SHARP CUTOFF PENTODE
MINIATURE TYPE

COATED UNIPOTENTIAL CATHODE

FOR IF CIRCUITS IN TV RECEIVERS

SERIES STRING OPERATION

ANY MOUNTING POSITION

THE 3EJ7 IS A HIGH TRANSCONDUCTANCE SHARP-CUTOFF PENTODE IN THE 9 PIN MINIATURE CONSTRUCTION. IT IS DESIGNED FOR SERVICE AS AN IF AMPLIFIER IN TELEVISION RECEIVERS. CONTROLLED HEATER WARM-UP TIME MAKES THE TUBE SUITABLE FOR SERIES STRING OPERATION.

DIRECT INTERELECTRODE CAPACITANCES
WITHOUT EXTERNAL SHIELD

GRID #1 TO PLATE (MAX.) .005 pf
INPUT: G1 TO (H+K+G2+G3+I.S.) 10 pf
OUTPUT: P TO (H+K+G2+G3+I.S.) 3 pf

HEATER CHARACTERISTICS AND RATINGS
DESIGN CENTER VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS
3.4 VOLTS 600 MA.

HEATER SUPPLY LIMITS:
CURRENT OPERATION 600±40 MA

MAXIMUM HEATER-CATHODE VOLTAGE:
HEATER NEGATIVE WITH RESPECT TO CATHODE 150 VOLTS
TOTAL DC AND PEAK
HEATER POSITIVE WITH RESPECT TO CATHODE 150 VOLTS
HEATER WARM-UP TIME 11 SECONDS

MAXIMUM RATINGS
DESIGN CENTER VALUES - SEE EIA STANDARD RS-239B

PLATE VOLTAGE WITH I_b = 0 MA. 550 VOLTS
PLATE VOLTAGE 250 VOLTS
GRID #2 VOLTAGE WITH I_c2 = 0 MA. 550 VOLTS
GRID #2 VOLTAGE 250 VOLTS
PLATE DISSIPATION 2.5 WATTS
GRID #2 DISSIPATION 0.9 WATTS
CATHODE CURRENT 25 MA
GRID #1 CIRCUIT RESISTANCE 1.0 MEGOHM

CONTINUED ON FOLLOWING PAGE
TYPICAL OPERATING CHARACTERISTICS
CLASS A₃ AMPLIFIER

PLATE VOLTAGE 200 VOLTS
GRID #3 VOLTAGE 0 VOLTS
GRID #2 VOLTAGE 200 VOLTS
GRID #1 VOLTAGE -2.5 VOLTS
PLATE CURRENT 10 MA.
GRID #2 CURRENT 4.1 MA.
TRANSCONDUCTANCE 15000 μMHO
AMPLIFICATION FACTOR (G₂ TO G₁) 60
PLATE RESISTANCE (APPROX.) 0.35 MEGOHM
GRID #1 IMPEDANCE AT 40 MC 30000 OHMS

A HEATER WARM-UP TIME IS DEFINED AS THE TIME REQUIRED FOR THE VOLTAGE ACROSS THE HEATER TO REACH 90% OF ITS RATED VOLTAGE AFTER APPLYING 4 TIMES RATED HEATER VOLTAGE TO A CIRCUIT CONSISTING
OF THE TUBE HEATER IN SERIES WITH A RESISTANCE OF VALUE 3 TIMES THE NOMINAL HEATER OPERATING
RESISTANCE.

B FOR SERIES OPERATION OF HEATERS, EQUIPMENT SHOULD BE DESIGNED THAT AT NORMAL SUPPLY VOLTAGE
BOOY TUBES WILL OPERATE AT THIS VALUE OF HEATER CURRENT.

C INPUT DAMPING OF TUBE AND TYPICAL CERAMIC SOCKET WITH BOTH CATHODE LEADS TIED DIRECTLY TO
GROUND IS ABOUT 10,000 OHMS.

3EJ7
PENTODE CONNECTION
Ef = 3.4 Volts
Ec3 = 0 Volts

\[ G_m = 22000 \, \mu \text{mhos} \]

[Graph showing grid line characteristics]
3EJ7 PENTODE CONNECTION

$E_f = 3.4 \text{ Volts}$

$E_{C3} = 0 \text{ Volt}$

3EJ7 PENTODE CONNECTION

$E_f = 3.4 \text{ Volts}$

$E_{C3} = 0 \text{ Volts}$