

Model	HNS-15SM15T	Rev. ① 28-Aug-2012
Application	STB	
Color of Illumination #6)	GREEN (G. :x=0.250,y=0.439)	

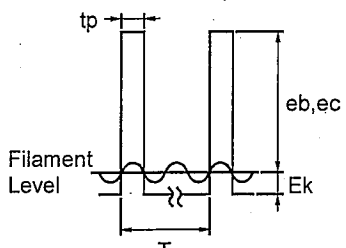
ABSOLUTE MAXIMUM RATINGS #4)

Item	Symbol	Min.	Max.	Unit	Condition
Filament Voltage #2)	Ef	—	5.40	Vac	eb,ec = Typ.
Anode Voltage	eb	—	36.0	Vp-p	Ef=Typ.
Grid Voltage	ec	—	36.0	Vp-p	
Operating Temperature	Topr	-40	+85	°C	—

RECOMMENDED OPERATING CONDITION #5)

Item	Symbol	Min.	Typ.	Max.	Unit
Filament Voltage #2)	Ef	4.05	4.50	4.95	Vac
Peak Anode Voltage	eb	27.0	30.0	33.0	Vp-p
Peak Grid Voltage	ec	27.0	30.0	33.0	Vp-p
Cut-Off Bias Voltage	Ek	5.5	—	8.3	Vdc
Duty Factor	Du	—	1/16	—	—
Pulse Width	tp	—	100	—	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= 4.5 Vac ,eb=ec=0	If	90	100	110	mAac	
Anode Current #1)	Ef= 4.5 Vac eb= 30.0 Vp-p ec= 30.0 Vp-p	ib	2G~14G	—	4.0	8.0	mAp-p
			1G,15G	—	5.0	10.0	
Grid Current #1)	Duty= 1/16 tp= 100 μs tb= 0 μs	ic	2G~14G	—	4.0	8.0	mAp-p
			1G,15G	—	5.0	10.0	
Brightness		GREEN	102	204	—	ft-L	
Brightness Ratio Between Digits	(All Segs are lit)	L(Max.) / L(Min.)	—	—	2		
Grid Cut-Off Voltage #3)	Ef= 4.5 Vac, Eb= 30.0 Vdc, Ec=Vary	Ecco	(-5.5)	—	—	Vdc	
Anode Cut-Off Voltage #3)	Ef= 4.5 Vac, Du= 1/16 ec= 30.0 Vp-p, Eb= Vary	Ebco	(-5.5)	—	—	Vdc	

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

#2. Based on common application of AC power source, switched frequency placed on 50Hz-60Hz would be acceptable.

However, considering nature characteristic of filament, 10KHz or above would be strongly recommended.

#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 condition.

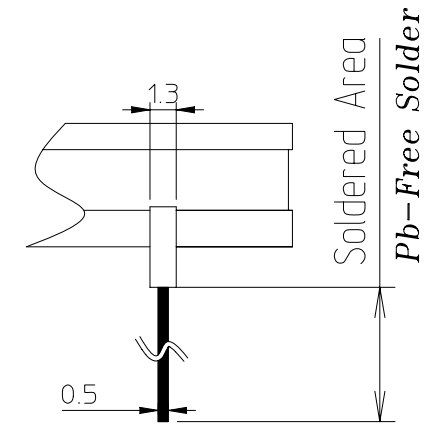
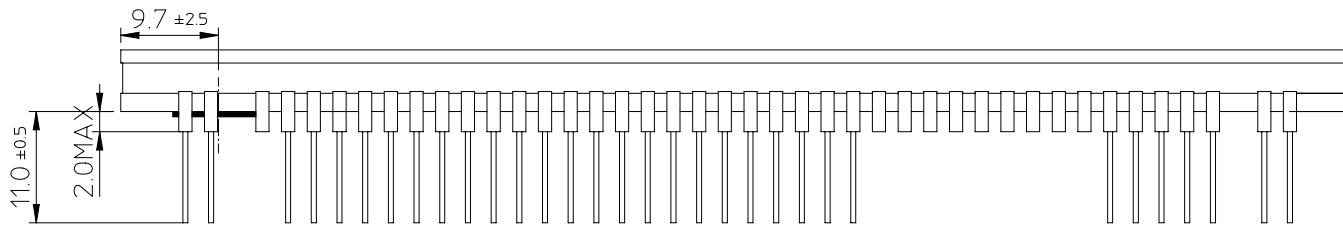
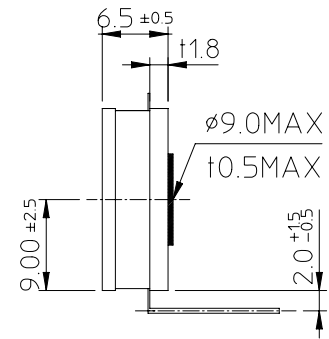
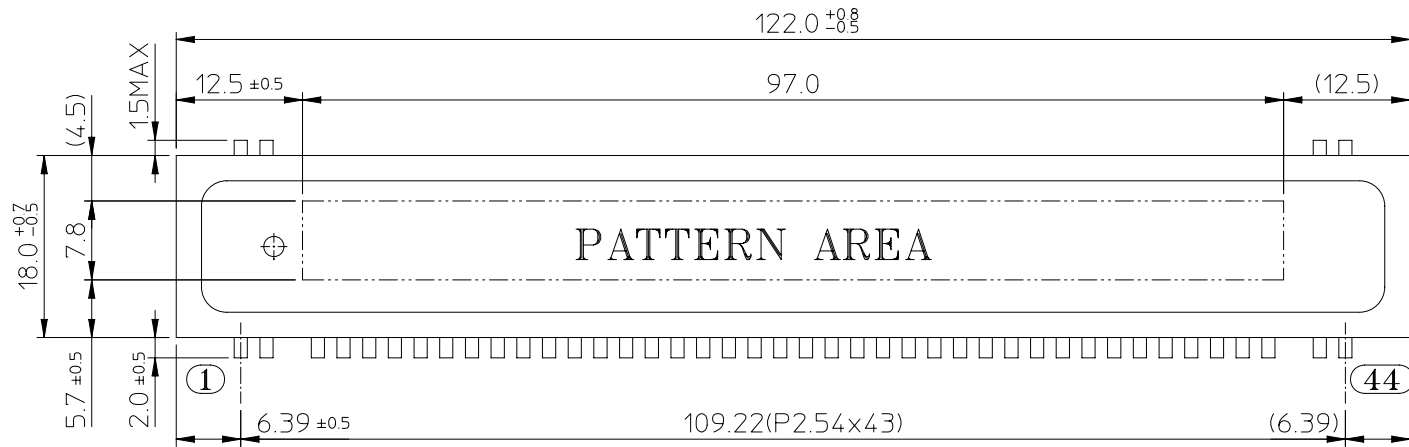
The value is not allowed to be longtime used, or else the VFD may be permanently damaged.

#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



PIN CONNECTION

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	28-36	37	38	39	40	41	42	43	44
CONNECTION	F1	F1	NP	NX	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1	15G	14G	13G	12G	11G	10G	9G	8G	7G	6G	NX	5G	4G	3G	2G	1G	NP	F2	F2

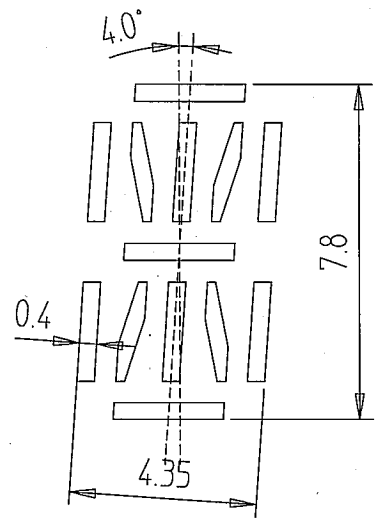
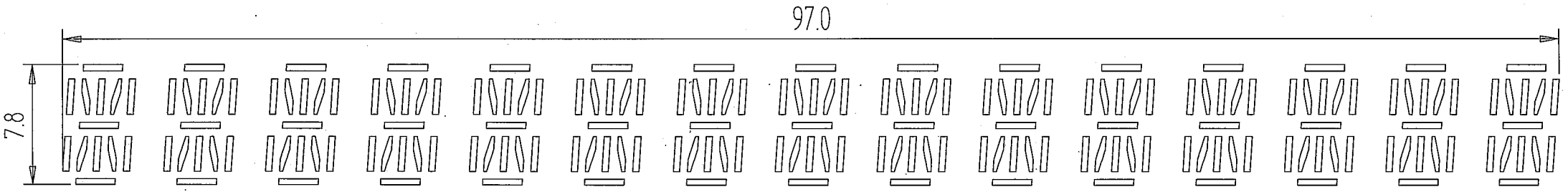
LEAD DETAILS

Notes

- 1) Fn : Filament pin
- 2) nG : Grid pin
- 3) Pn : Anode pin
- 4) NP : No pin
- 5) NX : No Extended Pin

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PATTERN DETAILS

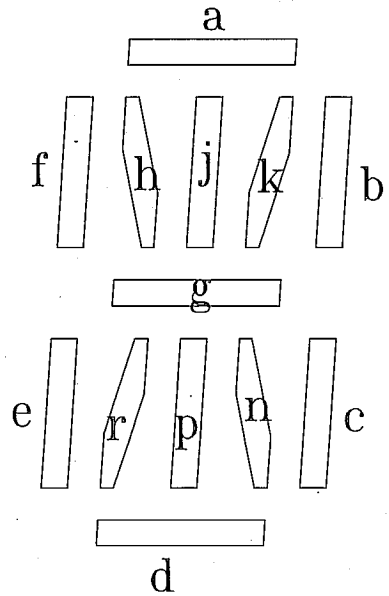
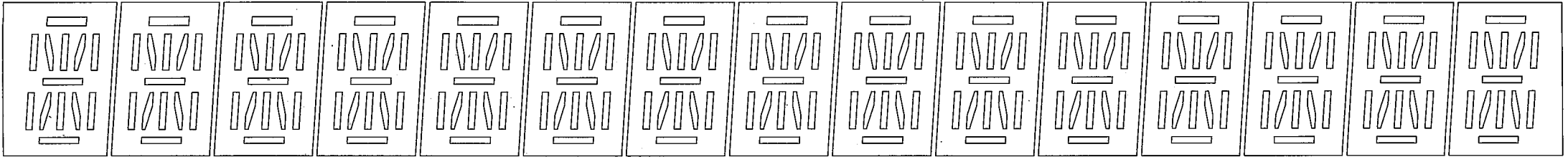


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 © Green (G. x=0.250,y=0.439) ----- All Patterns.

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GRID ASSIGNMENT

15G 14G 13G 12G 11G 10G 9G 8G 7G 6G 5G 4G 3G 2G 1G



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ANODE CONNECTION

	15G	14G	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
P2	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b
P3	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k
P4	j	j	j	j	j	j	j	j	j	j	j	j	j	j	j
P5	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h
P6	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f
P7	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g
P8	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d
P9	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
P10	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r
P11	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
P12	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
P13	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c

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