



Electron Devices

M592 Electron Gun

M592-52: M-Type Cathode

M592-53: F-Type Cathode

Mechanical Specifications

Cathode Diameter0.250 inch
Half Angle 34°
Beam Minimum Diameter0.026 inch nominal
at 0.4" from cathode center

Cathode Specifications

Cathode TypeDispenser
CoatingM-type coating or F-type coating
Mix3:1:1 (74.4% BaO; 9.1% CaO; 16.5% Al_2O_3)
Peak Emission Density10 A/cm² max.



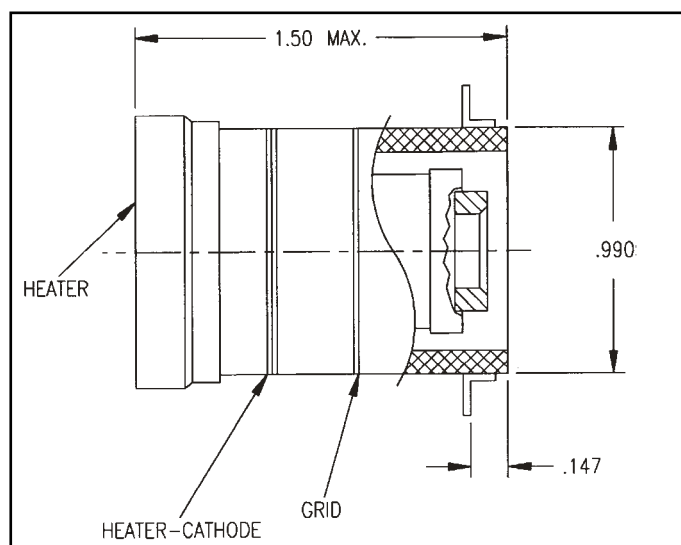
Intercepting Gridded Pierce Gun

Description	Nominal Value*	Range
Cathode Voltage	12 kV	9 to 15 kV
Grid Cutoff	-60 V	-55 V to -65 V @ 12 kV typical
Grid Drive	+60 V for 1.2 A Ik	50 V to 70 V typical
Grid Current	12% Ik	10% to 15% Ik
Grid Power Dissipation	1.0 W max	---
Heater Voltage	6.3 V max.	---
Heater Current	2.0 A max.	---
Perveance	0.9 micropervs	0.01 to 1.4 micropervs
Pulse Width	100 μ s max	---
Duty Cycle	0.04 max.	---
Beam Current	1.4 A	---

$\frac{V_a}{V_k}$ is constant with constant perveance.

*Performance parameters are based on a perveance gap of 0.175 inch

M592 Outline Drawing



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