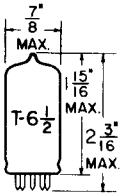
TUNG-SOL

DOUBLE DIODE

MINIATURE TYPE

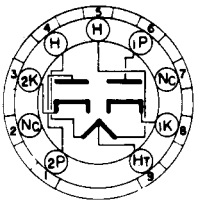


GLASS BULB

COATED UNIPOTENTIAL CATHODE

HEATER
26.5 VOLTS 0.20 AMP.
AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW
MINIATURE BUTTON
9 PIN BASE
9BS

THE 26Z5W IS A RUGGEDIZED HEATER-CATHODE TYPE DOUBLE DIODE USING THE 9 PIN MINIATURE CONSTRUCTION. IT IS SUITABLE FOR USE IN HALF OR FULL WAVE RECTIFIER APPLICATIONS OR AS A VOLTAGE DOUBLER. THE HEATER DESIGN MAKES THIS TYPE IDEAL FOR OPERATION IN AIRBORNE EQUIPMENT WHERE A 26 VOLT POWER SUPPLY IS NORMALLY AVAILABLE. ALSO THE RUGGEDIZED STRUCTURE IS CAPABLE OF WITHSTANDING SEVERE SHOCK AND VIBRATION SUCH AS THAT ENCOUNTERED IN AIRCRAFT.

RATINGS

ABSOLUTE MAXIMUM VALUES

HEATER VOLTAGE	26.5±15%	VOLTS
MAXIMUM PEAK INVERSE PLATE VOLTAGE	1375	VOLTS
MAXIMUM DC PLATE CURRENT (EACH PLATE)	300	mA.
MAXIMUM DC OUTPUT CURRENT (PER PLATE)	55	mA.
MAXIMUM SURGE CURRENT	1	AMP.
MAXIMUM HEATER-CATHODE VOLTAGE	450	VOLTS
MAXIMUM ALTITUDE	10 000	FEET
MAXIMUM SHOCK	700	G

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

FULL-WAVE RECTIFIER

	INPUT TO FILTER CAPACITOR	INPUT TO FILTER CHOKE	
HEATER VOLTAGE	26.5	26.5	VOLTS
HEATER CURRENT	0.20	0.20	AMP.
AC PLATE SUPPLY VOLTAGE (EACH PLATE) RMS	325	450	VOLTS
INPUT CONDENSER	10	---	μf
OUTPUT CHOKE	---	10	HENRYS
TOTAL EFFECTIVE PLATE SUPPLY IMPEDANCE (EACH PLATE)	300	---	OHMS
DC OUTPUT CURRENT	100	100	mA.
DC OUTPUT VOLTAGE AT INPUT TO FILTER	325	380	VOLTS

CONTINUED ON FOLLOWING PAGE

CONTINUED FROM PRECEDING PAGE

CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

Ef = 26.5V, Epp/p = 400Vac, RL = 3650 Ohms, CL = 8μf
EXCEPT AS MODIFIED BELOW

	INITIAL MIN.	INDIVIDUAL MAX.	
HEATER CURRENT	180	220	mAdc
OPERATION [AB]	100	---	mAdc
HEATER CATHODE LEAKAGE (EHK = Eo)	0	±150	μAdc
GRID EMISSION (1) (E_{2B}=O; E_{1b}=40Vdc)	160	---	mAdc
GRID EMISSION (2) (E_{1B}=O; E_{2b}=40Vdc)	160	---	mAdc

SPECIAL REQUIREMENTS

	MIN.	MAX.	
VARIABLE FREQUENCY VIBRATION[C] (NO VOLTAGES)	---	---	
LOW FREQUENCY VIBRATION[D] (NO VOLTAGES)	---	---	
SHOCK[EF] (HAMMER ANGLE = 48°C)	---	---	
VIBRATIONAL FATIGUE[G]	---	---	
POST SHOCK AND VIBRATIONAL FATIGUE TEST END POINTS			
HEATER-CATHODE LEAKAGE	---	250	Vdc
OPERATION	94	---	mAdc
LIFE TEST[H]	1500	---	HOURS
LIFE TEST END POINT[J]			
OPERATION	88	---	mAdc
HEATER CYCLING LIFE TEST[KL]	2000	---	CYCLES

NOTES

[A] SEE MIL-E-1C 4.10.13

[B] IN A FULL-WAVE CIRCUIT ADJUST Zp/p SUCH THAT A TUBE HAVING Etd=22 Vdc AT 100 mAdc PER PLATE GIVES I_o =110 mAdc.

[C] SEE MIL-E-1C 4.9.20.3

[D] SEE MIL-E-1C 4.9.20.4

[E] SEE MIL-E-1C 4.9.20.5

[F] AFTER SHOCK TESTS, THE TUBES SHALL MEET POST-SHOCK AND FATIGUE TEST END POINT REQUIREMENTS. IN ADDITION, THE TUBES SHALL NOT SHOW PERMANENT SHORTS OR OPEN CIRCUITS WHEN TESTED PER 4.7 (F-1e) AFTER SHOCK TESTS.

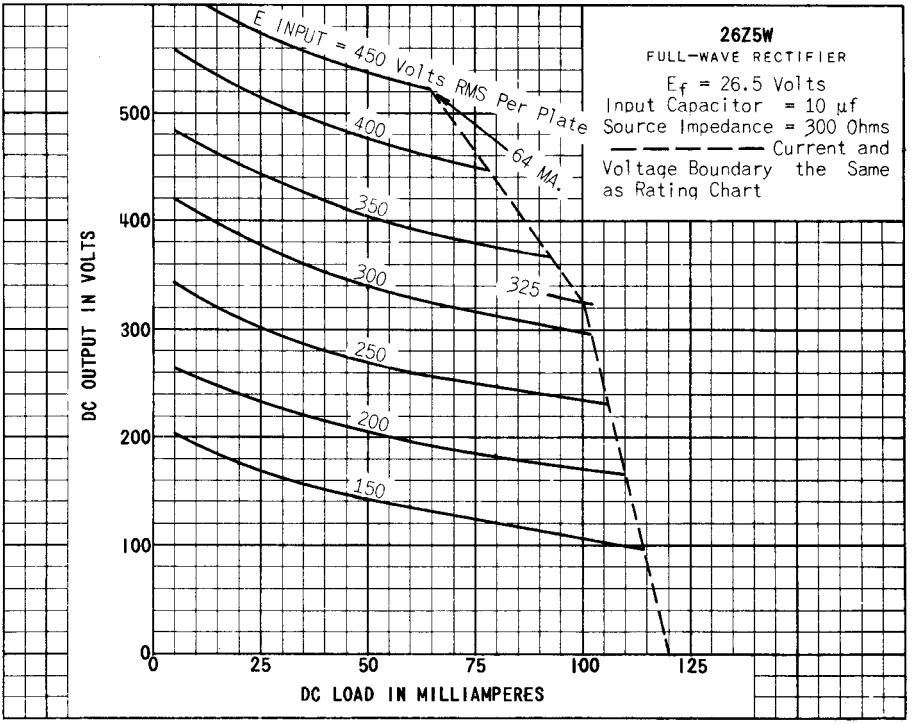
[G] SEE MIL-E-1C 4.9.20.6

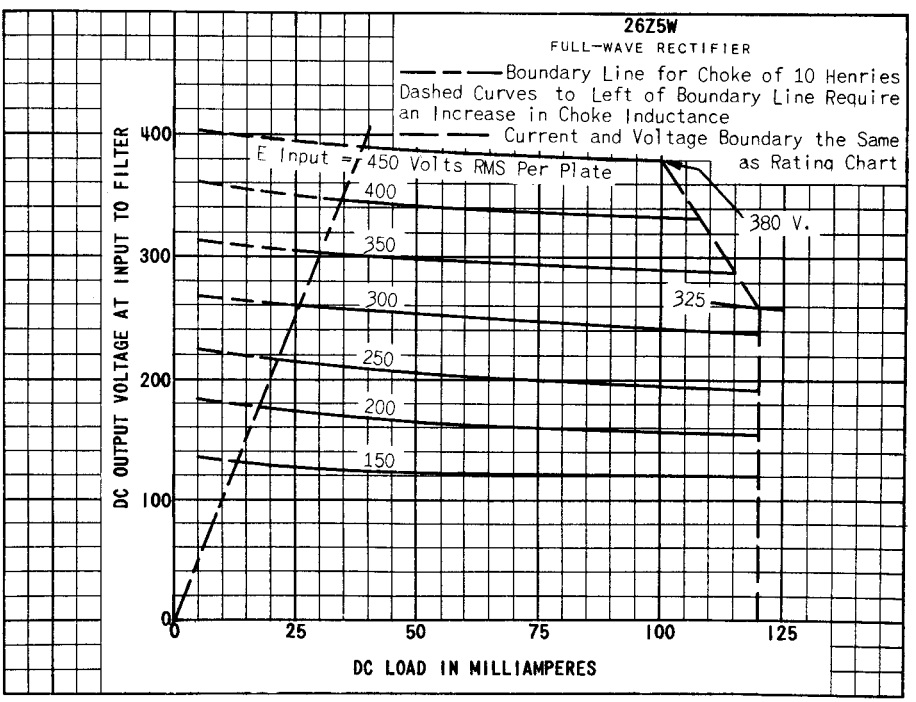
[H] IN LIFE TEST CONDITIONS THE VALUES OF RL AND CL GIVEN IN TEST CONDITIONS MAY BE CONSIDERED APPROXIMATE AND SHALL BE ADJUSTED INITIALLY TO GIVE I_o EQUAL TO OR GREATER THAN 110mAdc WITH Ib EQUAL TO OR GREATER THAN 300 mA. Ehk = Eo.

[J] SEE MIL-E-1C 4.11.4

[K] SEE MIL-E-1C 4.11.7

[L] Ef=32vac, Ehk=-450V; Ep=Ec=0. TUBES TO PASS If, Ihk AND LIFE TEST END POINTS.


26Z5W
FULL-WAVE RECTIFIER
E_f = 26.5 Volts
Input Capacitor = 10 µf
Source Impedance = 300 Ohms
— — — — — Current and Voltage Boundary the Same as Rating Chart
E INPUT = 450 Volts RMS Per Plate
400
350
300
250
200
150
64 MA.
325
DC OUTPUT IN VOLTS
0
100
200
300
400
500
0
25
50
75
100
125
DC LOAD IN MILLIAMPERES


26Z5W
FULL-WAVE RECTIFIER
— — — Boundary Line for Choke of 10 Henries
Dashed Curves to Left of Boundary Line Require an Increase in Choke Inductance
— — — Current and Voltage Boundary the Same as Rating Chart
E Input = 450 Volts RMS Per Plate
400
350
300
250
200
150
380 V.
325
DC OUTPUT VOLTAGE AT INPUT TO FILTER
0
100
200
300
400
0
25
50
75
100
125
DC LOAD IN MILLIAMPERES

26Z5W
PREMIUM TUBE