

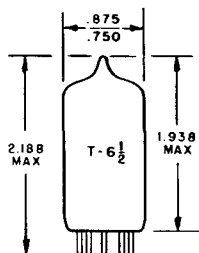
TUNG-SOL

PENTODE
MINIATURE TYPE

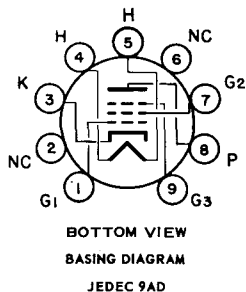
SHARP-CUTOFF PENTODE

FOR
AUDIO PRE-AMPLIFIER
APPLICATIONS

COATED UNIPOTENTIAL CATHODE
ANY MOUNTING POSITION



GLASS BULB
SMALL BUTTON NOVAL
9 PIN BASE E9-1
OUTLINE DRAWING
JEDEC 6-2



THE 5879 IS A SHARP-CUTOFF PENTODE IN THE 9 PIN MINIATURE CONSTRUCTION. IT IS INTENDED FOR USE IN THE INPUT STAGE OF AUDIO AMPLIFIERS. IT COMBINES HIGH GAIN WITH VERY LOW LEVEL OF MICROPHONICS, HUM, AND OTHER AUDIO FREQUENCY NOISES.

DIRECT INTERELECTRODE CAPACITANCES

	PENTODE CONNECTION	TRIODE ^A CONNECTION	
GRID TO PLATE	MAX. 0.11	1.4	pf
INPUT	2.7	1.4	pf
OUTPUT	2.4	0.85	pf

^A GRID 2 AND 3 CONNECTED TO PLATE.

HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	6.3	VOLTS	150	MA.
LIMITS OF APPLIED VOLTAGE : AC OR DC			6.3±0.6	VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE:				
HEATER NEGATIVE WITH RESPECT TO CATHODE			100	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE			100	VOLTS

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TUNG-SOL

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MAXIMUM RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

	TRIODE CONNECTION ^A	PENTODE CONNECTION	
PLATE VOLTAGE	275	330	VOLTS
GRID 3 VOLTAGE	----	0	VOLTS
GRID 2 SUPPLY VOLTAGE		330	VOLTS
GRID 2 VOLTAGE		See Rating Chart	
PLATE DISSIPATION	1.7	1.25	WATTS
GRID 2 DISSIPATION UP TO 165 VOLTS	----	0.25	
GRID 1 VOLTAGE:			
NEGATIVE BIAS VALUE	55	55	VOLTS
POSITIVE BIAS VALUE	0	0	VOLTS
GRID 1 CIRCUIT RESISTANCE	2.2	2.2	MEGOHMS

AVERAGE CHARACTERISTICS

	TRIODE CONNECTION ^A		PENTODE CONNECTION	
PLATE VOLTAGE	100	250	250	VOLTS
GRID 3 VOLTAGE	----	----	0	VOLTS
GRID 2 VOLTAGE	----	----	100	VOLTS
GRID 1 VOLTAGE	-3	-8	-3	VOLTS
PLATE CURRENT	2.2	5.5	1.8	MA.
GRID 2 CURRENT	----	----	0.4	MA.
TRANSCONDUCTANCE	1,240	1,530	1,000	μ MHOS
AMPLIFICATION FACTOR	21	21		VOLTS
PLATE RESISTANCE	APPROX. .017	.137	2	MEGOHMS
GRID 1 VOLTAGE FOR $i_b = 10 \mu A$			-8	VOLTS

^A GRIDS 2 AND 3 CONNECTED TO PLATE.

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TUNG-SOL

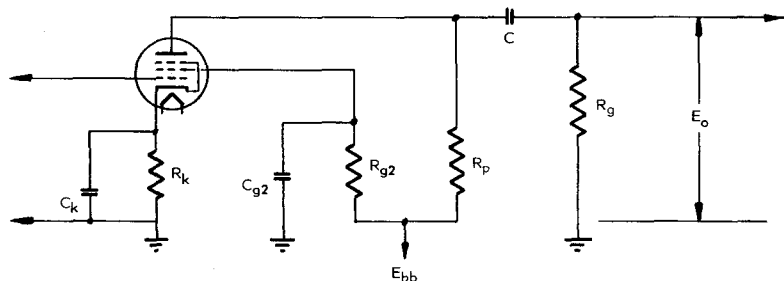
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TYPICAL OPERATION
PENTODE CONNECTION
RESISTANCE-COUPLED AMPLIFIER

MAXIMUM VOLTAGE GAIN

E_{bb}	R_p	R_g	R_{g2}	R_k	C_{g2}	C_k	C	E_o	V.G.*
90	0.1	0.1	0.35	1700	0.044	4.6	0.020	13	29
		0.22			0.046	4.5	0.012	17	39
		0.47			0.047	4.4	0.006	20	47
	0.22	0.22	0.80	3000	0.034	3.2	0.010	15	43
		0.47			0.035	3.1	0.005	21	59
		1.0			0.036	3.0	0.003	24	67
	0.47	0.47	1.9	7000	0.021	1.8	0.005	21	59
		1.0			0.022	1.7	0.003	25	75
		2.2			0.023	1.7	0.002	28	87
180	0.1	0.1	0.35	700	0.060	7.4	0.020	24	39
		0.22			0.062	7.3	0.012	28	56
		0.47			0.064	7.2	0.006	33	65
	0.22	0.22	0.80	1200	0.045	5.5	0.010	24	65
		0.47			0.046	5.3	0.005	31	87
		1.0			0.048	5.2	0.003	34	101
	0.47	0.47	1.9	2500	0.033	3.5	0.005	27	98
		1.0			0.034	3.4	0.003	32	122
		2.2			0.035	3.3	0.002	37	140
300	0.1	0.1	0.35	300	0.075	10.8	0.020	25	51
		0.22			0.077	10.6	0.012	32	68
		0.47			0.080	10.5	0.006	35	83
	0.22	0.22	0.80	600	0.056	7.9	0.010	28	81
		0.47			0.057	7.5	0.005	37	109
		1.0			0.058	7.4	0.003	41	123
	0.47	0.47	1.3	1200	0.044	5.3	0.005	35	125
		1.0			0.046	5.2	0.003	42	152
		2.2			0.047	5.1	0.002	48	174

* AT AN OUTPUT VOLTAGE OF 1 VOLT RMS AND GRID 1 BIAS OF 1 VOLT.



TUNG-SOL

CONTINUED FROM PRECEDING PAGE

RESISTANCE-COUPLED AMPLIFIER

MAXIMUM VOLTAGE OUTPUT

E_{bb}	R_p	R_g	R_{g2}	R_k	C_{g2}	$C_k C$	$E C$	E_o	V.G.
90	0.1	0.1	0.12	2000	0.09	4.8	0.027	22	23
		0.22	0.15	2200	0.08	4.4	0.013	28	32
		0.47	0.17	2400	0.07	4.0	0.007	31	39
	0.22	0.22	0.35	3500	0.06	3.3	0.011	24	33
		0.47	0.40	3800	0.065	3.2	0.006	30	44
		1.0	0.44	4100	0.06	3.0	0.003	32	50
	0.47	0.47	0.90	6800	0.04	2.0	0.005	25	47
		1.0	1.0	7400	0.04	2.0	0.003	30	57
		2.2	1.1	8000	0.04	2.0	0.002	32	64
180	0.1	0.1	0.19	1300	0.08	6.0	0.021	48	33
		0.22	0.20	1400	0.08	5.85	0.013	59	46
		0.47	0.22	1500	0.07	5.45	0.007	68	57
	0.22	0.22	0.44	2000	0.09	4.85	0.011	48	41
		0.47	0.53	2300	0.07	4.45	0.006	62	62
		1.0	0.55	2400	0.065	4.25	0.004	68	72
	0.47	0.47	1.0	3500	0.07	3.5	0.005	51	54
		1.0	1.1	3700	0.07	3.5	0.003	59	66
		2.2	1.2	4000	0.07	3.3	0.002	66	81
300	0.1	0.1	0.18	1000	0.1	7.0	0.022	85	38
		0.22	0.2	1100	0.1	6.8	0.013	110	53
		0.47	0.23	1200	0.075	6.4	0.007	124	66
	0.22	0.22	0.47	1400	0.1	5.75	0.012	88	44
		0.47	0.52	1600	0.1	5.45	0.006	113	64
		1.0	0.58	1700	0.075	5.0	0.004	124	86
	0.47	0.47	1.1	2300	0.1	4.6	0.006	90	58
		1.0	1.2	2500	0.1	4.3	0.004	110	76
		2.2	1.3	2800	0.1	4.2	0.002	121	99

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TUNG-SOL

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 TRIODE
 CONNECTION
 RESISTANCE-COUPLED AMPLIFIER

MAXIMUM VOLTAGE GAIN

E_{bb}	R_p	R_g	R_k	C_k	C	E_o	V.G.
90	0.047	0.047	1800	2.9	0.060	9	10 ^A
		0.1	2100	2.4	0.033	12	11 ^B
		0.22	2200	2.3	0.016	14	12 ^C
	0.1	0.1	3200	1.8	0.027	10	12 ^B
		0.22	3900	1.3	0.015	13	13 ^C
		0.47	4300	1.0	0.007	16	13
	0.22	0.22	6200	0.87	0.015	12	13 ^B
		0.47	8100	0.53	0.006	16	13
		1.0	9000	0.49	0.003	19	14
180	0.047	0.047	1200	3.5	0.063	21	12
		0.1	1600	2.6	0.033	29	13
		0.22	1800	2.4	0.016	35	13
	0.1	0.1	2200	1.9	0.031	26	13
		0.22	2900	1.35	0.015	33	14
		0.47	3400	1.1	0.007	40	14
	0.22	0.22	4500	0.92	0.015	28	14
		0.47	6400	0.61	0.006	39	14
		1.0	8200	0.52	0.003	47	14
300	0.047	0.047	1100	3.9	0.063	42	13
		0.1	1500	2.8	0.033	65	13
		0.22	1700	2.5	0.016	71	14
	0.1	0.1	2000	2.1	0.032	45	15
		0.22	3400	1.4	0.015	74	15
		0.47	3700	1.1	0.007	83	15
	0.22	0.22	4300	0.97	0.015	50	15
		0.47	7200	0.63	0.007	88	15
		1.0	7400	0.63	0.003	94	15

A AT 2 VOLTS (RMS) OUTPUT.

B AT 3 VOLTS (RMS) OUTPUT.

C AT 4 VOLTS (RMS) OUTPUT.

