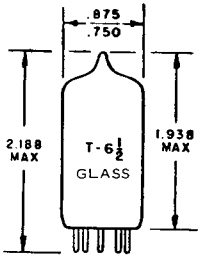
TUNG-SOL

DIODE PENTODE

MINIATURE TYPE

OUTLINE DRAWING
JEDEC 6-2



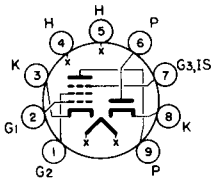
BASE 9 PIN BUTTON
JEDEC E9-1

FOR
GENERAL PURPOSE
APPLICATIONS

COATED UNIPOTENTIAL CATHODE

ANY MOUNTING POSITION

BASING DIAGRAM
JEDEC 9DS



BOTTOM VIEW

THE 5AS8 IS A GENERAL-PURPOSE, MULTIUNIT TUBE USING THE 9 PIN MINIATURE CONSTRUCTION. IT CONTAINS A HIGH PERVEANCE DIODE AND A SHARP-CUTOFF PENTODE IN ONE ENVELOPE. IT IS INTENDED FOR DIVERSIFIED APPLICATIONS IN TELEVISION AND RADIO RECEIVERS.

DIRECT INTERELECTRODE CAPACITANCES - APPROX.

WITH NO EXTERNAL SHEILD

DIODE UNIT		
PLATE TO HEATER & CATHODE & INTERNAL SHIELD	3.0	pf
PENTODE UNIT		
GRID #1 TO PLATE (MAX.)	0.03	pf
INPUT	7.0	pf
OUTPUT	2.4	pf
PENTODE GRID TO DIODE PLATE (MAX.)	0.005	pf
PENTODE PLATE TO DIODE CATHODE (MAX.)	0.15	pf
PENTODE PLATE TO DIODE PLATE (MAX.)	0.10	pf

HEATER CHARACTERISTICS AND RATINGS

DESIGN CENTER VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	4.7 VOLTS	600	MA
HEATER WARM-UP TIME		APPROX. 11	SECONDS
LIMITS OF SUPPLIED CURRENT		600 ± 40	MA
HEATER CATHODE VOLTAGE:			
HEATER NEGATIVE WITH RESPECT TO CATHODE		200	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE		200	VOLTS
DC COMPONENT		100	VOLTS

CONTINUED ON FOLLOWING PAGE

CONTINUED FROM PRECEDING PAGE

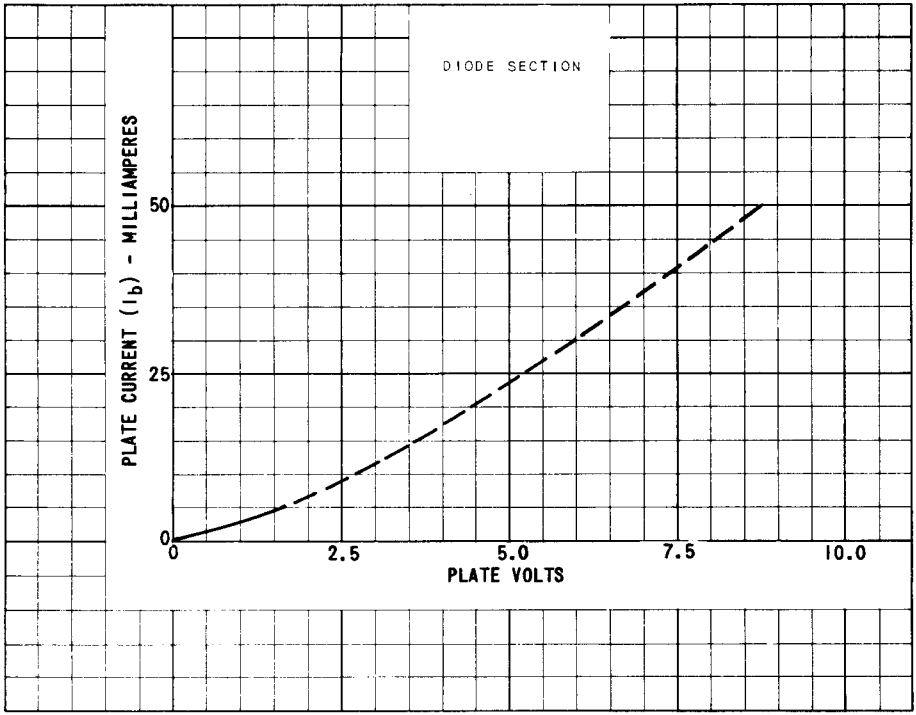
MAXIMUM RATINGS

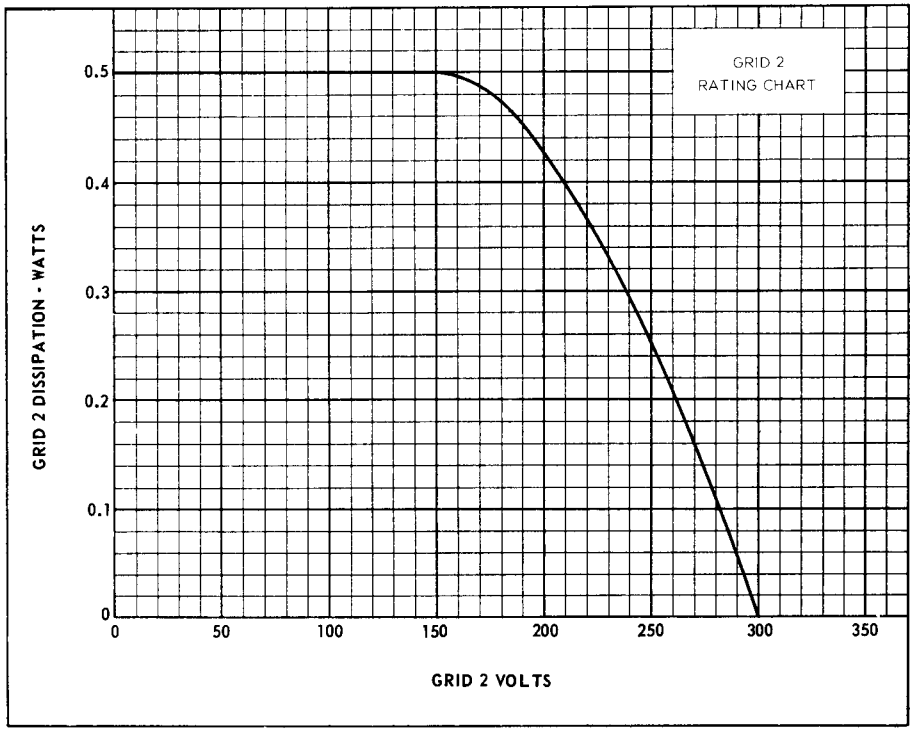
DESIGN CENTER VALUES - SEE EIA STANDARD RS-239

	DIODE UNIT	PENTODE UNIT	
MAXIMUM PLATE VOLTAGE		300	VOLTS
MAXIMUM GRID #3 VOLTAGE		0	VOLTS
MAXIMUM GRID #2 SUPPLY VOLTAGE		300	VOLTS
MAXIMUM GRID #2 VOLTAGE		SEE RATING CHART	
MAXIMUM GRID #1 VOLTAGE:			
POSITIVE BIAS VALUE		0	VOLTS
MAXIMUM PLATE DISSIPATION		2.5	WATTS
MAXIMUM GRID #2 INPUT		0.5	WATT
MAXIMUM GRID #1 CIRCUIT RESISTANCE:			
CATHODE BIAS OPERATION		1.0	MEGOHM
FIXED BIAS OPERATION		0.25	MEGOHM
MAXIMUM PEAK INVERSE PLATE VOLTAGE	330		VOLTS
MAXIMUM PEAK PLATE CURRENT	50		MA
MAXIMUM DC PLATE CURRENT	5		MA

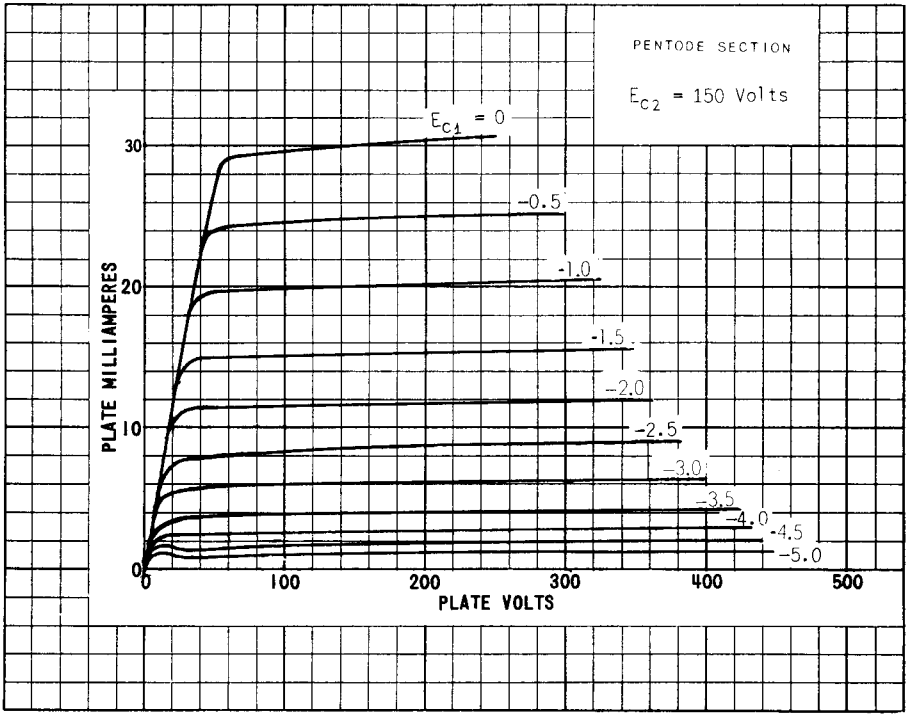
TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

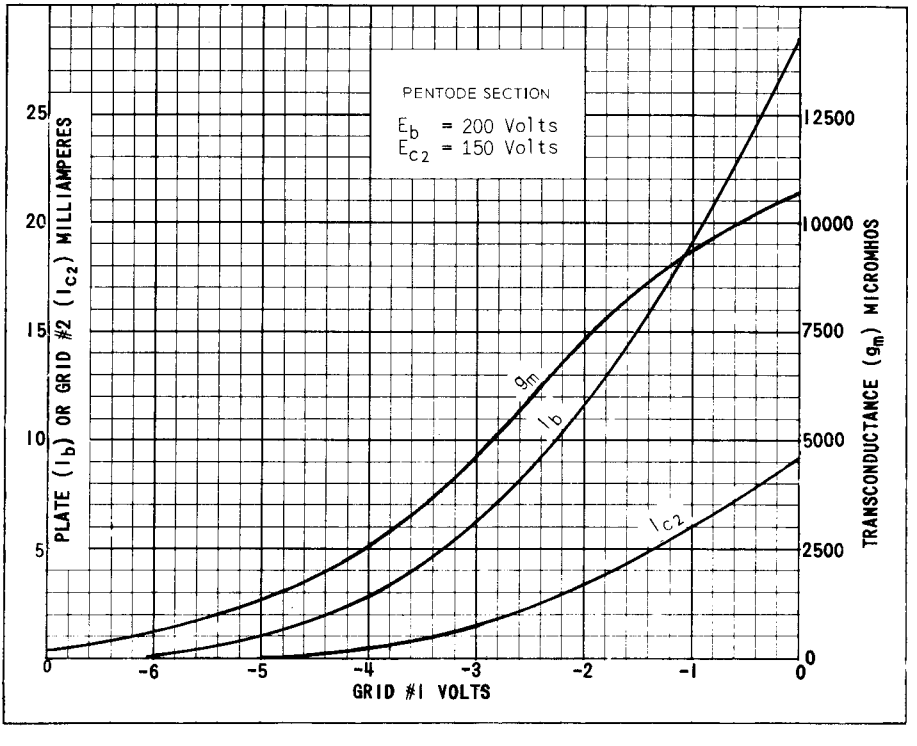
PLATE SUPPLY VOLTAGE	200	VOLTS
GRID #3	CONNECTED TO CATHODE AT SOCKET	
GRID #2 SUPPLY VOLTAGE	150	VOLTS
CATHODE BIAS RESISTOR	180	OHMS
PLATE CURRENT	9.5	MA
GRID #2 CURRENT	3	MA
TRANSCONDUCTANCE	6,200	μMHOS
PLATE RESISTANCE (APPROX.)	300,000	OHMS
GRID #1 BIAS (APPROX.) FOR I_b = 10 μA	−8	VOLTS


DIODE SECTION
PLATE CURRENT (I_b) - MILLIAMPERES
50
25
0
0
2.5
5.0
7.5
10.0
PLATE VOLTS


GRID 2
RATING CHART
GRID 2 DISSIPATION - WATTS
0.5
0.4
0.3
0.2
0.1
0
0
50
100
150
200
250
300
350
GRID 2 VOLTS

5AS8


PENTODE SECTION
E_{c2} = 150 Volts
E_{c1} = 0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-4.0
-4.5
-5.0
PLATE MILLIAMPERES
PLATE VOLTS
0
10
20
30
0
100
200
300
400
500


PENTODE SECTION
E_b = 200 Volts
E_{c2} = 150 Volts
g_m
I_b
I_{c2}
PLATE (I_b) OR GRID #2 (I_{c2}) MILLIAMPERES
TRANSCONDUCTANCE (g_m) MICROMHOS
GRID #1 VOLTS
0
5
10
15
20
25
2500
5000
7500
10000
12500
-6
-5
-4
-3
-2
-1
0