

ELECTRONIC TUBE REFERENCE

5870TF

Nixie electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
NIXIE

Ultra-long-life cold-cathode 5870-family numeral indicator displaying digits 0–9 and two decimal points for direct electronic readout.

GENERAL CHARACTERISTICS

BASE DESIGNATION	–	BASE PINS	–
NOMINAL HEATER	– / –	PARALLEL HEATER	– / –
HEATING	Indirect; cold cathode	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Nixie	
MAXIMUM PLATE VOLTAGE	170 V
MAXIMUM CATHODE CURRENT	12 mA
Cold-cathode display section; five 5870 variants have identical electrical characteristics.	

5870TF is an ultra-long-life cold-cathode Nixie numeral indicator for DC or pulsed operation. It displays digits 0–9 and two decimal points. The 5870 family shares identical electrical characteristics, including a 170 V minimum DC anode supply, up to 12 mA peak digit current, 60–120 V cathode pre-bias, and approximately 280 cd/m² luminance under typical conditions.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

196X Nixie ITT

Published test conditions and operating points. Values on this page are preserved as reported by this source.

196X NIXIE ITT

Section 1 · Nixie

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Anode Supply Voltage Minimum	170 V	DC
Digit Peak Cathode Current Maximum	12 mA	Pulsed operation
Decimal Point Peak Cathode Current Maximum	0.9 mA	Pulsed operation
Digit Average Cathode Current Minimum	2.5 mA	Published datasheet value
Digit Average Cathode Current Maximum	4 mA	Published datasheet value
Decimal Point Average Cathode Current Minimum	0.1 mA	Published datasheet value
Decimal Point Average Cathode Current Maximum	0.3 mA	Published datasheet value
Cathode Pre-bias Voltage Minimum	60 V	Off cathodes
Cathode Pre-bias Voltage Maximum	120 V	Off cathodes
Operating Temperature Minimum	-20 degC	Published datasheet value
Operating Temperature Maximum	70 degC	Published datasheet value
Storage Temperature Minimum	-55 degC	Published datasheet value
Storage Temperature Maximum	80 degC	Published datasheet value
Maximum Altitude	21400 m	Published datasheet value
Typical Anode Supply Voltage	170 V	Published datasheet value
Typical Anode Current Limiting Resistor	7.5 kOhm	At 170 V supply

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical Digit Cathode Current	3 mA	Decimal point off
Typical Decimal Point Current	0.2 mA	Published datasheet value
Typical Decimal Point Cathode Resistor	150 k0hm	At 170 V supply
Typical Cathode Pre-bias Voltage	67 V	Published datasheet value

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maintaining Voltage Minimum	136 V	Cathode current 2.5 mA, decimal point on
Maintaining Voltage Maximum	167 V	Cathode current 2.5 mA, decimal point on
Maintaining Voltage Nominal	145 V	Cathode current 3.0 mA, decimal point on
Approximate Luminance	280 cd/m2	Typical operation