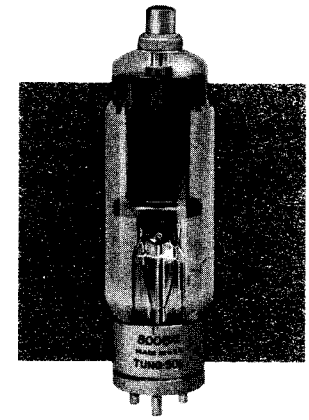
TUNG-SOL

PRODUCT BULLETIN

INDUSTRIAL ELECTRON TUBES TYPE 8008XE

MARCH, 1963

HALF-WAVE GAS RECTIFIER



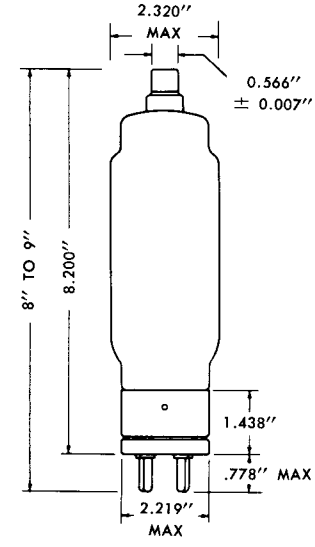
DESCRIPTION The 8008XE is a xenon filled half wave rectifier for use in high voltage circuits. The tube is designed to operate over a wide temperature range without the necessity of heating or cooling devices. Its hard glass envelope and well supported mount make it particularly suited for military and industrial use. As contrasted to the mercury-vapor type 8008, the 8008XE may be mounted in any position and is not subject to mercury splash problems. Its efficient oxide coated filament is fast heating. As consistent with filamentary gas and vapor rectifier tube practice, quadrature excitation of the filament is recommended for obtaining the longest tube life. In quadrature operation, the filament is phased to be at a minimum when the peak anode current flows. However the tube carries full ratings for in phase operation of the filament.

ELECTRICAL DATA

Filament Voltage	5.0±5%	Volts
Filament Current — EF=5.0 Volts	7.25	Amperes
Cathode Heating Time — Minimum	30	Seconds
Critical Anode Voltage	50	Volts
Peak Anode Voltage Drop	16	Volts
Average Anode Voltage Drop	12	Volts

MECHANICAL DATA

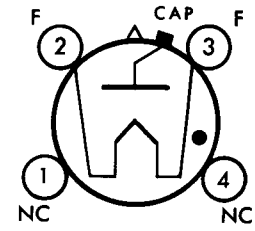
Type of Cooling	Convection
Mounting Position	Any
Average Net Weight	7½ Ounces
Bulb	T18 Nonex
Base	Super Jumbo, 4 pin with Bayonet, JEDEC A4-18
Cap	Medium, JEDEC C1-5
Dimensions	See Outline Drawing



OUTLINE DRAWING

RATINGS, ABSOLUTE VALUES

	Minimum	Maximum	
Peak Inverse Anode Voltage	—	10,000	Volts
Cathode Current			
Peak	—	5	Amperes
Average	—	1.25	Amperes
Surge — Maximum Duration 0.1 Second	—	50	Amperes
Averaging Time	—	15	Seconds
Supply Frequency	—	150	Cycles-per-second
Ambient Temperature	−55	+70	Degrees Centigrade



JEDEC 2P BASING DIAGRAM BOTTOM VIEW

MAXIMUM RATING CHART*

FIG.	CIRCUIT	TRANSFORMER	FILAMENT OPERATION	NO. of TUBES	A-C SEC VOLTAGE E rms VOLTS	D-C OUTPUT—APPROX		RIPPLE	
						Edc VOLTS	Idc AMPS	VOLTS RMS	FREQ
1	Half-wave 1-phase	1-phase	In-phase	1	7,000	3,200	1.25	3,500	f
2	Full-wave 1-phase	1-phase C-T	In-phase	2	3,500	3,200	2.50	1,500	2f
3	Bridge circuit 1-phase	1-phase	In-phase	4	7,000	6,400	2.50	3,000	2f
4	Half-wave 3-phase	Delta-Wye	—	3	4,000	4,800	3.75	860	3f
5	Full-wave 3-phase	Delta-Wye	Quadrature	6	4,000	9,500	3.75	400	6f
6	Full-wave 3-phase	Delta-Delta	Quadrature	6	7,000	9,500	3.75	400	6f
7	Half-wave 6-phase (3-phase supply)	Delta-Star	Quadrature	6	3,500	4,800	5.00	200	6f

For figure references see STANDARD RECTIFIER CIRCUITS AND RATINGS sheet. Values are for a maximum 10 kilowatt peak inverse voltage and 1.25 ampere average current per tube.

*Values for Figure 1 assume pure resistive load. Values for all other Figures assume infinite inductance choke input filter.