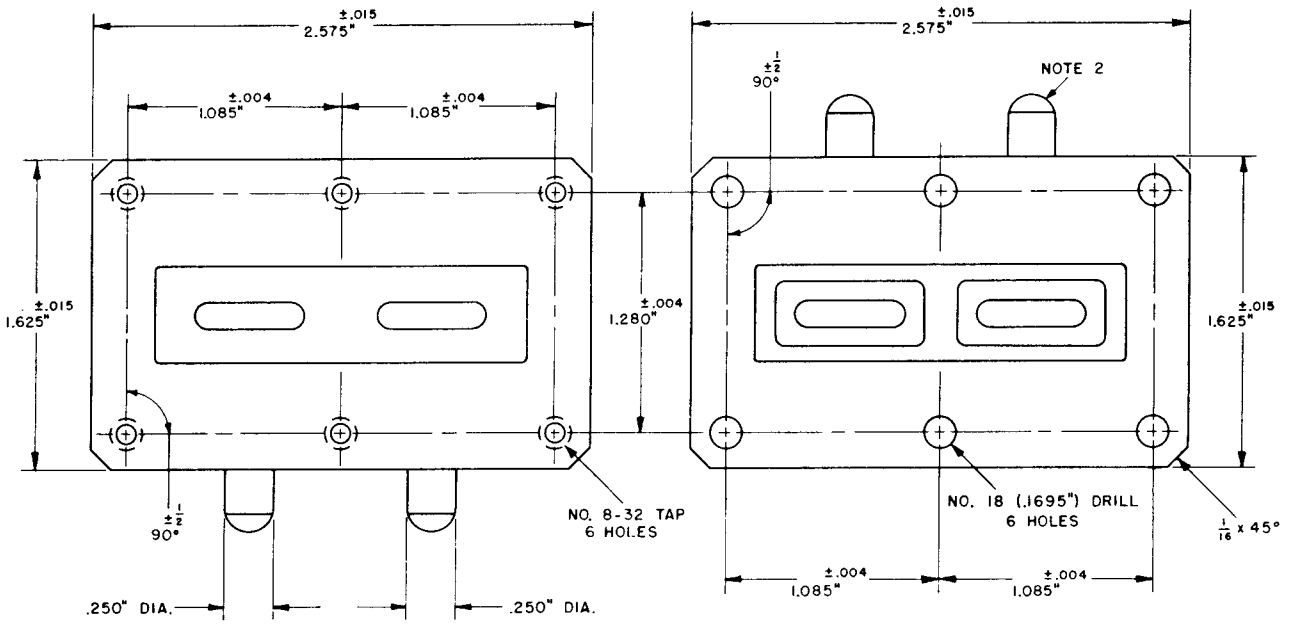
APPLICATION DATA

The Sylvania Type 6334 when used in conjunction with two short slot hybrid couplers comprises a complete X-band balanced duplexer with up to 12 percent bandwidth.

Such a balanced duplexer offers a number of advantages:

1. Simplicity of system design
2. Compactness
3. Excellent electrical performance
    a. Low insertion loss and minimum losses in matched load and magnetron arm
    b. Reliable crystal protection during transmission
    c. Requires no ATR and thus prevents reflection of high impedance to the magnetron with attendant possibility or arcing and misfiring.

OUTLINE DRAWING



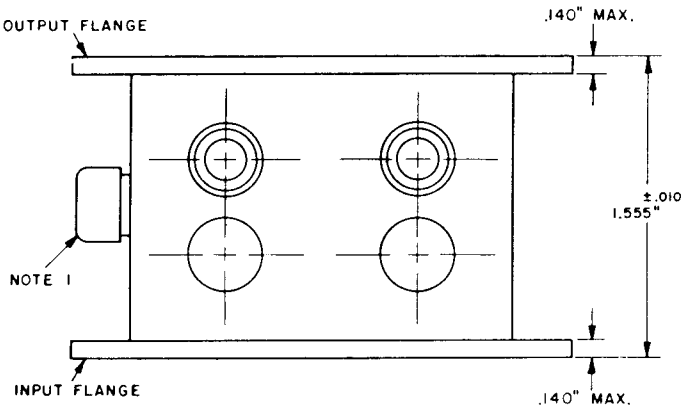


DIAGRAM NOTES

1. *Exhaust tube must not extend beyond flanges more than 1/4 inch.*
2. *Ignitor terminals must not extend beyond flanges more than 7/16 inch.*