

ENGINEERING DATA

CBS-HYTRON

A Division of Columbia Broadcasting System, Inc.
Danvers, Massachusetts

TUBES AND SEMICONDUCTORS

CBS 6955

MEDIUM-MU DUOTRIODE FOR SQUARE-WAVE MODULATOR, BLOCKING
OSCILLATOR, MULTIVIBRATOR, AND GENERAL-PURPOSE USAGE

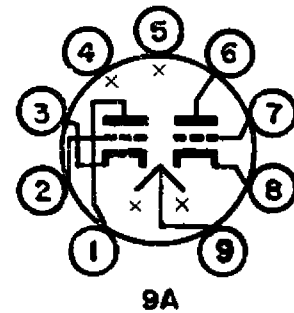
The CBS 6955 is a medium-mu duotriode designed for pulse circuits, and in particular for high peak power blocking oscillators. It features high reliability in pulsed emission providing 2 amperes up to 10 μ s without slump, fast warm-up time to 80% stabilized plate current in 10 seconds, operation over the ambient temperature range of -62°C to 100°C , and is specially tested for resonance vibration at frequencies up to 500 c.p.s.

MECHANICAL DATA

Cathode, coated unipotential	
Bulb	T-6 1/2
Outline	RETMA 6-2
Maximum over-all height	2 3/16 inches
Maximum seated height	1 15/16 inches
Maximum diameter	7/8 inch
Base	(E9-1)
Basing	9A
Mounting position	Any

PIN CONNECTIONS

Pin 1	Plate (Section 2)
Pin 2	Grid (Section 2)
Pin 3	Cathode (Section 2)
Pin 4	Heater
Pin 5	Heater
Pin 6	Plate (Section 1)
Pin 7	Grid (Section 1)
Pin 8	Cathode (Section 1)
Pin 9	Heater (Center tap)



HEATER CHARACTERISTICS

	Series	Parallel	
Voltage, a-c	12.6 ± 12%	6.3 ± 12%	volts
Current	175	350	ma
Peak heater-cathode voltage, max.			
Heater negative to cathode	90	90	volts
Heater positive to cathode	90	90	volts

ELECTRICAL DATA

DIRECT INTERELECTRODE CAPACITANCES, No Shield

	Section I	Section II	
Grid to plate: g1 to p	1.4	1.4	µpf
Input: g1 to k+h	1.5	1.5	µpf
Output: p to k+h	0.5	0.4	µuf
Coupling plate 1 to plate 2		0.8	µpf

MAXIMUM RATINGS (Continuous Commercial Service Values)

Pulse Modulator †

Plate supply voltage, d-c	400	volts
Control grid supply voltage, d-c	250	volts
Peak positive grid voltage, d-c	200	volts
Peak grid current	0.9	amp
Peak plate current	1.25	amp
Peak cathode current	2.2	amp
Grid dissipation	0.60	watts
Plate dissipation	1.35	watts

MAXIMUM RATINGS (Design Center Values)

Class A Amplifier

Plate voltage	300	volts
Plate dissipation	2.75	watts
Cathode current	20	ma
Control-grid circuit resistance		
Fixed bias	.25	meg
Self bias	1.0	meg

CHARACTERISTICS AND TYPICAL OPERATION

Pulse Modulator

Plate supply voltage, d-c	300	volts
Grid supply voltage, d-c	-25	volts
Peak positive grid voltage	150	volts
Peak plate current	0.9	amp
Peak grid current	0.7	amp
Plate load resistance (noninductive)	75	ohms
Grid resistance (noninductive)	2400	ohms
Minimum cathode preheating	10	sec

Class A Amplifier

Plate voltage	100	250	volts
Control-grid voltage	0	-8.5	volts
Plate resistance (approx.)	5800	7000	ohms
Transconductance	3500	2350	μ hos
Amplification factor	21.3	16.5	
Plate current	13.0	11.5	ma
Control-grid voltage (approx.) for $I_b = 10 \mu$ a		-22	volts
Control-grid voltage (approx.) for $g_m = 2350 \mu$ hos		8.5	volts

NOTES:

† Duty Factor = .0035; pulse width = 1.5 microseconds; pulse repetition rate = 2300 pps.