Dieter’s

Nixie Tube Data Archive

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If you have more datasheets, articles, books, pictures or other information about Nixie tubes or other display devices please let me know.
Thank you!

Document in this file	Burroughs datasheet for Panaplex BR12400 display tube
Display devices in this document	BR12400, 50220-6

File created by Dieter Waechter
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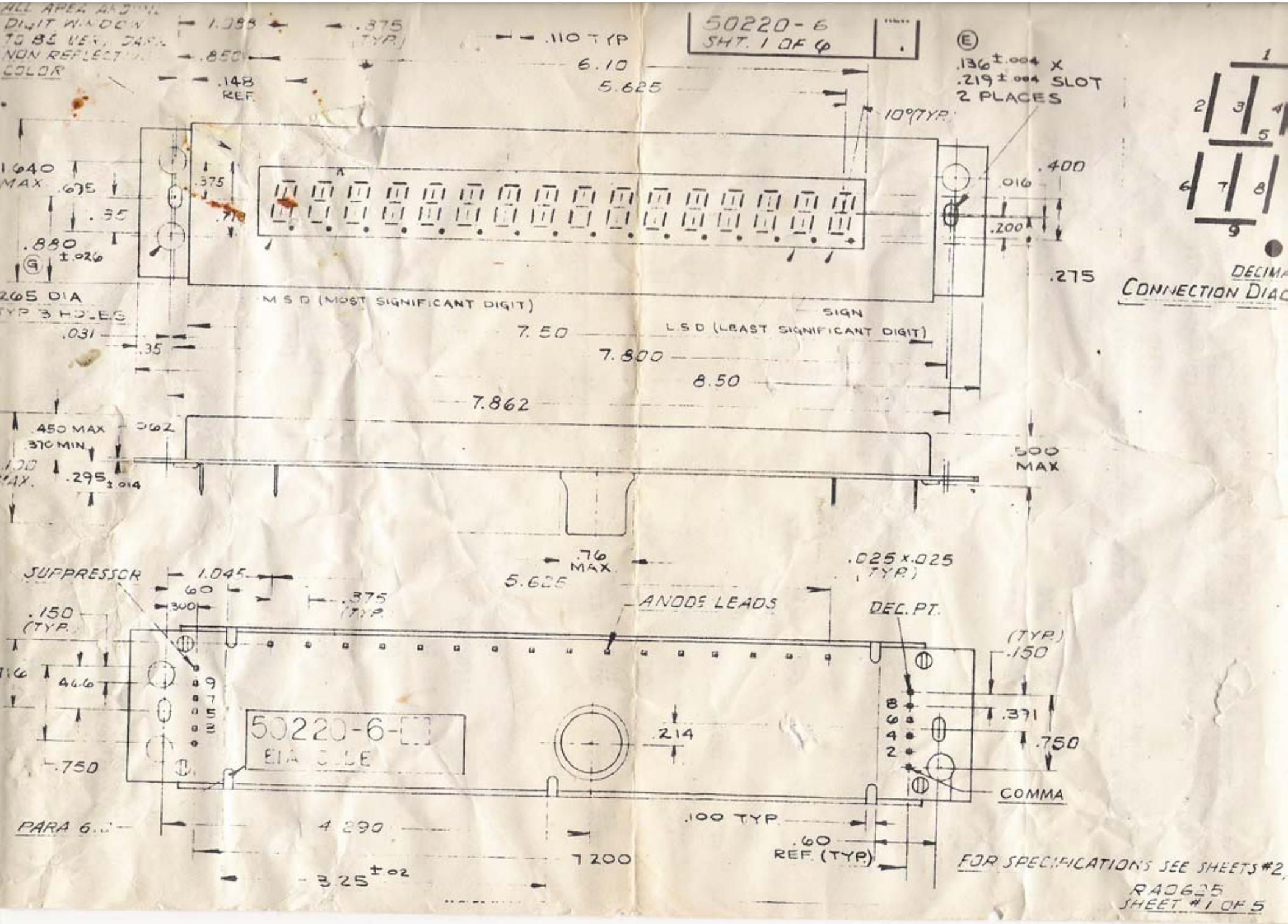
ALL APER. AROUND DIGIT WINDOW TO BE VERT. DARK NON REFLECTIVE COLOR
1.098
.375 (TYP.)
.850
.148 REF.
.110 TYP
6.10
5.625
50220-6 SHT. 1 OF 6
E
.136 ± .004 X .219 ± .004 SLOT 2 PLACES
10° TYP.
.400
.016
.200
.275
1.640 MAX
.675
.375
.35
.880 ± .026
G
.265 DIA TYP 3 HOLES
.031
.35
M S D (MOST SIGNIFICANT DIGIT)
SIGN
L S D (LEAST SIGNIFICANT DIGIT)
7.50
7.800
8.50
7.862
.450 MAX
.370 MIN
.062
.295 ± .014
.500 MAX
.76 MAX
5.625
.025 x .025 (TYP.)
SUPPRESSOR
1.045
.60
.300
.375 (TYP.)
ANODE LEADS
DEC. PT.
.150 (TYP.)
.150 (TYP.)
4.66
9
7
5
3
2
50220-6-[ ]
.214
8
6
4
2
.371
.750
.750
COMMA
PARA 6...
4.290
7.200
.100 TYP
.60 REF. (TYP.)
3.25 ± .02
1
2
3
4
5
6
7
8
9
DECIMA
CONNECTION DIAG
FOR SPECIFICATIONS SEE SHEETS #2,
RAD625
SHEET #1 OF 5

1.0 Description

The 9 bar, 16 digit, segmented indicator panel is a gas-filled, cold cathode, long life top viewing, numeric indicator panel. Up to 16 digits of information with decimal points may be displayed. All like cathode segments are tied common and are brought out of the package as shown on outline drawing (sheet # 1). In addition to the (9) cathode segment connections and the decimal point connection, (16) sixteen anode connections are brought out. A cammon isolating screen lead is also brought out. Sheet 1 shows mechanical outline.

2.0 Ratings (Bias Voltage Waveform - Sheet # 1)

	Parameter	Sym.	Min.	Max.	Units	Notes
2.1	Anode clamp voltage	Ec		-180	Vdc	3
2.2	Anode current (peak) (number 8 displayed)	Ib		21.0	ma	1
2.3	Cathode current (peak) (single segment)	iks		2.9	ma	
2.4	Cathode current (dec. pt.)	Ikd		1.2	ma	2
2.5	Ambient temperature	Ta	0	55	°C	
2.6	Storage temperature (non-operating)		-40	75	°C	
2.7	Altitude			70,000ft.		
2.8	Relative Humidity		10	95	%	17

3.0 Operating Conditions at 25° C (Note 6)

	Sym.	Min.	Typ.	Max.	Units.	Notes
3.1 Supply Voltage	Ebb	-209	-220	-231	VDC	13
3.2 Clamp Voltage	Ec	-160	-170	-180	VDC	
3.3 Prebias Voltage	Epb	-41	-45	-49	VDC	7,10
3.4 Anode off voltage	Eos	-41	-45	-49	VDC	8,10
3.5 Isolating screen current	is	2.1	.2			12
3.6 Individual cathode peak segment current	ik	2.1	2.5	2.9	ma	1
3.7 Decimal current	ikd	0.8	1.0	1.2	ma	4
3.8 Timing cycle	trr	4.2		6.4	msec	
3.9 Digit duration	td	266		400	usec	9
3.10 Anode blaking interval	tAb					see timing cycle
3.11 Cathode Blaking interval	tkb					see timing cycle
3.12 Initial ionization time			1.0	3.0	sec	14, 16
3.13 MSD ionization time			0.1	0.5	sec	15, 16

4.0 Reliability Provisions

4.1 Components to be furnished in accordance with specification shall have a guaranteed degree of reliability as defined by the following parameters and conditions of operation:

A. Failure rate shall not be in excess of 4.0 X 10-6 per hour of operation