**6887**

**TWIN DIODE**

**7-PIN MINIATURE TYPE**

*For switching applications in electronic computers*

### GENERAL DATA

**Electrical:**

Heater, Pure Tungsten, for Unipotential Cathodes:
- Voltage: 6.3 ac or dc volts
- Current: 0.2 amp

Direct Interelectrode Capacitances (Each unit, approx.):^o
- Plate to cathode: 1.4 μf
- Plate to cathode, internal shield, and heater: 2.2 μf
- Cathode to plate, internal shield, and heater: 3.5 μf
- Heater to cathode: 2.1 μf

**Mechanical:**

Mounting Position: Any
- Maximum Overall Length: 1-5/8”
- Maximum Seated Length: 1-3/8”
- Length, Base Seat to Bulb Top (Excluding tip): 1” ± 3/32”
- Maximum Diameter: 3/4”
- Bulb: TS-1/2

Base: Small-Button Miniature 7-Pin (JETEC No.E7-1)

Basing Designation for BOTTOM VIEW: .6BT

- Pin 1 - Cathode of Unit No.1
- Pin 2 - Plate of Unit No.2
- Pin 3 - Heater
- Pin 4 - Heater
- Pin 5 - Cathode of Unit No.2
- Pin 6 - Internal Shield
- Pin 7 - Plate of Unit No.1

### SWITCHING SERVICE

*Values are for Each Unit*

**Maximum Ratings, Absolute Values:**

- PEAK INVERSE PLATE VOLTAGE: 360 max. volts
- PEAK PLATE CURRENT*: 30 max. ma
- DC PLATE CURRENT: 10 max. ma

PEAK HEATER-CATHODE VOLTAGE:
- Heater negative with respect to cathode: 150 max. volts
- Heater positive with respect to cathode: 150 max. volts

SULB TEMPERATURE (At hottest point on bulb surface): 120 max. °C

### CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

<table>
<thead>
<tr>
<th>Note</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater Current</td>
<td>100</td>
<td>220 ma</td>
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Note 1: With 6.3 volts ac or dc on heater.

^o Without external shield.

* See next page.
TWIN DIODE

Direct Interelectrode Capacitance
(Each unit):
Plate to cathode: ........... 2  -  2 \( \mu \text{F} \)
Plate Current (Each unit) .... 1.3  3  9 \( \text{ma} \)
Heater-Cathode Leakage Current
(Each unit):
Heater negative with respect
to cathode: ........... 1.4  -  20 \( \mu \text{A} \)
Heater positive with respect
to cathode: ........... 1.4  -  20 \( \mu \text{A} \)
Leakage Resistance between plate
and all other electrodes
tied together (Each
unit) ........... 1.5  100  -  \text{megohms}

Note 1: With 6.3 volts ac or dc on heater.
Note 2: Without external shield and with electrodes of unit not under
test connected to ground.
Note 3: With dc plate volts = 1.2. Electrodes of unit not under test con-
   nected to ground.
Note 4: With 150 volts dc between heater and cathode.
Note 5: With plate 300 volts negative with respect to all other elec-
   trodes tied together.

SPECIAL RATINGS & PERFORMANCE DATA

Heater-Cycling Life Performance:
Cycles of Intermittent Operation: .... 2000 min. cycles
Under the following conditions: heater volts = 7.5 cycled
one minute on and four minutes off, heater 180 positive
with respect to cathode, and plate volts = 0.

\* Under the following conditions: rectangular pulse; pulse duration, 10
microseconds; pulse-repetition rate, 1000 pps; duty factor, 0.01 ± 0.1
per cent; rise time, less than 1 microsecond; fall time, less than 2
microseconds; overshoot, less than 5 per cent; and droop, less than 10
per cent.
\* Measured from base seat to bulb-top line as determined by ring gauge of
\( \frac{7}{16} \) ± 0.8.
AVERAGE PLATE CHARACTERISTIC
EACH UNIT

$E_p = 6.3 \text{ VOLTS}$

PLATE MILLIAMPERES

DC PLATE VOLTS

92CM-9187T