

To complement the extensive line of dispenser and pure metal cathodes available from HeatWave Labs, several field emitter cathodes are offered. Advances in Nanotechnology have resulted in the ability to provide field emitter arrays at reasonable cost and performance. The products below are available to allow users to easily demonstrate emission from a field emitter array. Delivery is typically 2-4 weeks, ARO.

### Field Emission Cold Triode Cathode ATC-CC Series

**Application:** Field emission electron sources, electron guns

**Description:** Voltage applied on the built-in gate extracts free electrons from the cathode to provide an electron beam.

**Characteristics:** Cylindrical body and circular emission area

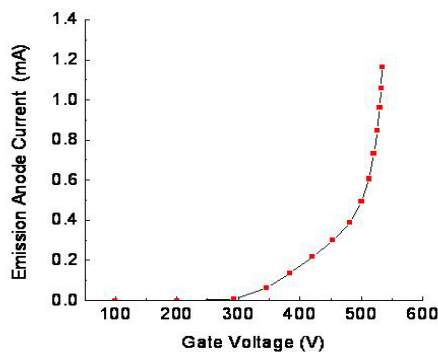
The physical dimensions: ~8mm (0.5 inch) in diameter, ~11mm (0.5 inch) in height (*Note: Actual dimensions can be customized.*)

Field emission film active area: ~1-2mm

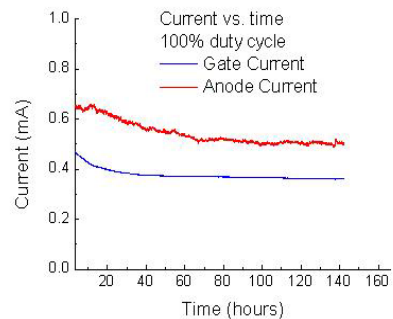
Field emission current range: up to 5 mA in continuous DC mode (Higher current can be achieved in pulse mode)

Field emission current transmission rate range: up to 80%

#### Sample Cathode Field Emission I-V Characteristics



#### Sample Cathode Field Emission I vs. Time Characteristics

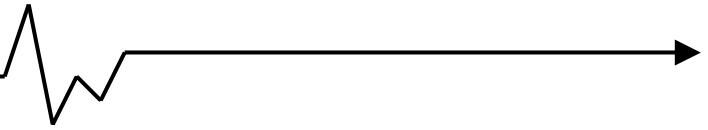


Part Number 102811



#### Uniform Field Emission Image





## Field Emission Cold Triode Cathode ATC-SR Series

**Application:** Field emission electron sources, electron guns

**Description:** Voltage applied on the built-in gate extracts free electrons from the cathode to provide an electron beam.

**Characteristics:** Cubic cathode body and rectangular emission area

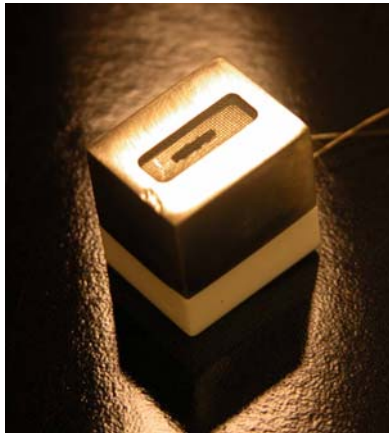
The physical dimensions: ~12mm (W) × 15mm(L) × 15mm(H) (*Note: Actual dimensions can be customized.*)

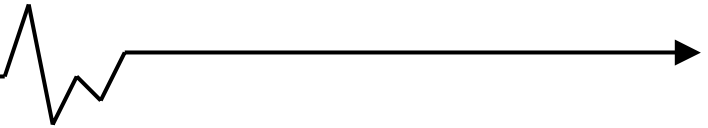
Field emission film active area: ~ up to 3mm × 10mm

Field emission current transmission rate range: up to 80%

Delivery: 2-4 weeks

**Part Number 102812**





## Field Emission Cold Triode Cathode ATC-CR Series

**Application:** Field emission electron sources, electron guns

**Description:** Voltage applied on the built-in gate extracts free electrons from the cathode to provide an electron beam.

**Characteristics:** Cylindrical cathode body and rectangular emission area

The physical dimensions: ~20 mm in diameter (*Note: Actual dimensions can be customized.*)

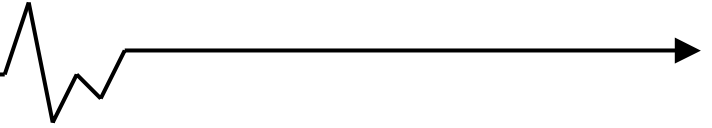
Field emission film active area: ~ up to 5mm × 10mm square

Field emission current transmission rate range: up to 80%

Delivery: 2-4 weeks

**Part Number 102813**





## Field Emission Cold Triode Cathode HX Series

### Characteristics:

TO-5 header based triode cathodes

The physical dimensions: ~9 mm in diameter

Field emission film active area: round up to 1mm in diameter

Emission current: 100 micro A

Field emission current transmission rate range: up to 60%

Delivery: 1 week

**Part Number 102815**

