

Model	HNS-13SS26	Rev.② 22-Jun-2007
Application	STB	
Color of Illumination #6)	GREEN (G. :x=0.250,y=0.439) Cd-free ORANGE (Cd-free O. :x=0.56,y=0.42)	

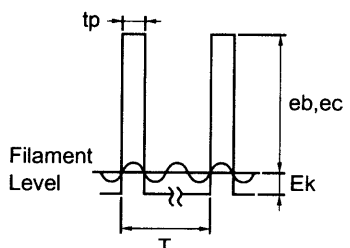
ABSOLUTE MAXIMUM RATINGS #4)

Item	Symbol	Min.	Max.	Unit	Condition
Filament Voltage #2)	Ef	2.88	4.32	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	3.24	3.60	3.96	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	—	1/14	—	—
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= 3.6 Vac ,eb=ec=0	If	90	100	110	mAac	
Anode Current #1)	Ef= 3.6 Vac eb= 30.0 Vp-p ec= 30.0 Vp-p	ib	1G~12G	—	4.0	8.0	mAp-p
			13G	—	8.0	16.0	
Grid Current #1)	Duty= 1/14 tp= 100 μs tb= 0 μs	ic	1G~12G	—	4.0	8.0	mAp-p
			13G	—	8.0	16.0	
Brightness		GREEN	102	204	—	ft-L	
		Cd-free ORANGE	11	22	—		
Brightness Ratio Between Digits	(All Segs are lit)	L(Max.) / L(Min.)	—	—	2		
Grid Cut-Off Voltage #3)	Ef= 3.6 Vac, Eb= 30.0 Vdc, Ec=Vary	Ecco	(-5.5)	—	—	Vdc	
Anode Cut-Off Voltage #3)	Ef= 3.6 Vac, Du= 1/14 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. 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.

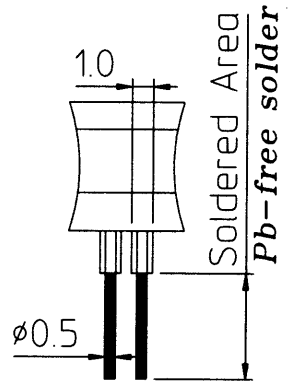
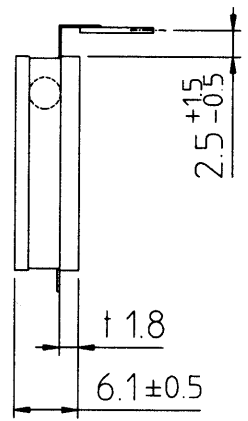
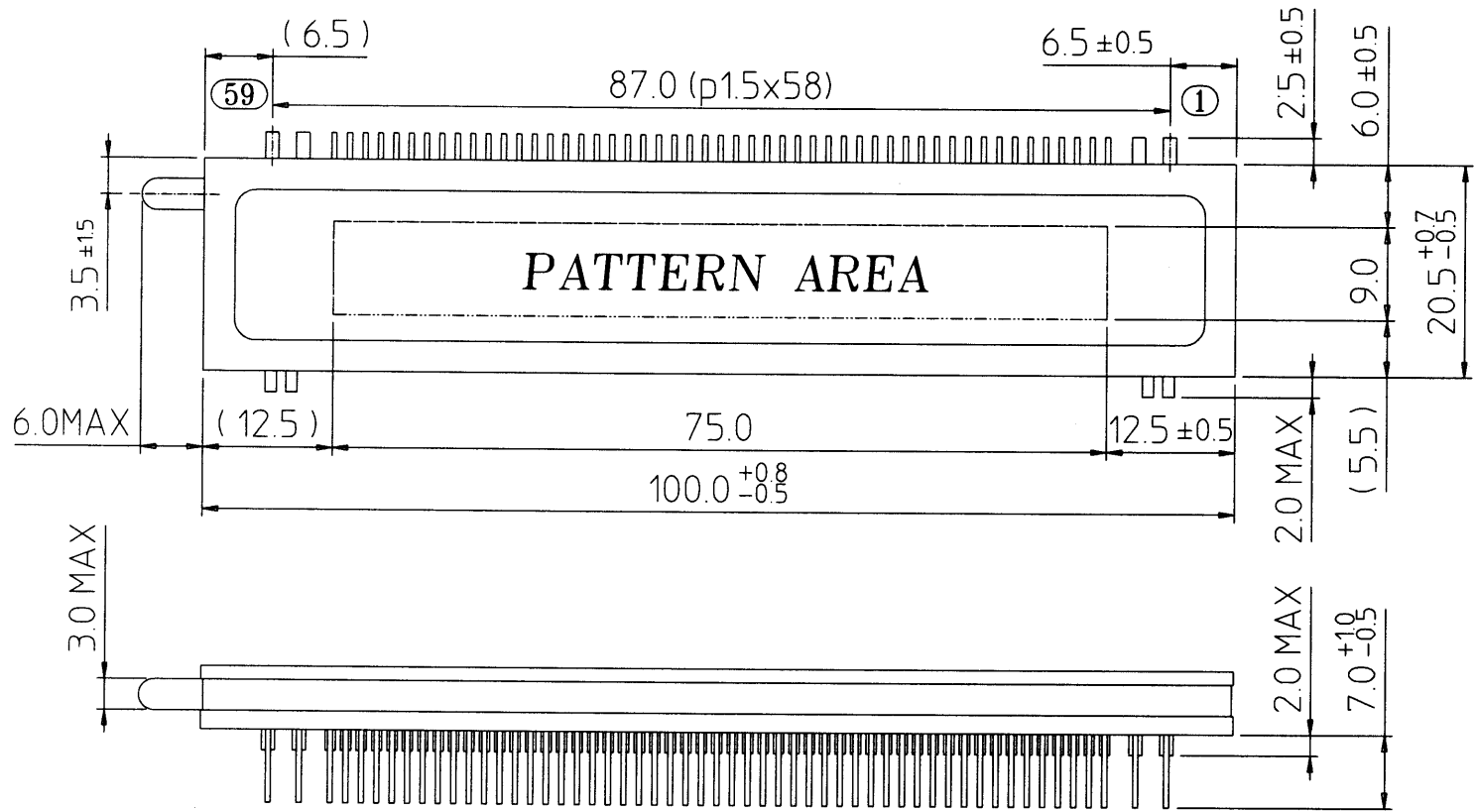
If a user don't keep this condition, then VFD may be permanently damaged.

#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



PIN CONNECTION

PIN NO.	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22
CONNECTION	F2	NP	F2	NP	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NC	P37	P36	P35	P34	P33	P32	P31	P30	P29	P28	P27	P26	P25	P24	P23	P22	P21	P20	P19	P18

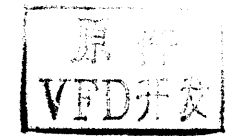
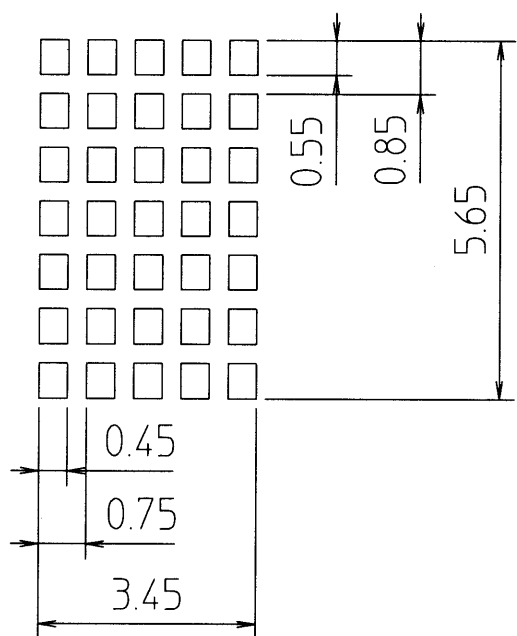
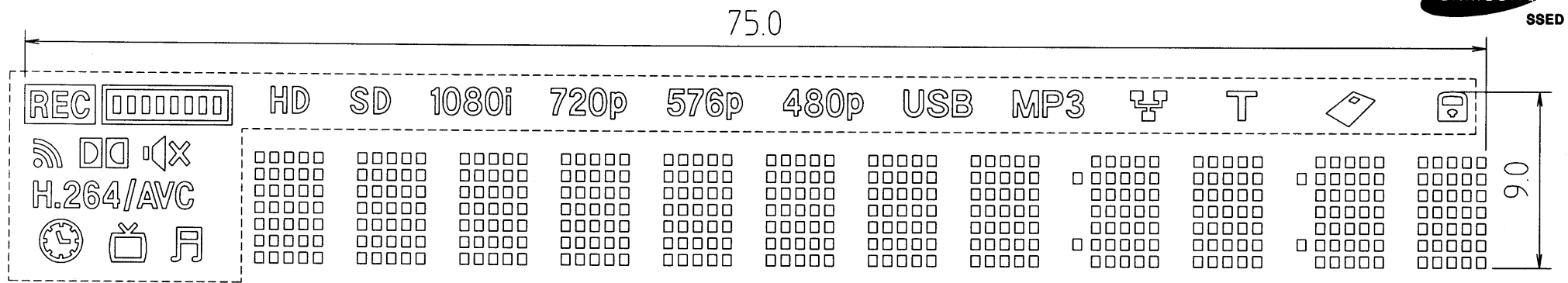
- Note ●
 1) Fn : Filament pin
 2) nG : Grid pin
 3) Pn : Anode pin
 4) NP : No pin
 5) NC : No connection pin

21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1	NP	F1	NP	F1

LEAD DETAIL

MODEL : HNS-13SS26
 OUTER DIMENSIONS
 Rev. ② 06-Nov-2007

PATTERN DETAILS



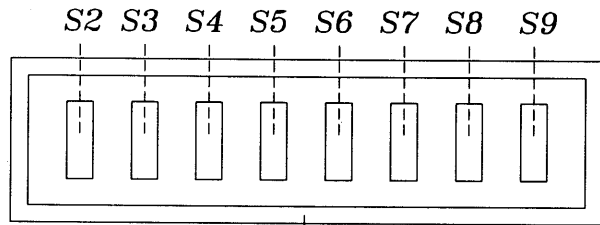
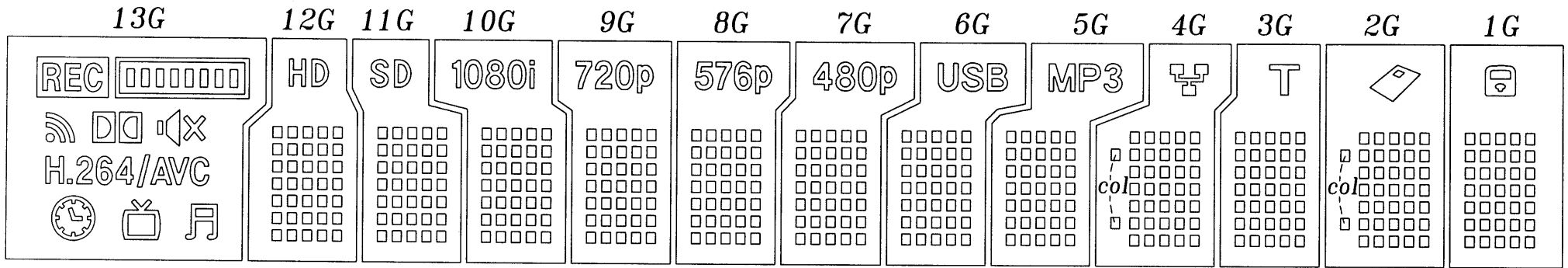
◎ Color of Illumination ◎

- Cd-free Orange (Cd-free 0. :x=0.56, y=0.42)----- Patterns Within the Dotted Line.
- Green (G. x=0.250, y=0.439) ----- Others.

◎ Negative Patterns. **REC**

MODEL : HNS-13SS26
 PATTERN DETAILS
 Rev. (4) 28-Jun-2007

GRID ASSIGNMENT



(13G)

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

(12G~1G)

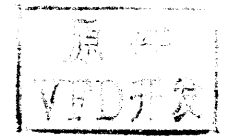


MODEL : HNS-13SS26
 GRID ASSIGNMENT
 Rev. ③ 28-Jun-2007

ANODE CONNECTION



	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1										col		col	
P2		HD	SD	1080i	720p	576p	480p	USB	MP3	MP	T		
P3	S9	1	1	1	1	1	1	1	1	1	1	1	1
P4	S8	2	2	2	2	2	2	2	2	2	2	2	2
P5	S7	3	3	3	3	3	3	3	3	3	3	3	3
P6	S6	4	4	4	4	4	4	4	4	4	4	4	4
P7	S5	5	5	5	5	5	5	5	5	5	5	5	5
P8	S4	6	6	6	6	6	6	6	6	6	6	6	6
P9	S3	7	7	7	7	7	7	7	7	7	7	7	7
P10	S2	8	8	8	8	8	8	8	8	8	8	8	8
P11	S1	9	9	9	9	9	9	9	9	9	9	9	9
P12	REC	10	10	10	10	10	10	10	10	10	10	10	10
P13	X	11	11	11	11	11	11	11	11	11	11	11	11
P14	DIC	12	12	12	12	12	12	12	12	12	12	12	12
P15		13	13	13	13	13	13	13	13	13	13	13	13
P16	H.264/	14	14	14	14	14	14	14	14	14	14	14	14
P17		15	15	15	15	15	15	15	15	15	15	15	15
P18		16	16	16	16	16	16	16	16	16	16	16	16
P19		17	17	17	17	17	17	17	17	17	17	17	17
P20	AVC	18	18	18	18	18	18	18	18	18	18	18	18
P21		19	19	19	19	19	19	19	19	19	19	19	19
P22		20	20	20	20	20	20	20	20	20	20	20	20
P23		21	21	21	21	21	21	21	21	21	21	21	21
P24		22	22	22	22	22	22	22	22	22	22	22	22
P25		23	23	23	23	23	23	23	23	23	23	23	23
P26		24	24	24	24	24	24	24	24	24	24	24	24
P27		25	25	25	25	25	25	25	25	25	25	25	25
P28		26	26	26	26	26	26	26	26	26	26	26	26
P29		27	27	27	27	27	27	27	27	27	27	27	27
P30		28	28	28	28	28	28	28	28	28	28	28	28
P31		29	29	29	29	29	29	29	29	29	29	29	29
P32		30	30	30	30	30	30	30	30	30	30	30	30
P33		31	31	31	31	31	31	31	31	31	31	31	31
P34		32	32	32	32	32	32	32	32	32	32	32	32
P35		33	33	33	33	33	33	33	33	33	33	33	33
P36		34	34	34	34	34	34	34	34	34	34	34	34
P37		35	35	35	35	35	35	35	35	35	35	35	35



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 ANODE CONNECTION
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