Matsushita Electronics Corporation

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TWIN BEAM POWER TUBE

The MATSUSHITA 8358 is a miniature twin beam power with a directly heated cathode and consequently a short warm up time, for communications equipment operating at frequencies up to 500MC as a push-pull RF power amplifier or as a frequency multiplier tube.

The type 8358 has the same construction as 6939 except for the heater construction being directly heated cathode type. Characteristics of type 8358 are nearly same as type 6939's.

General Data

Electrical	
Cathode:	
Heating:	
Voltage 1)	1.9 volts
Current	
Heating time 2)	0.85 sec.
Transconductance (each unit)	
for dc plate volts = 150, dc grid No.2 volts = 150,	
and dc plate ma = 25	10000 μmhos
Mu-Factor (each unit)	
Grid No.2 to Grid No.1 (Each unit) for dc plate	
volts = 150, dc grid No.2 volts = 150, and dc plate ma = 25	20
ma = 25	30
Direct interelectrode capacitances 3)	
(Approx, Each unit) *	
Grid No.1 to plate	$0.15 \mu \mu F$
Grid No.1 to cathode & grid No.3, Grid No.2, and	_
filament	8.0 pp
plate to cathode & grid No.3, Grid No.2,	
and filament	$2.0~\mu\mu\mathrm{F}$
Mechanical	
Mounting position	
If the tube is mounted with its main axis deviating from the	
is recommended that the pins 2 and 7 are placed in a vertical	al plane.
Cooling	
Radiation and convection. The use of a closed screening	can is not
permissible.	2 * 1011
Maximum overall length	
Maximum seated length	2-3/8"

Length, Base seat to bulb top (Excluding tip) Diameter Bulb	0.750" to 0.875"	
Base Small-buttom Noval 9-pin (JEDEC No. E9-1) Basing Designation for BOTTOM VIEW.		
Pin 1-Grid No.1 of unit No.2 Pin 2-Grid No.3 Pin 3-grid No.1 of unit No.1 Pin 4-filament (+)	Pin 5-filament (-) Pin 6-Plate of unit No.2 Pin 7-grid No.2 Pin 8-Plate of unit No.1 Pin 9-filament (+)	
PUSH-PULL RF POWER AMPLIFIER & OSCILL	ATOR-CLASS C Telegraphy	
and PUSH-PULL RF POWER AMPLIFIER-Class C FM Telephony Values are on a per-tube basis unless otherwise specified.		
Maximum Ratings, Absolute - Maximum Values:		
the contract of the contract o	* (up to 500 MC)	
DC plate voltage	250 max volts	
DC Grid No.2 voltage	200 max volts	
DC Grid No.1 voltage	-100 max volts	
DC plate current	100 max ma	
DC Grid No.1 current	8 max ma	
DC cathode current	120 max ma	
Plate input	14 max watts	
Grid No.2 input	3.5 max watts	
Grid No.1 input	0. 24max watts	
Plate dissipation	7, 5 max watts	
Frate dissipation	7.5 max waits	
Bulb temperature		
(At the hottest point on bulb surface)	225 max °C	
Typical operation		
	(At 500 MC)	
DC plate voltage	180 volts	
DC grid-No.2 voltage	180 volts	
DC grid-No.1 voltage From grid resistor for	-20 volts	
each grid No.1 of	27000 ohms	
Peak -to-peak RF		
Grid-No.1 voltage	50 volts	
DC Plate current	50 ma	
	11.5 ma	
DC grid No.1 current	1.5 ma	
DC grid-No.1 current	1.2 watts	
Driver power output	1,2 waits	
(APProx.) Useful power output ***	4.5 watts	
	U.S. Walls	
(Approx.)		

<u>Re</u>marks

- Filament supply from a dc/ac inverter is recommended. The permissible deviation from the filament voltage is ±10%. If the dc/ac inverter is fed from a 12.6 volts battery that is charged during operation (driving vehicle) the design center value for the supply voltage should be considered to be 14 volts.
- It is defined as the time between switching-the heater voltage and the moment when useful power output has reached 70% of the final useful power output.
- 3. The tube is internally neutralized.
 - * Without external shield.
 - Intermittent commercial and amateur service.
 - This value of useful power is measured at the load of output circuit.