CATHODE RAY

THE 27SP4 IS A DIRECT-VIEW PICTURE TUBE DESIGNED FOR USE IN TELEVISION APPLICATIONS. ITS FEATURES INCLUDE:

ALUMINIZED SCREEN
UNIPOTENTIAL CATHODE
EXTERNAL CONDUCTIVE COATING
RECTANGULAR GLASS CONSTRUCTION
LOW VOLTAGE ELECTROSTATIC FOCUS

SPHERICAL FACEPLATE
MAGNETIC DEFLECTION
GREY FILTER FACEPLATE
24" X 18 1/2" RASTER SIZE
EXTERNAL SINGLE FIELD ION TRAP

ELECTRICAL DATA

FOCUSING METHOD
DEFLECTING METHOD
DEFLECTION ANGLE: (APPROX.)
DIAGONAL
DIRECT INTERELECTRODE CAPACITANCES: (APPROX.)
CATHODE TO ALL OTHER ELECTRODES
GRID #1 TO ALL OTHER ELECTRODES
MAXIMUM EXTERNAL CONDUCTIVE COATING TO ANODE
MINIMUM EXTERNAL CONDUCTIVE COATING TO ANODE

PHOSPHOR NUMBER
FLUORESCENT COLOR
PHOSPHORESCENT COLOR
PERSISTENCE
FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.)

MECHANICAL DATA

OVERALL LENGTH
GREATEST DIMENSIONS OF BULB:
DIAGONAL
WIDTH
HEIGHT
MINIMUM USEFUL SCREEN DIMENSIONS:
WIDTH
HEIGHT
BULB CONTACT
BASE
BASING
BULB CONTACT ALIGNMENT

PIN CONNECTIONS

PIN 1 - HEATER
PIN 2 - GRID NO. 1
PIN 6 - GRID NO. 4
PIN 10 - GRID NO. 2
PIN 11 - CATHODE

PIN 12 - HEATER
ANODE CAP:
GRID NO. 3
GRID NO. 5

CONTINUED ON FOLLOWING PAGE
RATINGS

DESIGN CENTER VALUES

HEATER VOLTAGE 6.3 VOLTS
HEATER CURRENT 0.6 AMP.
MAXIMUM DC ANODE, GRID #3, GRID #5 VOLTAGE 20 000 VOLTS
MAXIMUM DC GRID #4 VOLTAGE (FOCUSING ELECTRODE) -500 TO +1000 VOLTS
MAXIMUM DC GRID #2 VOLTAGE 500 VOLTS
MAXIMUM GRID #1 VOLTAGE:
  DC NEGATIVE-BIAS VALUE 125 VOLTS
  DC POSITIVE-BIAS VALUE 0 VOLTS
  POSITIVE-PEAK VALUE 2 VOLTS
MAXIMUM DC PEAK HEATER-CATHODE VOLTAGE:
  HEATER NEGATIVE WITH RESPECT TO CATHODE DURING WARM-UP PERIOD NOT TO EXCEED 15 SECONDS 410 VOLTS
  AFTER EQUIPMENT WARM-UP PERIOD 180 VOLTS
  HEATER POSITIVE WITH RESPECT TO CATHODE 180 VOLTS

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

DC ANODE, GRID #3, GRID #5 VOLTAGE¹ 18 000 VOLTS
DC GRID #4 VOLTAGE (FOCUSING ELECTRODE) -72 TO +396 VOLTS
DC GRID #2 VOLTAGE 300 VOLTS
DC GRID #1 VOLTAGE REQUIRED FOR CUTOFFC -28 TO -72 VOLTS
ION TRAP MAGNET STRENGTH (APPROX.) 40 GAUSSES

¹ BRILLIANCE AND DEFINITION DECREASE WITH DECREASING ANODE VOLTAGE. IN GENERAL, ANODE VOLTAGE SHOULD NOT BE LESS THAN THIS VALUE.

C VISUAL EXTINCTION OF FOCUSED RASTER. EXTINCTION OF THE STATIONARY FOCUSED SPOT WILL REQUIRE THAT THESE VALUES BE ABOUT 5 VOLTS MORE NEGATIVE.

CIRCUIT VALUES

MAXIMUM GRID #1 CIRCUIT RESISTANCE 1.5 MEGOHMS