T-41-33

DISPLAYS, INC.
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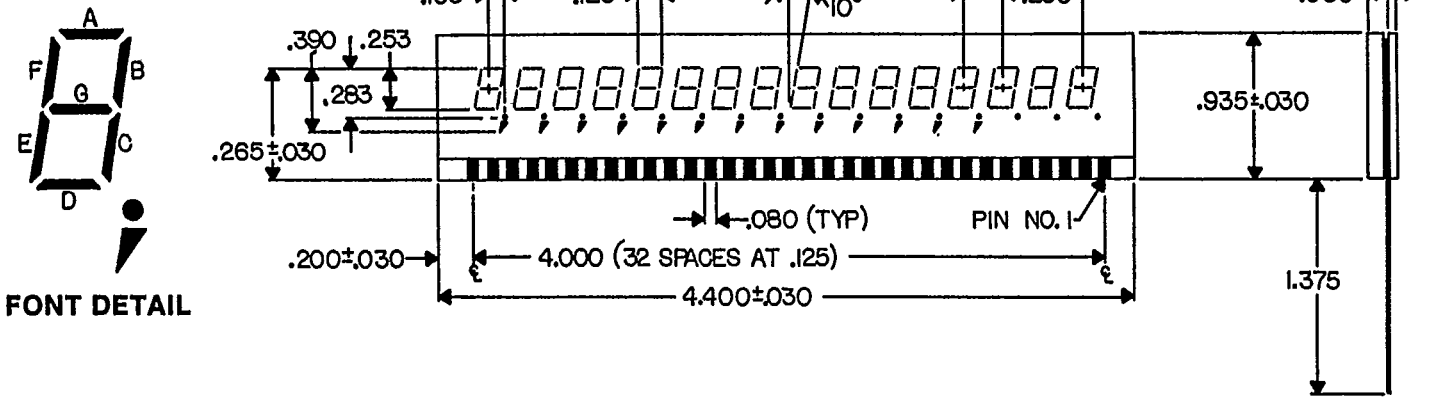
AR16252 - DIGITAL (.25 inch high) DISPLAYS

The AR16252 display is a 16 digit, 7 segment display panel. This display has .25 high characters with decimal points and commas. Its very thin and flat profile, with a limited number of connections, simplifies equipment design and assembly. It is a long life gas discharge, segmented display panel in sealed envelopes.



FEATURES

- All Glass Construction
- Minimal Connections
- 7 Segment Format
- Sunlight Readable
- High Reliability
- Completely Flat Design
- Neon Orange Color
- Excellent Contrast
- Wide Viewing Angle (140°)
- Thin Package (.3 inch)
- Low Power Consumption

This display is designed to be operated in a multiplexed mode where the cathode drive and decoder circuitry is time shared among all digits of the displays. Like cathode segments for all the digits are bussed.

PIN OUT

PIN	FUNCTION	PIN	FUNCTION	PIN	FUNCTION
1	Segment A Cathode	12	Anode No. 6	23	No Connection
2	Anode No. 1	13	No Connection	24	Anode No. 12
3	Segment B Cathode	14	Anode No. 7	25	No Connection
4	Anode No. 2	15	No Connection	26	Anode No. 13
5	Segment C Cathode	16	Anode No. 8	27	Segment D Cathode
6	Anode No. 3	17	No Connection	28	Anode No. 14
7	Decimal Point	18	Anode No. 9	29	Segment E Cathode
8	Anode No. 4	19	No Connection	30	Anode No. 15
9	No Connection	20	Anode No. 10	31	Segment G Cathode
10	Anode No. 5	21	No Connection	32	Anode No. 16
11	Comma	22	Anode No.11	33	Segment F Cathode

AR16252

Electrical Characteristics at 25° C

Parameter	Units
Panel Voltage Drop (Notes 2,6) Segment Current = 4.15 mA	150 Vdc Typ.
Initial Ionization Time (Notes 10, 11) Peak Cathode Voltage = -180V	5 sec max.

Environmental & Optical Characteristics

Parameter	Units
Operating Temperature	0° C to +55° C
Storage Temperature	-40° C to +85° C
Altitude	70,000 ft. max.
Viewing Angle	120°
Brightness	130 ft. l Typ. (Note 4)

Absolute Maximum Rating (See Note 1)

Parameter	Units
Peak Cathode Voltage (Notes 2, 3)	-240 Vdc max.
Cathode Current (Note 5)	4.5 mA max.

Operating Conditions at 25° C (Notes 6, 7, 8)

Parameter	Typical Value
Scan Direction	Left to Right
Segment Cathode Current (Notes 4,5)	0.50 mA
DCKA Cathode Current (Notes 4, 5)	0.14 mA
Peak Cathode Voltage (Notes 2, 3)	-190 Vdc
Cathode Off Voltage (Note 3)	-110 Vdc
Anode Off Voltage (Note 3)	-110 Vdc
Digit Period	2.8 mS
Cathode on Time (Note 12)	2.4 mS
Cathode Blanking Interval	400 uS
Reionization Time (Note 13)	100 uS max.
Cathode Blanking Overlap	200 uS
Display Scan Period	17 mS
Panel Voltage Drop	150V

NOTES:

1. Values beyond which the life of the device may be reduced.
2. Prior to ionization, the voltage between the anode and any cathode may equal this voltage and panel damage will not occur. The peak cathode current must, however, be limited to the absolute maximum rating.
3. Voltage referenced to anode on voltage.
4. Light output is measured using a calibrated Gamma Scientific Model 3030 Photometer mounted normal to an unfiltered panel operating at the typical conditions shown under "Operating Conditions". A 0.006" diameter optical pickup is focused on the center of the segment under test.
5. The peak segment current is the value existing during the digit period.
6. Typical waveforms are shown in Figure 2.
7. Rise and fall times of anode address and cathode select signals shall be 1 us max. measured between 10% and 90% points.
8. Stray capacitance to ground on any anode or cathode drive line shall not exceed 30 pf. Stray capacitance between any drive lines shall not exceed 20 pf.
9. Ionization time is measured with numeral "0" displayed in the rightmost with all other digits blanked.
10. Non-significant zero blanking is permitted but one digit must always be energized.
11. Digit period minus cathode blanking interval is the cathode on time.
12. Reionization time is measured with all segments and digits displayed.
13. Cathode blanking overlap is the interval between turn-off of anode for previous digit and turn-on of cathodes for next digits.

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