



## ELECTRONIC TUBE REFERENCE

# Z520M

Nixie electronic tube

CONSOLIDATED TECHNICAL DATA

**1 SECTION**

CONSTRUCTION

**NIXIE**

Very-long-life cold-cathode decade numerical indicator designed for extended-service direct electronic readout.

## GENERAL CHARACTERISTICS

|                     |                        |                      |               |
|---------------------|------------------------|----------------------|---------------|
| BASE DESIGNATION    | 13-17 TGL 68-87        | BASE PINS            | —             |
| NOMINAL HEATER      | — / —                  | PARALLEL HEATER      | — / —         |
| HEATING             | Indirect; cold cathode | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes      | SECTION CONSTRUCTION | Similar       |

## SECTION RATINGS

|                                                                  |        |
|------------------------------------------------------------------|--------|
| <b>SECTION 1</b> Nixie                                           |        |
| MAXIMUM PLATE VOLTAGE                                            | 170 V  |
| MAXIMUM CATHODE CURRENT                                          | 2.5 mA |
| <i>Cold-cathode gas-filled decimal numerical indicator tube.</i> |        |

Z520M is a cold-cathode very-long-life decade numerical indicator, classified as Nixie for this batch. The supplied datasheet was reviewed for operating conditions, ratings, and display/counting characteristics.



## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 1963 Philips Electron Tubes Handbook V2

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

## 1963 PHILIPS ELECTRON TUBES HANDBOOK V2

## Section 1 · Nixie

| OTHER                                          |                      |                  |
|------------------------------------------------|----------------------|------------------|
| PARAMETER                                      | PUBLISHED VALUE      | CONDITION / NOTE |
| DC supply voltage operating points             | 170; 250; 300; 350 V | StaticOperation  |
| Maximum voltage between anode and off cathodes | —120 V               | —                |
| Maximum peak cathode current                   | —15 mA               | —                |
| Display digits                                 | 10 count             | —                |



## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 196X Nixie Random Datasheets

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

## 196X NIXIE RANDOM DATASHEETS

## Section 1 · Nixie

| OTHER                          |                 |                           |
|--------------------------------|-----------------|---------------------------|
| PARAMETER                      | PUBLISHED VALUE | CONDITION / NOTE          |
| Supply Voltage                 | 200 V           | Published datasheet value |
| Maximum/Normal Cathode Current | 6.5 mA          | Published datasheet value |

| CHARACTERISTIC            |                 |                           |
|---------------------------|-----------------|---------------------------|
| PARAMETER                 | PUBLISHED VALUE | CONDITION / NOTE          |
| Ignition/Starting Voltage | 170 V           | Published datasheet value |

| PARAMETER                     | PUBLISHED VALUE | CONDITION / NOTE          |
|-------------------------------|-----------------|---------------------------|
| Minimum Cathode/Anode Current | 3.5 mA          | Published datasheet value |



SOURCE DATA APPENDIX

## SOURCE OPERATING CONDITIONS

SOURCE PDF

# 1971 Nixie RFT

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

## 1971 NIXIE RFT

### Section 1 · Nixie

| CHARACTERISTIC           |                 |                       |
|--------------------------|-----------------|-----------------------|
| PARAMETER                | PUBLISHED VALUE | CONDITION / NOTE      |
| Anode Ignition Voltage   | 145 V           | Comparable type Z560M |
| Anode Burning Voltage    | 135 V           | Comparable type Z560M |
| Anode Extinction Voltage | 120 V           | Comparable type Z560M |

| OTHER                       |                 |                       |
|-----------------------------|-----------------|-----------------------|
| PARAMETER                   | PUBLISHED VALUE | CONDITION / NOTE      |
| Minimum Operating Voltage   | 170 V           | Comparable type Z560M |
| Minimum Cathode Current     | 1 mA            | Comparable type Z560M |
| Maximum Cathode Current     | 2.5 mA          | Comparable type Z560M |
| Peak Cathode Current        | 10 mA           | Comparable type Z560M |
| Minimum Ambient Temperature | -50 degC        | Comparable type Z560M |
| Maximum Ambient Temperature | 70 degC         | Comparable type Z560M |
| Symbol Height               | 15.5 mm         | Comparable type Z560M |
| Maximum Viewing Distance    | 10 m            | Comparable type Z560M |
| Maximum Bulb Height         | 26.5 mm         | Comparable type Z560M |
| Maximum Bulb Diameter       | 30.1 mm         | Comparable type Z560M |