

原件
VFD开发

REVISION RECORD

MODEL IOR-20T205

REV.	REVISION RECORD	REVISION DETAILS	ISSUED DATE
1	▶ ORIGINAL --- rev 1		14-Jun-2005

原件
VFD开发



Model	IOR-20T205	Rev.① 14-Jun-2005
Application	OA用	
Color of Illumination #6)	GREEN (G. :x=0.250,y=0.439)	

<http://vfdclock.jimdo.com>

ABSOLUTE MAXIMUM RATINGS #4)

Item	Symbol	Min.	Max.	Unit	Condition
Filament Voltage #2)	Ef	3.10	4.64	Vdc	eb,ec = Typ.
Anode Voltage	eb	—	38.0	Vp-p	Ef=Typ.
Grid Voltage	ec	—	38.0	Vp-p	
Operating Temperature	Topr	-40	+85	°C	—

RECOMMENDED OPERATING CONDITION #5)

Item	Symbol	Min.	Typ.	Max.	Unit
Filament Voltage #2)	Ef	3.48	3.87	4.26	Vdc
Peak Anode Voltage	eb	29.0	32.0	35.0	Vp-p
Peak Grid Voltage	ec	29.0	32.0	35.0	Vp-p
Cut-Off Bias Voltage	Ek	2.0	—	—	Vdc
Duty Factor	Du	—	1/21	—	—
Pulse Width	tp	—	80	—	μs
Operating Temperature	Topr	-20	—	+70	°C
Storage Temperature	Tstg	-55	—	+85	°C

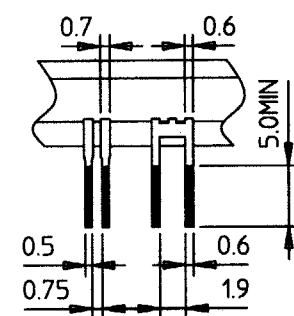
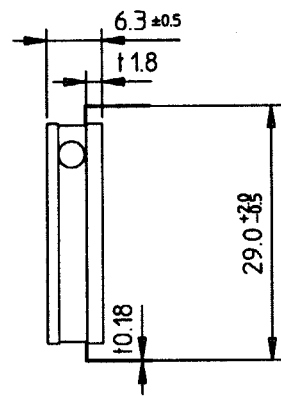
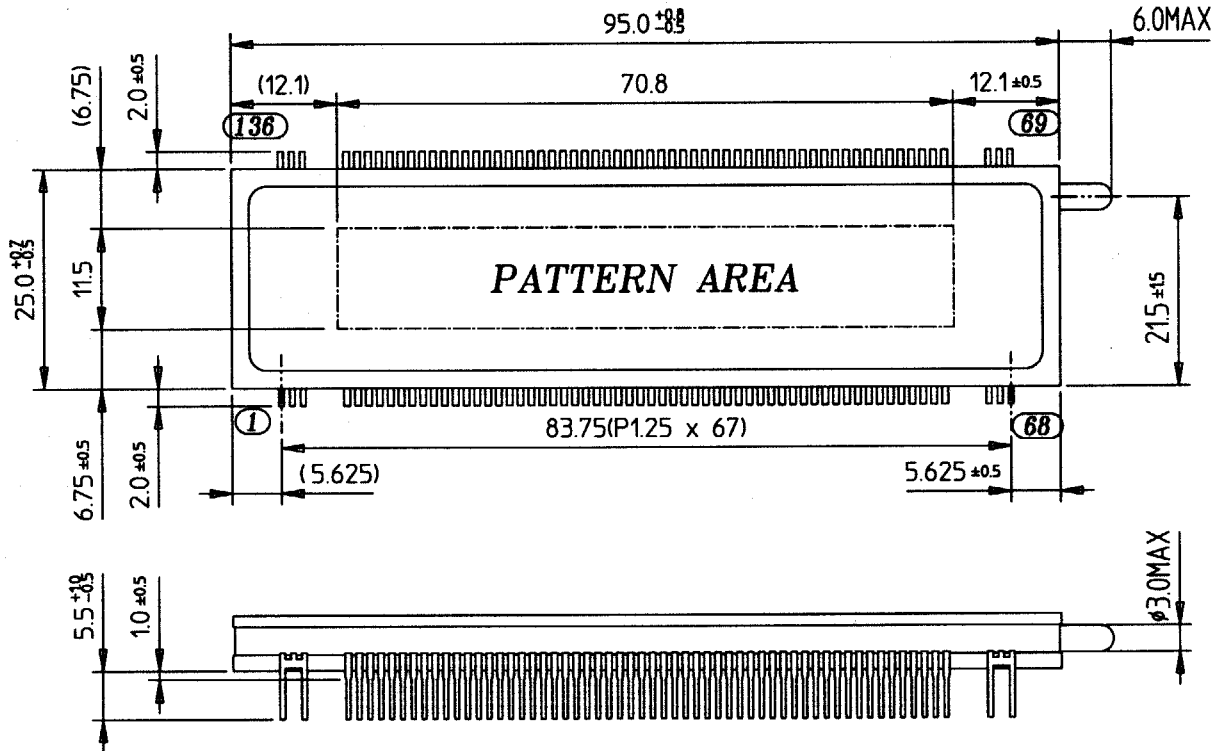
ELECTRICAL CHARACTERISTICS

Item	Test Condition	Symbol	Min.	Typ.	Max.	Unit	
Filament Current	Ef= 3.9 Vdc ,eb=ec=0	If	86	95	105	mAdc	
Anode Current #1)	Ef= 3.87 Vdc eb= 32.0 Vp-p ec= 32.0 Vp-p	ib	1G ~ 20G	—	2.6	5.2	mAp-p
Grid Current #1)	Duty= 1/21 tp= 80 μs	ic	1G, 20G	—	3.8	7.6	mAp-p
			2G ~ 19G	—	3.5	7.0	
Brightness		GREEN	102	204	—	ft-L	
		L(Max.) / L(Min.)	—	—	2		
Brightness Ratio Between Digits	(All Segs are lit)						
Grid Cut-Off Voltage #3)	Ef= 3.87 Vdc, Eb= 32.0 Vdc, Ec=Vary	Ecco	(-2.0)	—	—	Vdc	
Anode Cut-Off Voltage #3)	Ef= 3.87 Vdc, Du= 1/21 ec= 32.0 Vp-p, Eb= Vary	Ebco	(-2.0)	—	—	Vdc	

- #1. Unless otherwise specified, the anode and the grid current should be measured for each grid when all anodes turn on.
- #2. DC driving voltage.
- #3. The cut-off voltage measurement should be grounded at negative(-) side of the filament terminal.
- #4. Absolute Maximum Ratings : The value should not be exceeded in any conditions.
If a user don't keep this condition, then VFD may be permanently damaged.
- #5. Recommended Operating Condition : Quality can be assured within this condition.
Typical rating is the most optimized value on the life time
- #6. All phosphor is Cd-free phosphor.

OUTER DIMENSIONS

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Soldered Area
Pb-free solder

PIN CONNECTION

Upper Pin

PIN NO	136	135	134	133	132	131	130	129	128	127	126	125	124	123	122	121	120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102
PIN CONNECTION	F-	NX	F-	NP	NP	NP	P15	P16	P17	P18	P19	P20	P21	P22	P23	P24	P25	P26	P27	NC	20G	19G	18G	17G	16G	15G	14G	13G	12G	11G	NC	NC	NC	10G	NC

PIN NO	101	100	99	98	97	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
PIN CONNECTION	NC	NC	NC	9G	8G	7G	6G	5G	4G	3G	2G	1G	NC	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1	NP	NP	NP	P+	NX	P+

Lower Pin

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
PIN CONNECTION	F-	NX	F-	NP	NP	NP	P71	P72	P73	P74	P75	P76	P77	P78	P79	P80	P81	P82	P83	P84	P85	P86	P87	P88	P89	P90	P91	P92	P93	P94	P95	P96	P97	P98	P99

PIN NO	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	
PIN CONNECTION	P30	P29	P28	NC	ICP	NC	P41	P42	P43	P44	P45	P46	P47	P48	P49	P50	P51	P52	P53	P54	P55	P56	P57	P58	P59	P60	P61	P62	NP	NP	NP	P+	NX	P+

** Note **

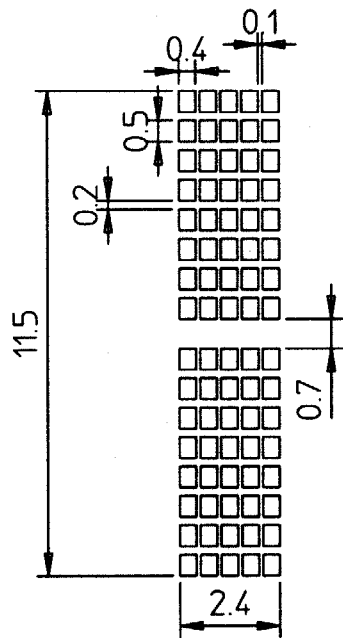
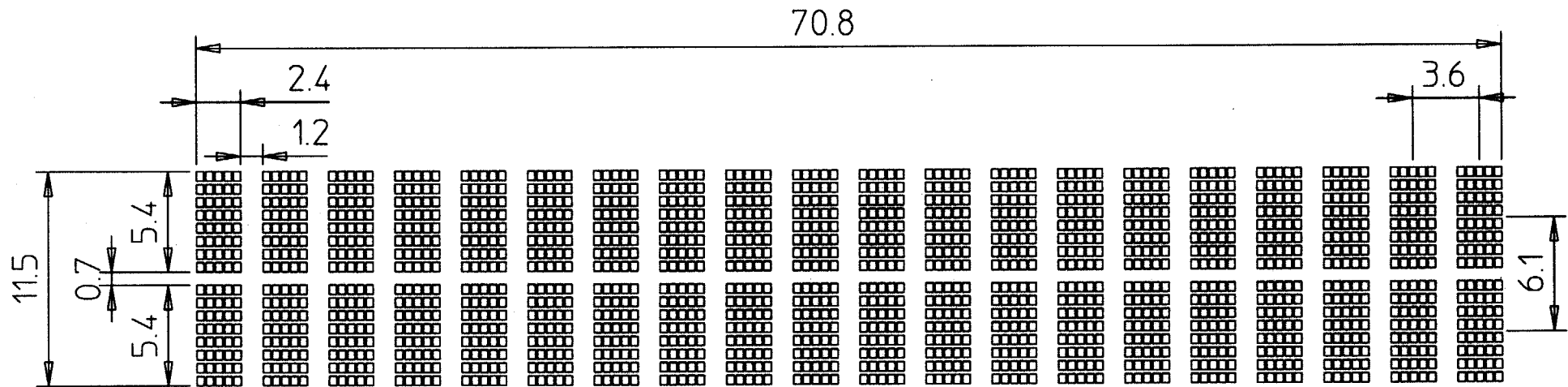
- 1) F+,- : Filament pin
- 2) Pn : Anode pin
- 3) nG : Grid pin
- 4) NP : No pin
- 5) NC : No connection pin
- 6) NX : No extended pin
- 7) ICP : Pins are internally connection, and should be electrically open on the PCB.

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OUTER DIMENSIONS
Rev. ① 14-Jun-2005

PATTERN DETAILS

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SAMSUNG
SHANGHAI SAMSUNG
VACUUM DEVICES



Color of illumination

· Green (G. : $x=0.250, y=0.439$) --- All patterns.

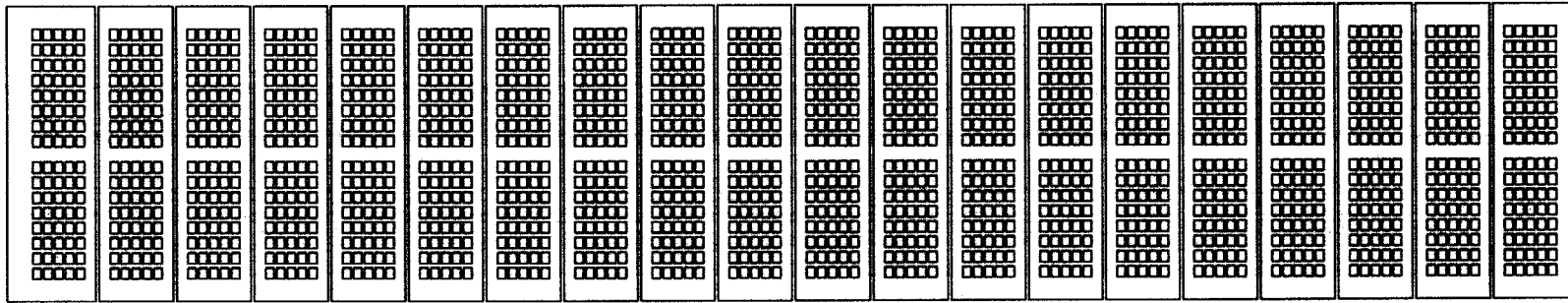
MODEL : IOR-20T205
PATTERN DETAILS
Rev. ① 14-Jun-2005

GRID ASSIGNMENT

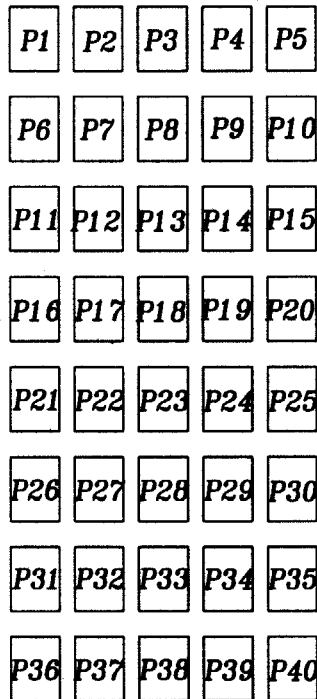
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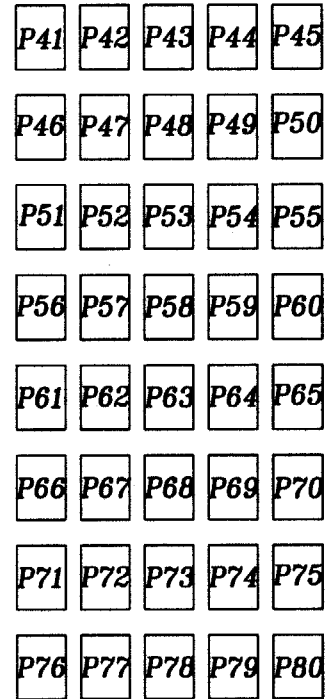
20G 19G 18G 17G 16G 15G 14G 13G 12G 11G 10G 9G 8G 7G 6G 5G 4G 3G 2G 1G



(Upper)



(Lower)



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