ELECTRONIC TUBE REFERENCE

5870ST

Nixie electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
NIXIE

Ultra-long-life 5870-family Nixie indicator for DC or pulsed numerical display, providing digits 0–9 and two decimal points.

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

SECTION1 Nixie

MAXIMUM PLATE VOLTAGE	170 V
MAXIMUM CATHODE CURRENT	12 mA

Cold-cathode display section; five 5870 variants have identical electrical characteristics.

5870ST 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

196X Nixie ITT

SOURCE PDF

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 kOhm**	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