

TYPE DESIGNATION REGISTRATION FORMSHUTTER AND TR TUBE

Manufacturer: Bomac Laboratories, Inc.
Beverly, Massachusetts

Mfr's Type No. BL-313

Tentative JETEC Type No. 6565

The 6565/BL-313 is a combined tunable TR tube and shutter for use in X-band. The shutter mechanism, when closed, insures protection of the receiver crystal from nearby transmitters when the radar set is not in use. When the shutter is open, the TR tube functions normally and provides decoupling of the receiver from a common transmitting and receiving antenna during a period of transmission. It is an integral cavity type with a tuning mechanism which permits tuning over a range of 8490 to 9600 megacycles per second.

ELECTRICAL DATA - GENERALShutter Tube

Attenuation	8490 Mc. to 9600 Mc.	40 db min.
Shutter Coil Voltage		14 Vdc nom.
Shutter Coil Resistance (at 25°C)		100 ohms nom.
Shutter Pull-in Current		130 mAdc min.
Shutter Holding Current		30 mAdc min.
Shutter Holding Current		160 mAdc max.

TR Tube (with shutter open)

Loaded Q, ignitor current zero		350 max.
Tuning Range		8490 Mc. to 9600 Mc.
Ignitor Starting Voltage		500 Vdc max.
Ignitor Voltage Drop at 100 microamperes ignitor current		200 Vdc min. to 400 Vdc max.
Peak Leakage Power		30 mw max.
$p_o = 10Kw$; $p_{rr} = 1000$ pps;		
$F = 9375$ Mc; $t_p = 1.0$ μs ;		
$I_i = 100$ μAdc		
Insertion Loss at 9375 Mc and zero ignitor current		1.5 db max.
Ignitor Interaction at 9375 Mc and 100 μAdc ignitor current		0.2 db max.
Recovery Time at 10Kw peak: 3db down		4.0 μs max.

BL-313 REGISTRATION - Page 2MECHANICAL DATA - GENERAL

Mounting Position	Any
Number of Ignitors	One
Ambient Temperature Range (non-operating)	-40°C to +100°C
Net Weight, approximately	4 oz.

MAXIMUM RATINGS

Transmitter Peak Power (TR Tube)(Note 1)	100 kw
Ignitor Current	100 μ Adc min. to 200 μ Adc max.

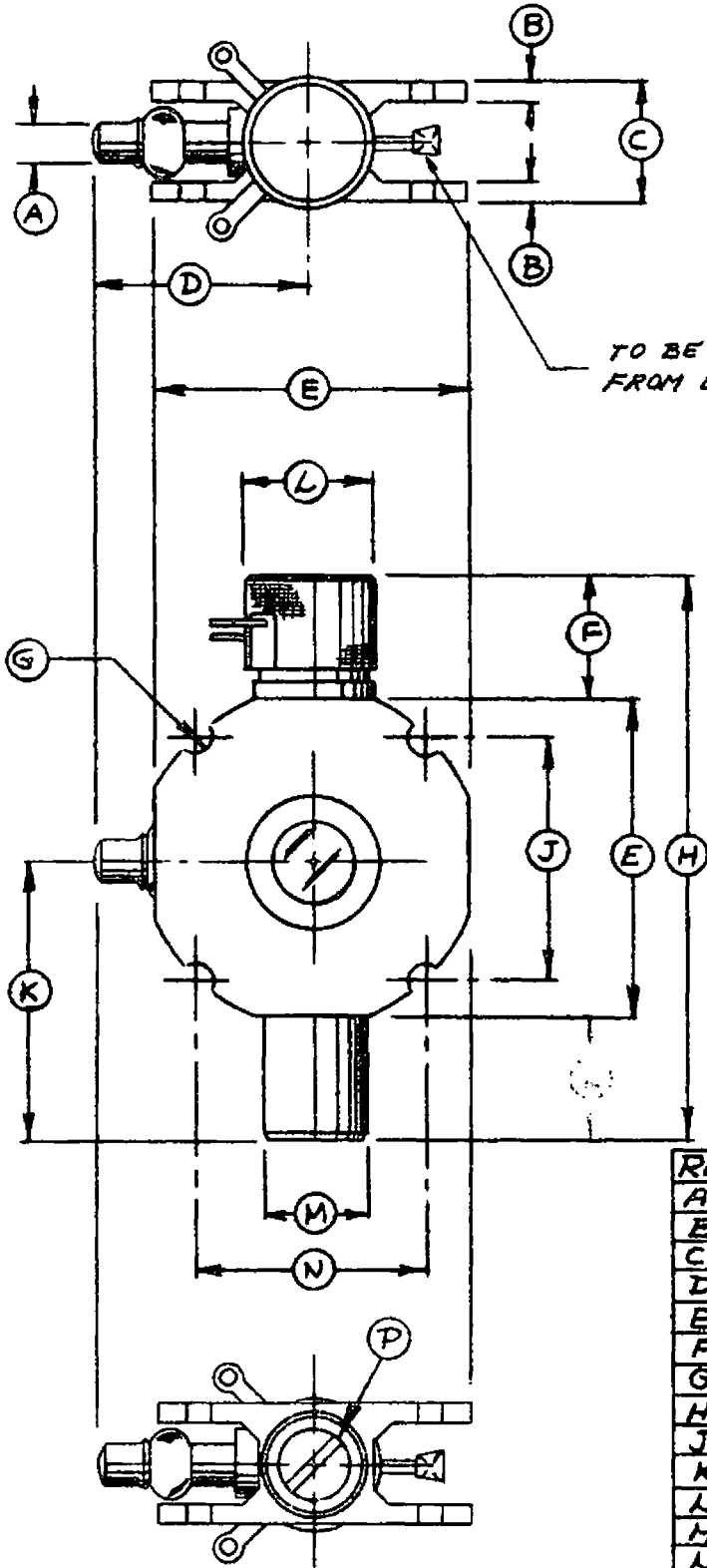
(Note 1:) The shutter is not intended for applications involving the switching of peak power greater than 1 kw, therefore, the rating applies only when the shutter is open.

ELECTRICAL AND MECHANICAL DATA WITH LIMITS

Resonant Frequency Shift with Ambient Temperature from 0°C to +100°C	0 Mc min. to -20 Mc max.
--	--------------------------

OUTLINE DRAWING

As per attached drawing 6565/BL-313 dated 12/22/54.



REF	DIMENSIONS
A**	.250 DIA.
B**	.087 ±0.05
C	.612
D*	1 9/16 MAX.
E**	1.625 ±0.15
F*	3/4 MAX.
G	.090 R (4) SLOTS
H*	3.000 MAX.
J*	1.280
K*	1 7/16 MAX.
L*	.690 ±0.15
M*	.535 MAX.
N*	1.220
P**	3/64 x 1/16 SLOT

SPECIFICATION SHEET

OUTLINE

6565/BL-313, BL-316

BOMAC LABORATORIES INC.
SALEM ROAD
BEVERLY, MASSACHUSETTS

12-22-54

E.D.