8025-A

U-H-F TRANSMITTING TRIODE

The 8025-A supersedes the Type 8025.

GENERAL DATA

Electrical:

Filament, Thoriated Tungsten:**		
Voltage	6.3	ac or dc volts
Current	1.92	amp.
Amplification Factor	18	
Direct Interelectrode Capacitances:		
Grid to Plate	3.0	μμf
Grid to Filament	2.7	μμf
Plate to Filament	0.4	μμf

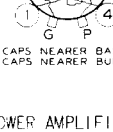
Mechanical:

Mounting Position . . . . . Vertical Only: Base up or down

Cooling—Requirements are indicated under MAXIMUM RATINGS for each class of service. *Natural Cooling* means that adequate free circulation of air around the tube is necessary. When *Forced-Air Cooling* is required, an air flow from a fan should be directed on the bulb.

Maximum Overall Length	4-15/16"
Maximum Seated Length	4-5/16"
Greatest Radius	1-1/64" ± 1/16"
Bulb	T-8
Caps (Four)	Saddle Skirted Miniature, with Nub
Base	Small 4-Pin, Micanol
Basing Designation for BOTTOM VIEW	3M

Pin 1 – Filament
Pin 2 – No Con.
Pin 3 – Filament Mid-Tap
Pin 4 – Filament
G – Grid
P – Plate



G CAPS NEARER BASE
P CAPS NEARER BULB TIP

GRID-MODULATED R-F POWER AMPLIFIER – Class C Telephony

Carrier conditions per tube for use with a max. modulation factor of 1.0

Maximum Ratings, *Absolute Values*:

	Forced-Air Cooling CCS▲	*Natural Cooling ICAS*▲	
D-C PLATE VOLTAGE	1000 max.	1000 max.	volts
D-C GRID VOLTAGE	-200 max.	-200 max.	volts
D-C PLATE CURRENT	65 max.	65 max.	ma.
PLATE INPUT	60 max.	50 max.	watts
PLATE DISSIPATION	40 max.	30 max.	watts

Typical Operation:

D-C Plate Voltage	1000	volts
D-C Grid Voltage□	-135	volts
	2500	ohms

□: See next page. ▲,**: See end of tabulation.

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(continued from preceding page)

Peak R-F Grid Voltage	155	volts
Peak A-F Grid Voltage	65	volts
D-C Plate Current	50	ma.
D-C Grid Current*	4 approx.	ma.
Driving Power ■ *	3.5 approx.	watts
Power Output	20 approx.	watts

□ Obtained from fixed supply or by cathode resistor of value shown.
■ At crest of audio-frequency cycle with modulation factor of 1.0.

PLATE-MODULATED R-F POWER AMPLIFIER - Class C Telephony

Carrier conditions per tube for use with a max. modulation factor of 1.0

Maximum Ratings, *Absolute Values*:

	Forced-Air Cooling CCS ▲	*Natural Cooling ICAS* ▲	
D-C PLATE VOLTAGE	800 max.	800 max.	volts
D-C GRID VOLTAGE	-200 max.	-200 max.	volts
D-C PLATE CURRENT	65 max.	65 max.	ma.
D-C GRID CURRENT	20 max.	20 max.	ma.
PLATE INPUT	50 max.	33 max.	watts
PLATE DISSIPATION	27 max.	20 max.	watts

Typical Operation:

D-C Plate Voltage	800	volts
D-C Grid Voltage ‡	-105	volts
	10000	ohms
Peak R-F Grid Voltage	145	volts
D-C Plate Current	40	ma.
D-C Grid Current*	10.5 approx.	ma.
Driving Power*	1.4 approx.	watts
Power Output	22 approx.	watts

‡ Obtained preferably from grid resistor of value shown, or combination of grid resistor with either fixed supply or suitably by-passed cathode resistor.

R-F POWER AMPLIFIER & OSCILLATOR - Class C Telegraphy

Key-down conditions per tube without modulation #

Maximum Ratings, *Absolute Values*:

	Forced-Air Cooling CCS ▲	*Natural Cooling ICAS* ▲	
D-C PLATE VOLTAGE	1000 max.	1000 max.	volts
D-C GRID VOLTAGE	-200 max.	-200 max.	volts
D-C PLATE CURRENT	80 max.	80 max.	ma.
D-C GRID CURRENT	20 max.	20 max.	ma.
PLATE INPUT	75 max.	50 max.	watts
PLATE DISSIPATION	40 max.	30 max.	watts

#, ▲, *; See end of tabulation.

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U-H-F TRANSMITTING TRIODE

(continued from preceding page)

Typical Operation:

D-C Plate Voltage	1000	volts
D-C Grid Voltage °	-90	volts
	6400	ohms
	1400	ohms
Peak R-F Grid Voltage	130	volts
D-C Plate Current	50	ma.
D-C Grid Current*	14 approx.	ma.
Driving Power *	1.6 approx.	watts
Power Output	35 approx.	watts

** The filament is center-tapped and the center lead is brought out to the No.3 pin. With this design, it is possible to minimize the effect of filament lead inductance by connecting all three filament leads in parallel through r-f by-pass capacitors. The center-lead of this parallel connection should not be returned directly to the center-tap of the filament-transformer winding or to ground, although it may be by-passed to either of these points if desired.

▲ CCS = Continuous Commercial Service; ICAS = Intermittent Commercial and Amateur Service.

* Subject to wide variations as explained on sheet TUBE RATINGS in General Section.

° Obtained from fixed supply, or grid resistor (6400), or by cathode resistor (1400). When the 8025-A is used in the final amplifier or a preceding stage of a transmitter designed for break-in operation and oscillator keying, a small amount of fixed bias must be used to maintain the plate current at a safe value. With plate voltage of 1000 volts a fixed bias of at least -40 volts should be used.

Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.

The 8025-A may be operated with maximum ratings at frequencies up to 500 megacycles, but as the frequency is raised, the efficiency and power output fall off. At 600 megacycles an efficiency of about 35% can be expected. Since the efficiency at 600 megacycles is relatively low, the plate of the 8025-A has been designed to have an unusually high dissipation rating.

Data on operating frequencies for the 8025-A are given on the sheet TRANS. TUBE RATINGS vs FREQUENCY.

Curves for the 8025-A are the same as those for the 8012-A.

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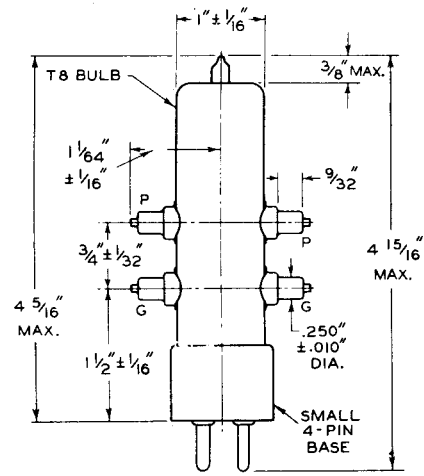

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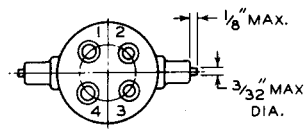

BOTTOM VIEW

℄ OF EACH CAP SHALL NOT DEVIATE MORE THAN 3° FROM PLANE NORMAL TO THE PLANE OF PINS NO. 1 & NO. 4 AND PASSING THROUGH CENTER OF BOTTOM OF BASE.

℄ OF BULB SHALL NOT DEVIATE MORE THAN 2° IN ANY DIRECTION FROM THE PERPENDICULAR ERECTED AT CENTER OF BOTTOM OF BASE.