

Model	HNM-18LM05T		Rev.①18-Apr-2012
Application	MWO		
Color of Illumination #6)	GREEN (G. :x=0.250,y=0.439) Cd-free RED (Cd-free R. :x=0.66,y=0.33)		

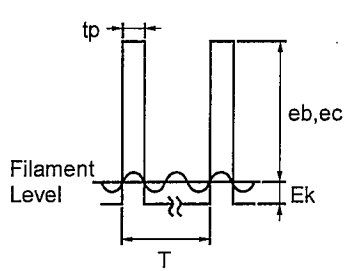
ABSOLUTE MAXIMUM RATINGS #4)

Item	Symbol	Min.	Max.	Unit	Condition
Filament Voltage #2)	Ef	3.44	5.16	Vac	eb,ec = Typ.
Anode Voltage	eb	—	38.0	Vp-p	Ef=Typ.
Grid Voltage	ec	—	38.0	Vp-p	
Operating Temperature	Topr	-40	+85	℃	—

RECOMMENDED OPERATING CONDITION #5)

Item	Symbol	Min.	Typ.	Max.	Unit
Filament Voltage #2)	Ef	3.87	4.30	4.73	Vac
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	6.0	—	9.1	Vdc
Duty Factor	Du	—	1/25	—	—
Pulse Width	tp	—	100	—	μs
Operating Temperature	Topr	-20	—	+70	℃
Storage Temperature	Tstg	-55	—	+85	℃

ELECTRICAL CHARACTERISTICS

Item	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Filament Current	Ef= 4.3 Vac ,eb=ec=0	If	293	325	358	mAac
Anode Current #1)	Ef= 4.3 Vac eb= 32.0 Vp-p ec= 32.0 Vp-p	ib	7G~18G	—	7.0	mAp-p
			6G	—	23.0	
			1G~5G	—	30.0	
Grid Current #1)	Duty= 1/25 tp= 100 μs tb= 0 μs	ic	7G~18G	—	8.0	mAp-p
			1G~6G	—	29.0	
Brightness	 <p>(All Segs are lit)</p>	GREEN	102	204	—	ft-L
		Cd-free RED	20	41	—	
Brightness Ratio Between Digits		L(Max.) / L(Min.)	—	—	2	
Grid Cut-Off Voltage #3)	Ef= 4.3 Vac, Eb= 32.0 Vdc, Ec=Vary	Ecco	(-6.0)	—	—	Vdc
Anode Cut-Off Voltage #3)	Ef= 4.3 Vac, Du= 1/25 ec= 32.0 Vp-p, Eb= Vary	Ebco	(-6.0)	—	—	Vdc

#1. Unless otherwise specified, the anode and the grid current should be measured for each grid when all anodes turn on.

#2. AC 50~60Hz Effective Values.

#3. The cut-off voltage should be measured under the condition of the center-tab ground.

#4. Absolute Maximum Ratings : The value should not be exceeded in any conditions.

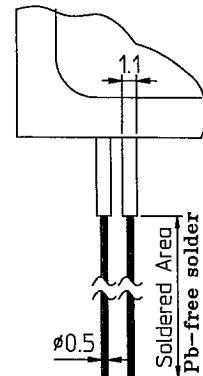
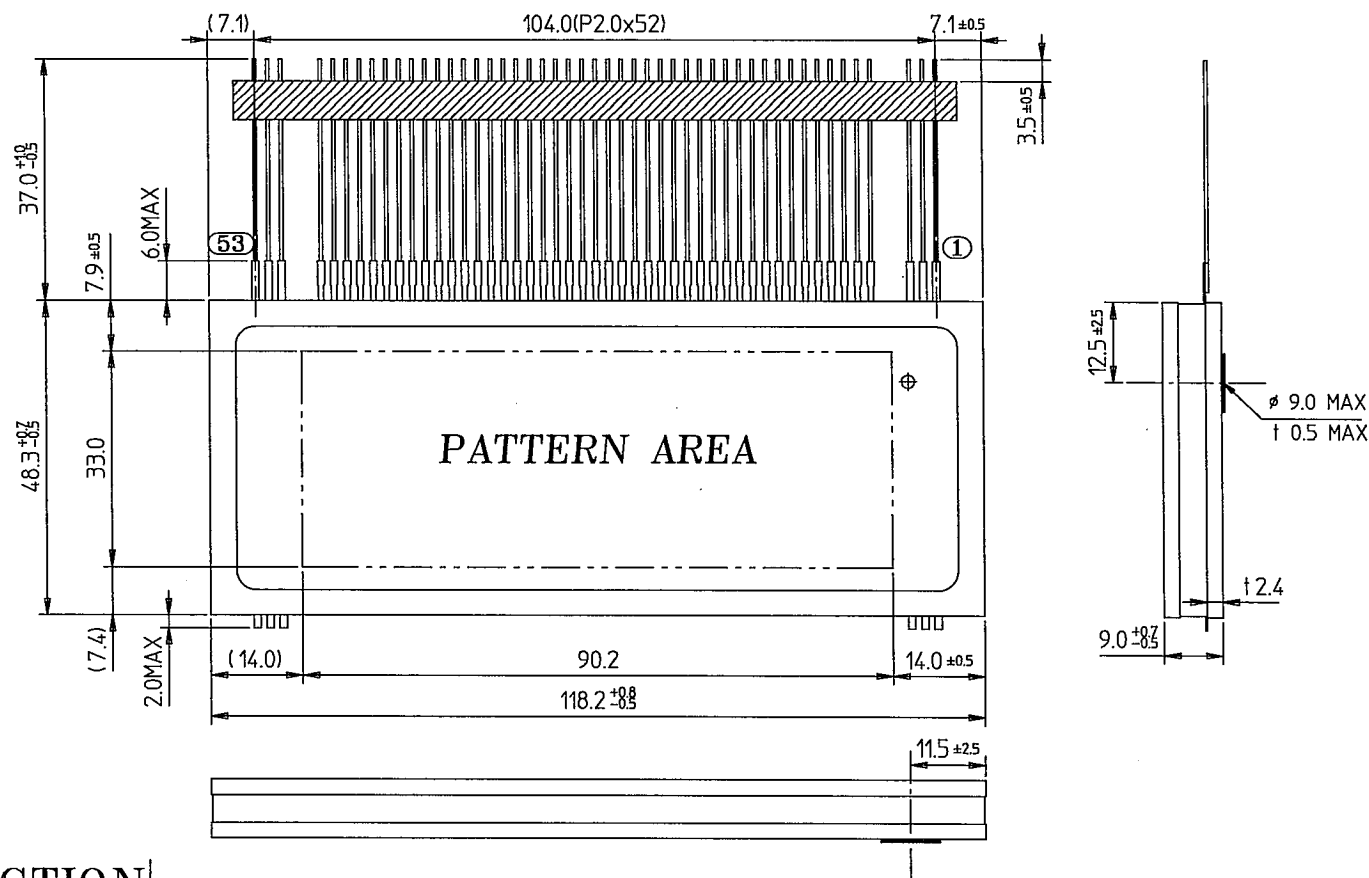
If a user don't keep this condition, then VFD may be permanently damaged.

#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



LEAD DETAIL

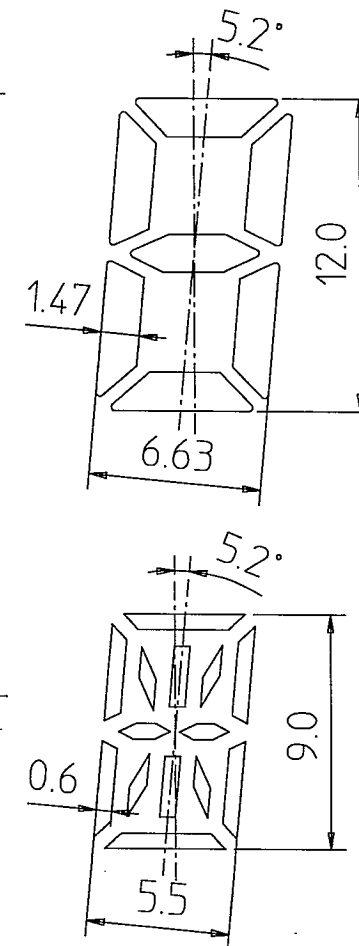
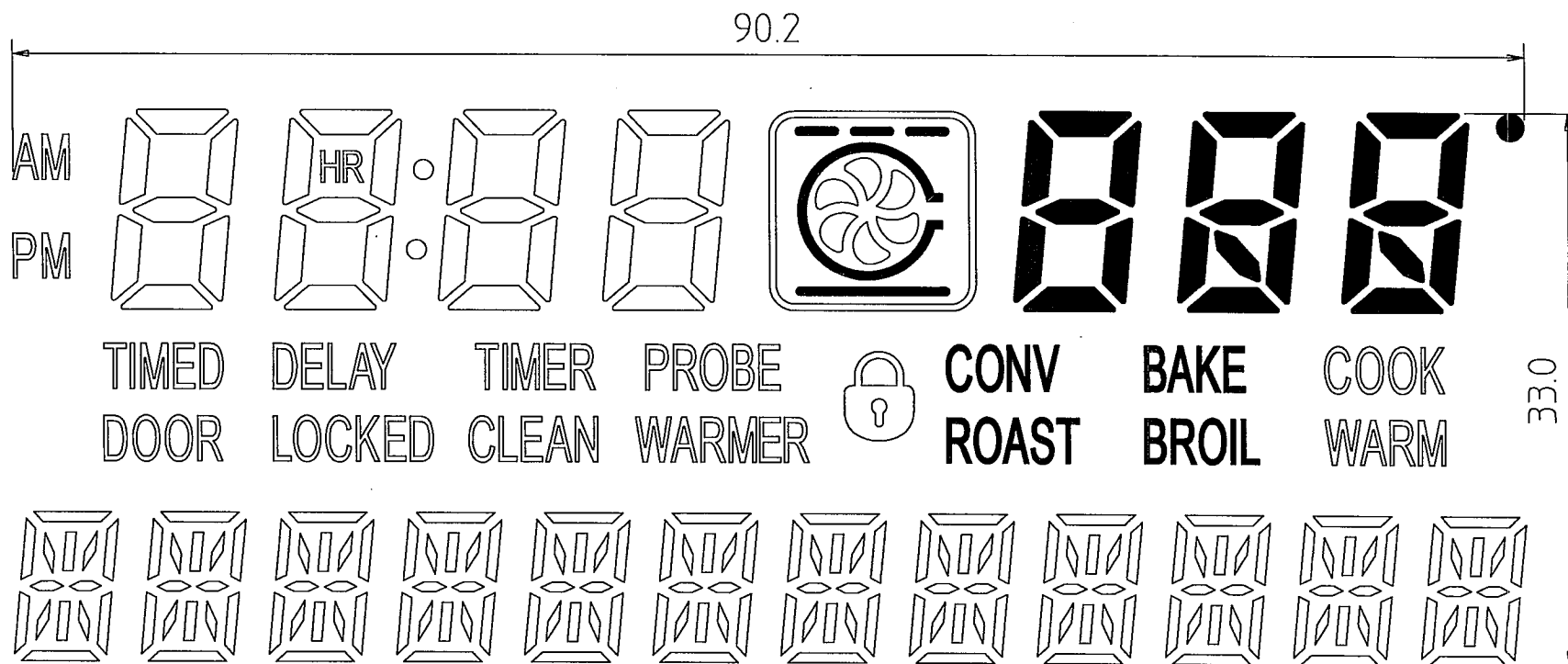
PIN CONNECTION

PIN NO.	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	-	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	F2	F2	F2	NP	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	NC	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G	16G	17G	18G	NP	NP	F1	F1	F1		

- © Notes ©
- 1) Fn : Filament pin
 - 2) nG : Grid pin
 - 3) Pn : Anode pin
 - 4) NC : No Connection pin
 - 5) NP : No pin

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OUTER DIMENSIONS
Rev. ① 18-Apr-2012

PATTERN DETAILS



◎ Color of Illumination ◎

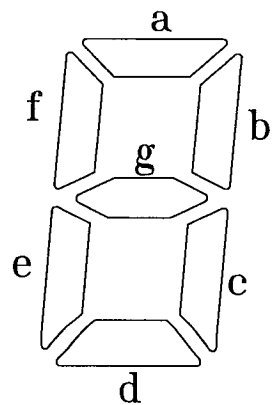
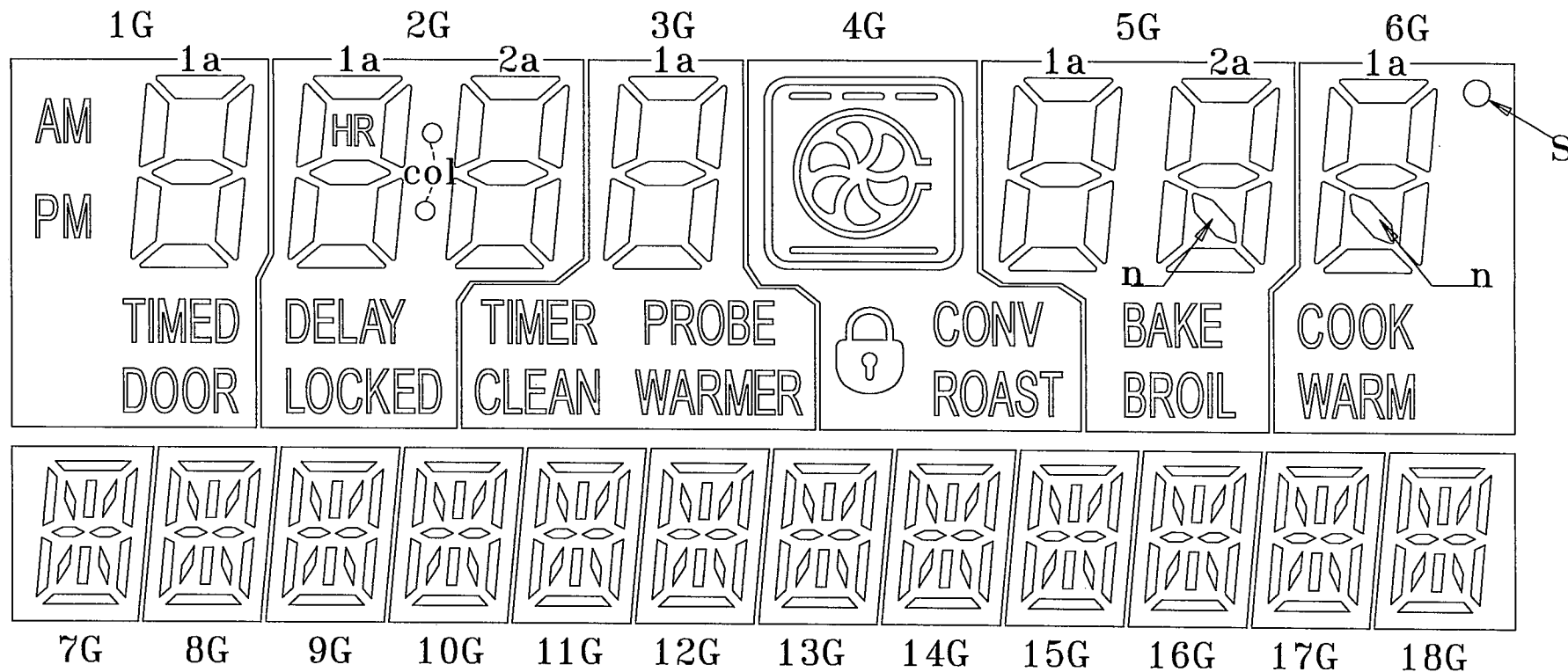
- Cd-free Red (Cd-free R. $x=0.66, y=0.33$) ----- Hatched patterns.
- Green (G. $x=0.250, y=0.439$) ----- Others.

◎ Negative patterns ◎

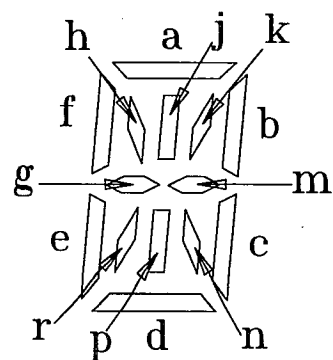


MODEL : HNM-18LM05T
PATTERN DETAILS
Rev. ① 18-Apr-2012

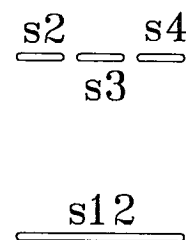
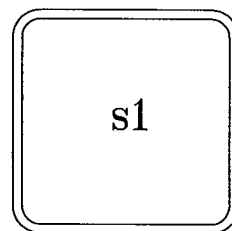
GRID ASSIGNMENT



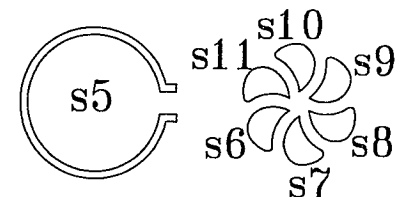
(1G - 3G, 5G, 6G)



(7G - 18G)



(4G)



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GRID ASSIGNMENT
Rev. ① 18-Apr-2012

ANODE CONNECTION

	1G	2G	3G	4G	5G	6G	7G — 18G
P1	DOOR	LOCKED	CLEAN	ROAST	BROIL	WARM	a
P2	TIMED	DELAY	TIMER	CONV	BAKE	COOK	f
P3		HR	WARMER	🔒	n		b
P4		2d	PROBE		2d		j
P5		2c			2c		h
P6		2e		s12	2e		k
P7		2g		s11	2g		g
P8		2b		s10	2b		m
P9	PM	2f		s9	2f		e
P10	AM	2a		s8	2a	S	c
P11		col				n	r
P12	1d	1d	1d	s7	1d	1d	p
P13	1c	1c	1c	s6	1c	1c	n
P14	1e	1e	1e	s5	1e	1e	d
P15	1g	1g	1g	s4	1g	1g	
P16	1b	1b	1b	s3	1b	1b	
P17	1f	1f	1f	s2	1f	1f	
P18	1a	1a	1a	s1	1a	1a	

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ANODE CONNECTION

Rev. ① 18-Apr-2012