THE 12AF3 IS A SINGLE INDIRECTLY-HEATED DIODE INTENDED FOR USE IN HORIZONTAL FREQUENCY DAMPER SERVICE TELEVISION RECEIVERS. IT IS DESIGNED TO WITHSTAND HIGH VOLTAGE PULSES OF LINE FREQUENCY BETWEEN CATHODE AND BOTH HEATER AND PLATE ELEMENTS SUCH AS NORMALLY ENCOUNTERED IN "DIRECT DRIVE" CIRCUITS.

DIRECT INTERELECTRODE CAPACITANCES - APPROX.

HEATER TO CATHODE H TO K  
CATHODE TO PLATE AND HEATER K TO (P + H)  
PLATE TO CATHODE AND HEATER P TO (K + H)  

2.8  µµf  
9.0  µµf  
6.0  µµf  

RATINGS*  
INTERPRETED ACCORDING TO DESIGN-MAXIMUM SYSTEM BC

HEATER VOLTAGE  
MAXIMUM HEATER-CATHODE VOLTAGE:  
HEATER NEGATIVE WITH RESPECT TO CATHODE DC  
TOTAL DC AND PEAK  
HEATER POSITIVE WITH RESPECT TO CATHODE DC  
TOTAL DC AND PEAK  
MAXIMUM PEAK INVERSE PLATE VOLTAGE  
MAXIMUM DC PLATE CURRENT  
MAXIMUM STEADY STATE PEAK PLATE CURRENT  
MAXIMUM PLATE DISSIPATION  
MAXIMUM BULB TEMPERATURE  
HEATER WARM-UP TIME*

12.6  VOLTS  
1000  VOLTS  
4500  VOLTS  
100  VOLTS  
300  VOLTS  
4500  VOLTS  
185  MA.  
750  MA.  
6.0  WATTS  
210  °C  
11.0  SECONDS  

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AVERAGE CHARACTERISTICS

TUBE VOLTAGE DROP
(WITH TUBE CONDUCTING PLATE CURRENT = 340 MA.)

30 VOLTS

A. HEATER WARM-UP TIME IS DEFINED AS THE TIME REQUIRED FOR THE VOLTAGE ACROSS THE HEATER TO REACH 80% 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 OPERATION IN A 525-LINE, 30-FRAME SYSTEM AS DESCRIBED IN "STANDARDS OF GOOD ENGINEERING
PRACTICE FOR TELEVISION BROADCAST STATIONS: FEDERAL COMMUNICATIONS COMMISSION", THE CUTY CYCLE
OF THE VOLTAGE PULSE MUST NOT EXCEED 1% OF ONE SCANNING CYCLE.

UNLESS OTHERWISE STATED.

C. DESIGN-MAXIMUM RATINGS ARE THE LIMITING VALUES EXPRESSED WITH RESPECT TO ROGIE TUBES AT WHICH
SATISFACTORY TUBE LIFE CAN BE EXPECTED TO OCCUR. TO OBTAIN SATISFACTORY CIRCUIT PERFORMANCE,
THEMEN DESIGNER MUST ESTABLISH THE CIRCUIT DESIGN SO THAT NO DESIGN-MAXIMUM
VALUE IS EXCEEDED WITH A ROGIE TUBE UNDER THE WORST PROBABLE OPERATING CONDITIONS WITH RESPECT
TO SUPPLY-VOLTAGE VARIATION, EQUIPMENT COMPONENT VARIATION, EQUIPMENT CONTROL ADJUSTMENT, LOAD
VARIATION, AND ENVIRONMENTAL CONDITIONS.