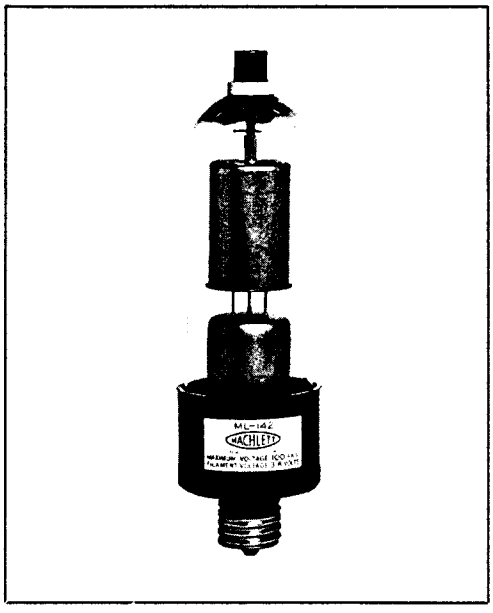


ISSUED 6-65

ML-142

High-Voltage Rectifier

100 PKV

MACHLETT

ELECTRON TUBE SPECIALIST

DESCRIPTION

The ML-142 is a high-vacuum rectifier tube having a maximum inverse voltage rating of 100 PKV using oil insulation or 50 PKV using air insulation and a maximum peak anode current rating of 300 MA. It is especially suitable for service of moderate power requirements and affords the combination of compactness of equipment with low tube cost.

This tube incorporates those special features of construction which characterize Machlett high-vacuum rectifiers for high-voltage applications. These features insure ruggedness, long life, low internal voltage drop and moderate average-load-current capacity. The cathode is a low-wattage, thoriated-tungsten, catenary-type filament, allowing close anode-to-cathode spacing without distortion of the filament by electrostatic forces. The cylindrical molybdenum anode provides a high rate of heat dissipation, with adequate safety factor against accidental overload.

GENERAL CHARACTERISTICS

Electrical

Filament Voltage	3.8	Volts*
Filament Current at 3.8 Volts, approximate	6.6	Amps
Filament Heating Time, minimum (Before applying anode voltage)	2	Secs
Tube Voltage Drop, maximum (I_b—0.30 Ampere)	360	Volts

*Applied filament voltage must be held within ± 5% of rated voltage. For maximum life, filament voltage should be maintained as close as possible to rated voltage under all conditions of operation.

Mechanical

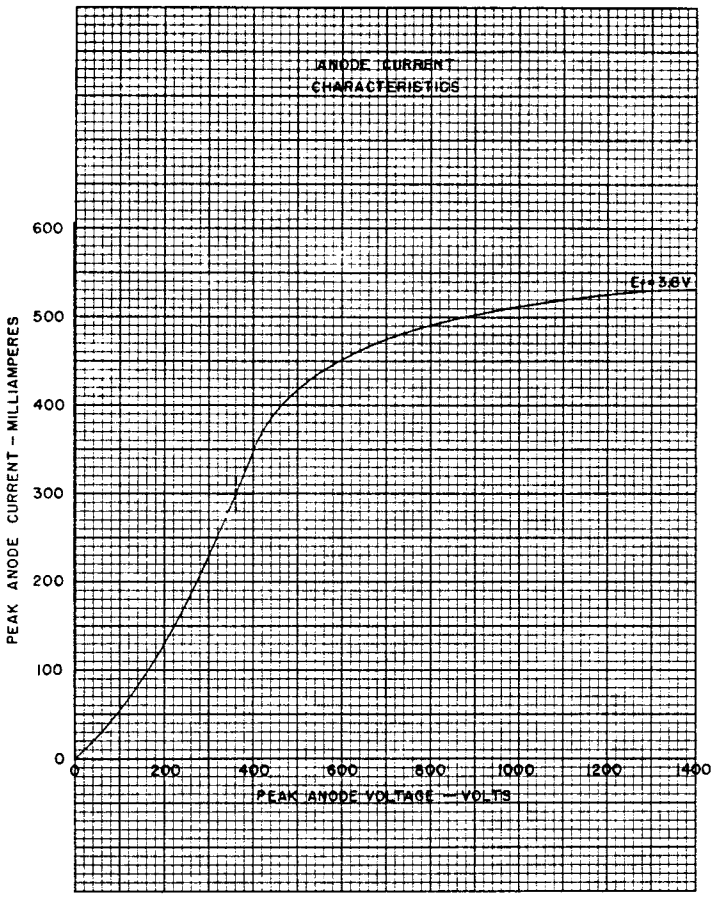
Mounting Position	Optional
Type of Cooling	Radiation
Insulating Medium	Oil or Air
Net Weight	7 Ounces

MAXIMUM RATINGS

Peak Inverse Anode Voltage			
Oil Insulation		100,000	Volts
Air Insulation		50,000	Volts
Peak Anode Current		0.300	Amp
Anode Dissipation		25	Watts
Load Current (Average D-C)			
Circuit Application	Unfiltered†	Filtered‡	
Single-phase, two-tube, half-wave	.075	.....	Amp
Single-phase, four-tube, full-wave	.150	.200	Amp
Three-phase, double-Y parallel	.450	.450	Amp
Three-phase, full-wave	.225	.225	Amp

†Unfiltered Load Current Ratings are based on sine-wave input and resistance load without inductive or capacitive effects.
‡Filtered Load Current Ratings are based on sine-wave voltage input and inductive choke input filter.

WARNING: Operation of this tube may produce x-rays. Adequate rayproof shielding must therefore be provided in the equipment.



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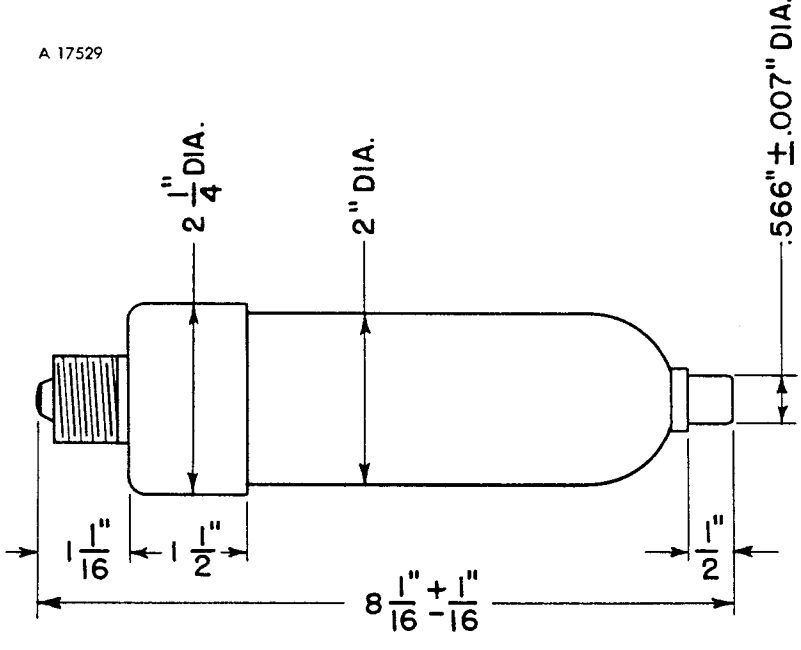

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