

TRIAD METAL SHIELDED RADIO TUBES

SERIES MG

TECHNICAL BULLETIN

TRIAD MANUFACTURING CO., INC. - PAWTUCKET, R.I. - U.S.A.

Triad Manufacturing Company is pleased to announce a new line of tubes known as the MG series. Consistent with its established reputation for progress and individuality, Triad has produced a non-breakable, fully shielded, metal tube in which a newly developed glass is used for maintaining the vacuum. By this method the same vast experience accumulated in several decades of lamp and radio tube manufacture, is not suddenly upset and consequently, the Triad series MG will have the same long and serviceable life that has characterized properly made glass sealed tubes in the past.

Certain highly publicized so-called metal tubes now available, consist of a series of glass to metal seals in addition to several metal to metal welds. By this construction, the overall height of certain tubes is reduced but it is the contention of the Triad Engineers that the series MG described herein offers the same technical advantages, a greater sales appeal, and less inherent risk to the manufacturer adopting these types.

It should be further noted, that the Triad series MG is not a line of tubes for some indefinite date in the future. Equipment has been installed during the past several months to produce 10,000 of these tubes per day for immediate delivery to manufacturers adopting the Triad line. This new line of tubes has the further advantage of being designed such that it is fully interchangeable with the existing metal tubes. The new standard octal bases are used throughout and base wiring is in accordance with the standards of the Industry.

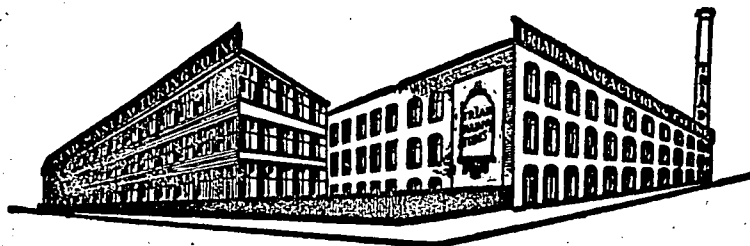
As a further advantage, the manufacturer is offered four additional types for AC-DC uses. These types have the same characteristics as the corresponding glass types, but they have been re-designed to conform with the metal tube series.

The rating and basing arrangements of the MG series will be found elsewhere in this bulletin. A brief description of the MG types may be of help in becoming familiar with the new type numbers.

5Z4 The 5Z4 is a cathode type, full wave rectifier having low voltage drop for general use. It has approximately half the voltage drop of the corresponding glass type 80. Heater and cathode are tied together internally.

6A8 This tube is essentially the same as the type 6A7, except for the additional pin tied to the external metal shell.

6C5 The 6C5 is a triode detector-amplifier very similar in characteristics to the familiar 6C6 when the latter is connected as a triode.



6D5 The 6D5 is a power amplifier triode. Its characteristics are quite similar to the type 42 when the latter is connected as a triode.

6F5 This high-mu triode is practically the same, so far as electrical characteristics are concerned, as the triode section of the familiar type 75. The grid connection is brought out thru the top cap.

6F6 The metal type 6F6 is electrically similar in all respects to the type 42 when employed as a pentode power amplifier.

6H6 This double diode is designed to provide for AVC and diode detection. It is similar in every respect to the double diode section found on multi purpose glass tubes except that both cathodes are brought out separately.

6J7 This hi-mu pentode detector amplifier is similar electrically to the type 77.

6K7 The 6K7 is a triple grid variable mu amplifier similar to the well known type 78.

25Z5 MG This special type is provided to fill the need of a rectifier for AC-DC sets and is similar electrically to the type 25Z5.

43 MG This type has characteristics identical to the 43 and provides a power output tube to complete the AC-DC line.

50A2 MG This is a ballast tube in a metal shell with a tap to supply two #40 pilot lights in series.

50B2 MG The 50B2 MG is designed for the same service as the 50A2 MG but tapped to supply a single #40 pilot lamp. Both ballast tubes have an overall voltage drop of 50 volts and are employed in transformerless receivers for AC-DC voltage. For example a 25Z5 MG rectifier, a 43 MG power output tube, a 6K7 R.F. amplifier and a 6J7 detector comprise a typical compliment for ballast tube operation.

This listing of metal shielded tubes should not be considered complete, but simply the list of types which are now in production. Considerable experimental work is being done on various types of metal shielded tubes at Triad. When this experimental work indicates that additions or changes should be made to our production types, improvements will be incorporated.

With the innovation of the new series MG tubes, it is assured that most of the basic and essential experience gained from glass tube processing will be incorporated in the making of the new metal glass tubes. These facts cannot be overlook so readily, in view of the widespread use and acceptance of the glass tubes. Combining this knowledge with the new principle of metal tube design, a most permanent and useful series of radio tubes has been developed.



TRIAD METAL SHIELDED RADIO TUBES

SERIES MG

PHYSICAL CHARACTERISTICS

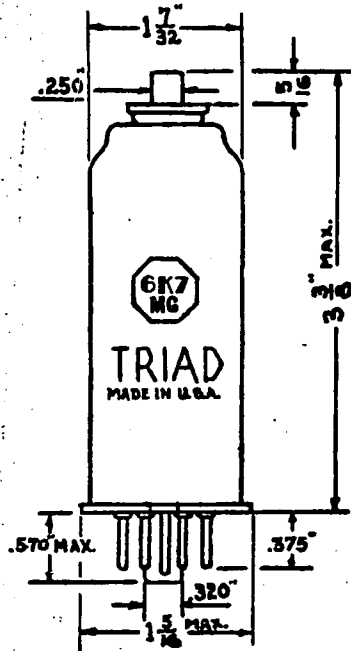


Fig. 1

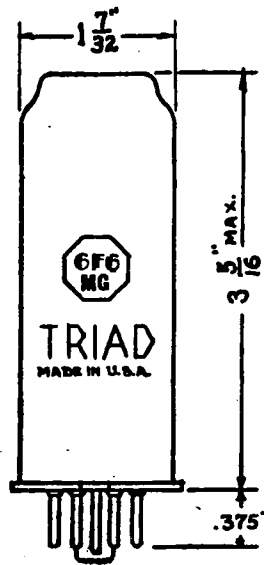


Fig. 2

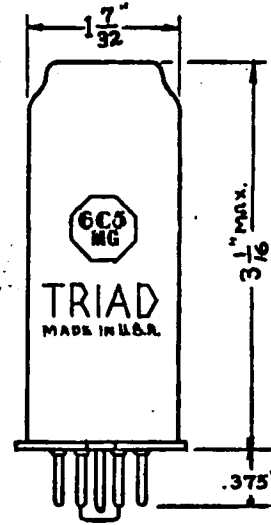


Fig. 3

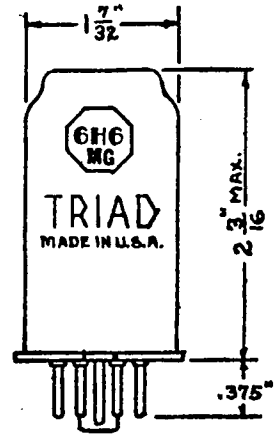


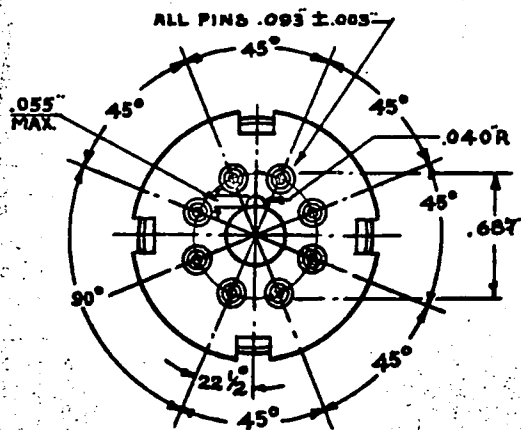
Fig. 4

PIN POSITION AND NUMBERS

Type	1	2	3	4	5	6	7	8	Cap
6AS-MG	S	H	P	G ₂ &G ₃	G ₁	G ₂	H	K	G ₄
6C5-MG	S	H	P		G ₁		H	K	
6D5-MG	S	H	P		G ₁		H	K	
6F5-MG	S	H		P			H	K	G ₁
6F6-MG	S	H	P	G ₂	G ₁		H	K	
6H6-MG	S	H	P ₂	K ₂	P ₁		H	K ₁	
6J7-MG	S	H	P	G ₂	G ₃		H	K	G ₁
6K7-MG	S	H	P	G ₂	G ₃		H	K	G ₁
6Z4-MG	S	H		P ₁		P ₂		HK	
43-MG	S	H	P	G ₂	G ₁		H	K	
25Z5-MG	S	H	P ₂	K ₂	P ₁		H	K ₁	
50A2-MG*	S	R			T		R _c		
50B2-MG**	S	R			T		R _c		

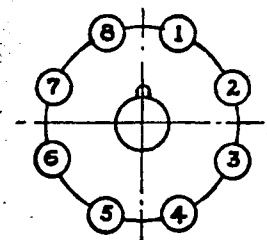
*2 #40 Pilot Lamps in Series between R_c and T

**1 #40 Pilot Lamp between R_c and T



BOTTOM VIEW OF BASE

PIN NUMBER ARRANGEMENT



BOTTOM VIEW OF BASE

TRIAD METAL SHEATHED RADIO TUBES

SERIES-MG ELECTRICAL CHARACTERISTICS

Type	Use	Amplifier Types						Dynamic Characteristics		Output Characteristics		Drawing				
		Cathode		Maximum Voltage Rating		Current Rating		Rp	Gm	Load Resistor	U.P.O. Watts					
		Type	Supply	Fill.	Grid	Plate	Screen Grid	Fill. (m.a.)	Screen Plate (m.a.)	Mu						
6A8-MG	Pentagrid Converter	Hr.	A.C. or D.C.	6.3	-3	250*	100	0.3	2.2	3.5	360,000		Fig. 1			
6C5-MG	Detector Amplifier Triode	Hr.	A.C. or D.C.	6.3	-8	250		0.3	8.0	20	10,000	2000	Fig. 3			
6D5-MG	Power Amplifier Triode	Hr.	A.C. or D.C.	6.3	40	275		0.7	31.0	4.7	2,250	2100	Fig. 2			
6F5-MG	Hi-Mu Triode Amplifier	Hr.	A.C. or D.C.	6.3	-2	250		0.3	0.9	100	66,000	1500	Fig. 1			
6F6-MG	Power Amplifier Pentode	Hr.	A.C. or D.C.	6.3	-16.5	250	250	0.7	34.0	220	100,000	2200	Fig. 2			
6H6-MG	I in Diode	Hr.	A.C. or D.C.	6.3		100+		0.3	2.0+				Fig. 4			
6J7-MG	Triode - Grid Detector Amplifier	Hr.	A.C. or D.C.	6.3	-3	250	125	0.3	0.5	2.0	1500+	1,500,000+	1225	Fig. 1		
6K7-MG	Triode - Grid Super Control Amplifier	Hr.	A.C. or D.C.	6.3	-3	250	125	0.3	1.7	7.0	1160	800,000	1450	Fig. 1		
43-MG	Power Amplifier Pentode	Hr.	A.C. or D.C.	25.0	-20	135	135	0.3	7.0	34.0	80	35,000	2300	4000	2.0	Fig. 2

*Anode Grid Voltage - 250 Maximum. Oscillator Grid Resistor 50,000. Anode Grid (#2) Current 4.0 m.a.
 -A-C Voltage per Plate (R.M.S.). Maximum D.C. Current

Type	Use	Rectifier Types						Ballast Types		
		Cathode		Maximum Voltage Rating		Current Rating		Pilot Light Provisions		
		Type	Supply	Fill.	Volts per Plate	Peak Inverse	Fill.	D.C. Output	Peak Cur.	Drawing
5Z4-MG	Full Wave High Vacuum	Hr.	A.C.	5.0	400	1100	2.0	125 m.a.		Fig. 2
25Z5-MG	Rectifier Doubler	Hr.	A.C. or D.C.	25.0	125		0.3	100 m.a.		Fig. 3
Ballast Types										
Type	Use	Total Voltage Drop		Rated Current		Pilot Light Provisions		Drawing		
50A2-MG	A.C.-D.C. Heater Ballast	50.0		.300 m.a.		Amount 2 Type No. 40		Fig. 3		
50B2-MG	A.C.-D.C. Heater Ballast	50.0		.300 m.a.		Amount 1 Type No. 40		Fig. 3		

