VFD

SHANGHAI SAMSUNG VACUUM ELECTRONICS
DEVICES CO., LTD. VFD DEVELOPMENT
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DESIGNER : S.J.Jee
VFD SALES PART (CHINA)
TEL : 86-21-5774-6000(Extension NO. : 8000~8010)
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SPECIFICATION

BALANCE

VACUUM FLUORESCENT DISPLAY

INBC07MS18

	Date	Descriptions	Approved by
1	2002.06.21	ORIGINAL	
2	2002.08.14	Changed pin length.(12.0mm→11.6mm)	
3			
4			
5			
6			
7			

Designed by	Checked by	Approved by
Jee 6/21	6/21	

Customer's Approval

VFD

Model	INBC07MS18
Application	BALANCE
Color of Illumination	GREEN (G. : x=0.250, y=0.439)

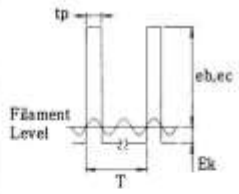
ABSOLUTE MAXIMUM RATINGS #4)

Item	Symbol	Min.	Max.	Unit	Condition
Filament Voltage #2)	Ef	2.72	4.08	Vac	eb,ec = Typ.
Anode Voltage	eb	—	42.0	Vp-p	Ef=Typ.
Grid Voltage	ec	—	42.0	Vp-p	
Operating Temperature	Topr	-40	+85	℃	—

RECOMMENDED OPERATING CONDITION #5)

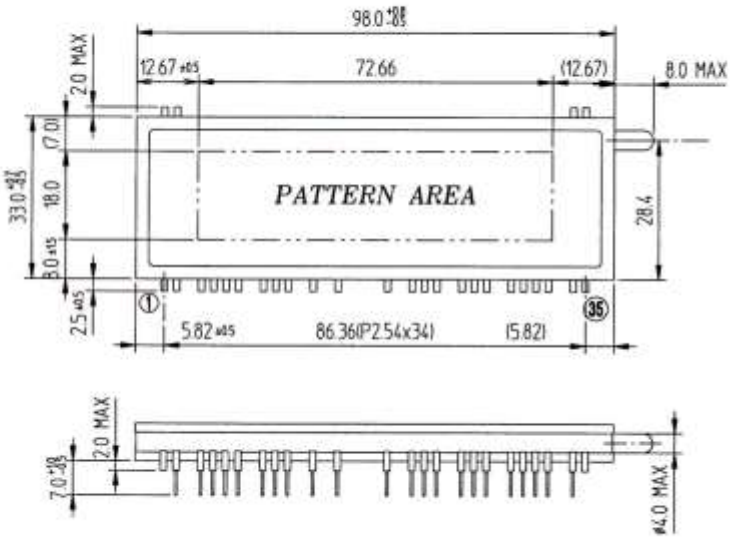
Item	Symbol	Min.	Typ.	Max.	Unit
Filament Voltage #2)	Ef	3.0	3.4	4.0	Vac
Peak Anode Voltage	eb	32.0	35.0	39.0	Vp-p
Peak Grid Voltage	ec	32.0	35.0	39.0	Vp-p
Cut-Off Bias Voltage	Ek	4.0	—	6.0	Vdc
Duty Factor	Du	—	1/19	—	—
Pulse Width	tp	—	80	—	μs
Operating Temperature	Topr	-20	—	+70	℃
Storage Temperature	Tstg	-55	—	+85	℃

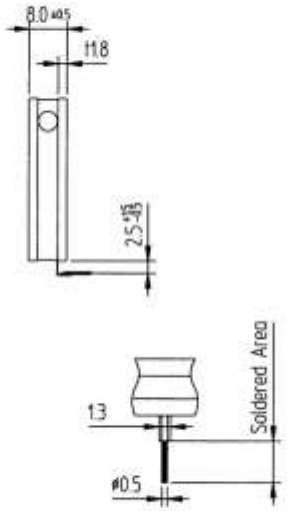
ELECTRICAL CHARACTERISTICS

Item	Test Condition	Symbol		Min.	Typ.	Max.	Unit
Filament Current	Ef= 3.4 Vac ,eb=ec=0	If		113	125	138	mAac
Anode Current #1)	Ef= 3.4 Vac eb= 35.0 Vp-p ec= 35.0 Vp-p	ib	1G~7G	—	16.0	32.0	mAp-p
Grid Current #1)	Duty= 1/19 tp= 80 μs tb= 20 μs	ic	1G~7G	—	25.0	50.0	mAp-p
Brightness		Green		100	200	—	ft-L
Brightness Ratio Between Digits	(All Segs are lit)	L(Max.) / L(Min.)		—	—	2	
Grid Cut-Off Voltage #3)	Ef= 3.4 Vac Eb= 35.0 Vdc, Ec=Vary	Ecco		(-4.0)	—	—	Vdc
Anode Cut-Off Voltage #3)	Ef= 3.4 Vac, Du= 1/19 ec= 35.0 Vp-p, Eb= Vary	Ebco		(-4.0)	—	—	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

OUTER DIMENSIONS





LEAD DETAILS

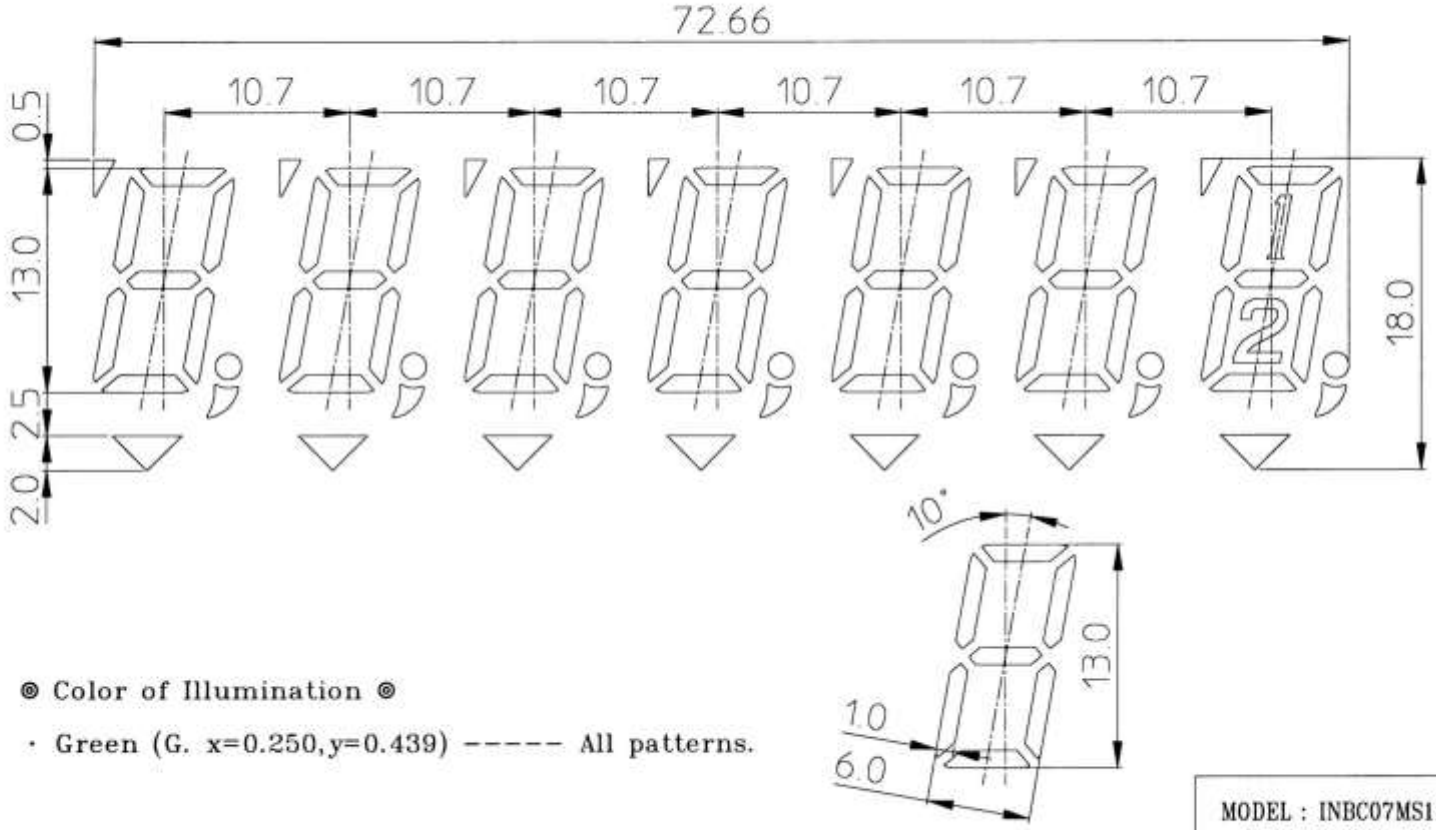
PIN CONNECTION

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	29	30	31	32	33	34	35
PIN CONNECTION	NX	F1	NP	P11	P6	P7	7G	NP	P5	P4	6G	NP	P12	NP	5G	NP	NP	NP	4G	NP	P10	P9	3G	NP	P3	P13	2G	NP	P8	P2	1G	P1	NP	F2	NX

** Notes **
Fn : Filament
NP : No Pin
NX : No extend pin
nG : Grid pin
Pn : Anode pin

MODEL : INBC07MS18
OUTER DIMENSIONS
Rev.② 14-Aug-2002

VFD PATTERN DETAILS

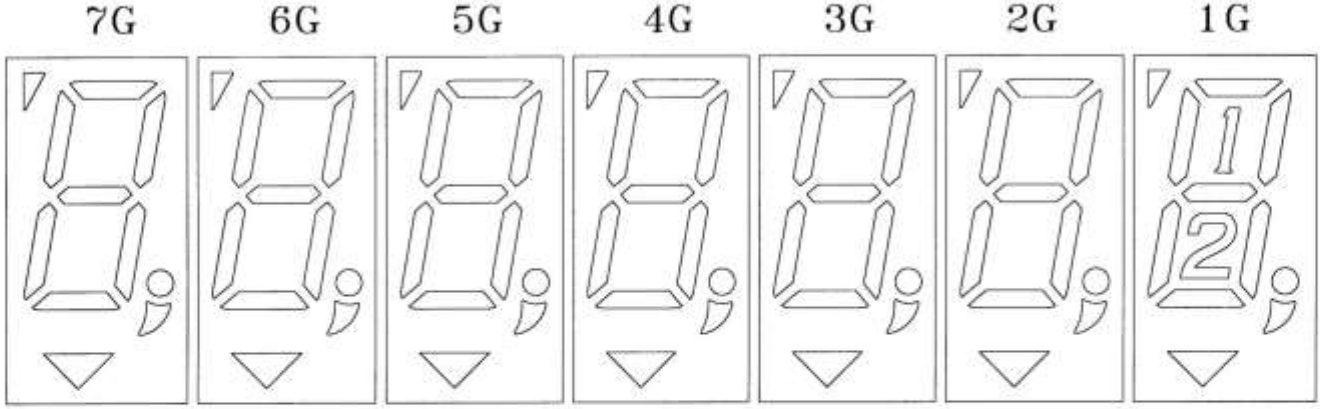


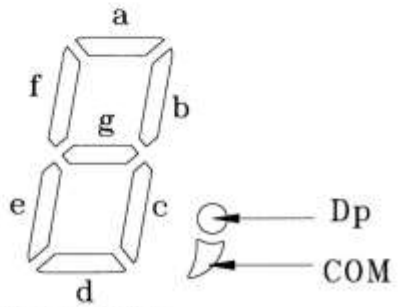
◎ Color of Illumination ◎

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

MODEL : INBC07MS18
PATTERN DETAILS
Rev. ① 21-Jun-2002

VFD
GRID ASSIGNMENT





(1G-7G)

MODEL : INBC07MS18
GRID ASSIGNMENT
Rev. ① 21-Jun-2002

ANODE CONNECTION

	7G	6G	5G	4G	3G	2G	1G
P1	a	a	a	a	a	a	a
P2	b	b	b	b	b	b	b
P3	c	c	c	c	c	c	c
P4	d	d	d	d	d	d	d
P5	e	e	e	e	e	e	e
P6	f	f	f	f	f	f	f
P7	g	g	g	g	g	g	
P8							g
P9	Dp	Dp	Dp	Dp	Dp	Dp	Dp
P10	COM	COM	COM	COM	COM	COM	COM
P11							
P12							
P13							1 2

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ANODE CONNECTION
Rev. ① 21-Jun-2002