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## User's Guide

# D0420SD-53-4001FN

# VFD- **RoHS Compliant**

(Vacuum Fluorescent Display Module)

### **RoHS Compliant**

For product support, contact

**Newhaven Display International**  
**2511 Technology Drive, #101**  
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February 28, 2008

# Vacuum Fluorescent Display Specification

RoHS Complaint

PART NUMBER: **D0420SD- 53-4001FN**

FEATURES: 4 Rows x 20 Digits, 5x7 Dot Matrix

APPLICATION: Character Display ( Dot Matrix)

RATINGS: Below

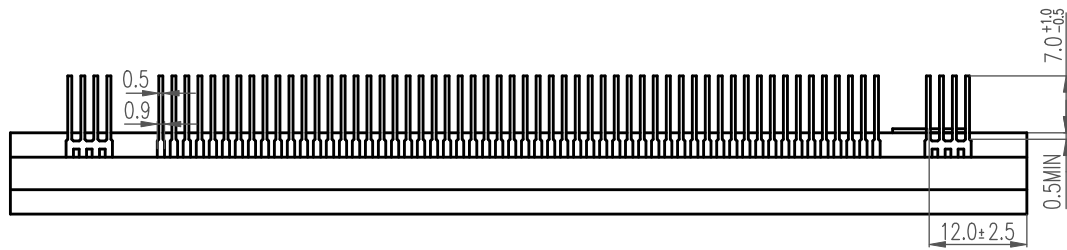
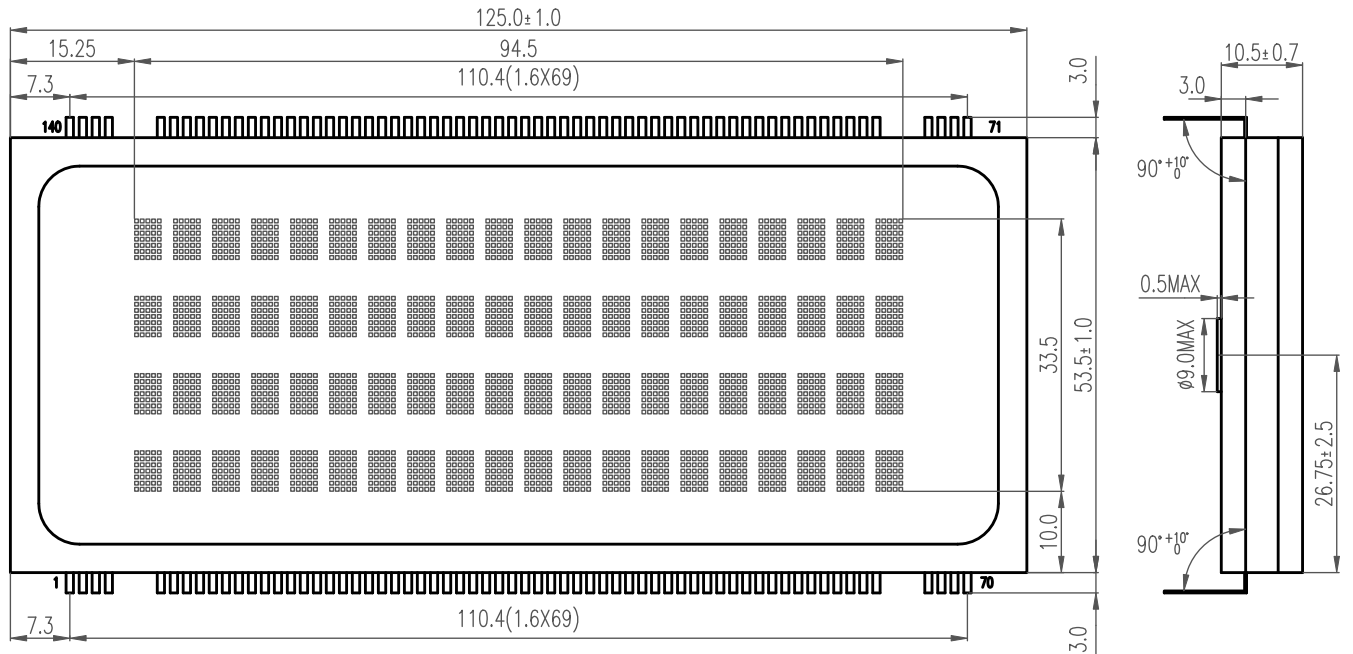
Outer Dimensions	Panel Length	P.L.	125.0	mm	
	Panel Height	P.H.	53.5	mm	
	Panel Thickness	P.T.	10.5	mm	
Leads	Lead Pitch	L.P.	1.6	mm	
	Lead Out	-	DIL		
Character Size	Character Height	C.H.	5.0	mm	
	Character Width	C.W.	3.3	mm	
Item	Symbol	Min.	Recommended	Max.	Unit
Filament Voltage	Ef	4.32	4.8	5.28	Vac
Peak Grid Voltage	ec	-	52.0	57.0	Vp-p
Peak Anode Voltage	eb	-	52.0	57.0	Vp-p
-	-	-	-	-	-
Duty Cycle	Du	-	1/44	-	-
Pulse Width	tp	-	230	-	uS
Operating Temperature	Topr	-40	-	+85	C
Storage Temperature	Tstg	-50	-	+95	C
Color of Illumination	Green				

**Electrical  
Characteristics**

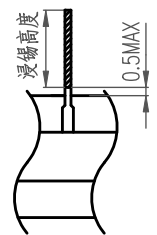
Item	Symbol	Test Condition	Min.	Typical	Max.	Unit
<b>Filament Current</b>	if	Ef = 4.8 Vac	306.0	340.0	374.0	mAac
	-	eb = ec = 0	-	-	-	-
<b>Anode Current</b>	ib/1~40G	Ef = 4.8 Vac eb = 52.0 Vp-p ec = 52.0 Vp-p Du = 1/44 tp = 230 uS	-	6.0	12.0	mAp-p
	-		-	-	-	mAp-p
	-		-	-	-	mAp-p
	-		-	-	-	mAp-p
	-		-	-	-	mAp-p
<b>Grid Current</b>	ic/1~40G		-	7.0	14.0	mAp-p
	-		-	-	-	mAp-p
	-		-	-	-	mAp-p
	-		-	-	-	mAp-p
	-		-	-	-	mAp-p
<b>Luminance</b>	L(G)		350	700	-	cd/m <sup>2</sup>
	-		(102)	(204)	-	fL
<b>Luminance Ratio</b>	Lmin/Lmax		50	-	-	%
<b>Grid Cut-off Voltage</b>	Ecco	Ef = 4.8 Vac Eb = 52.0 Vdc	-6.3	-	-	Vdc
<b>Anode Cut-off Voltage</b>	Ebco	Ef = 4.8 Vac ec = 52.0 Vp-p Du = 1/44 tp = 230 uS	-3.0	-	-	Vdc

\* Drive Mode is Dynamic State

附图 1: 外形图 Outline Drawing (Unit:mm)



管脚处理示意图



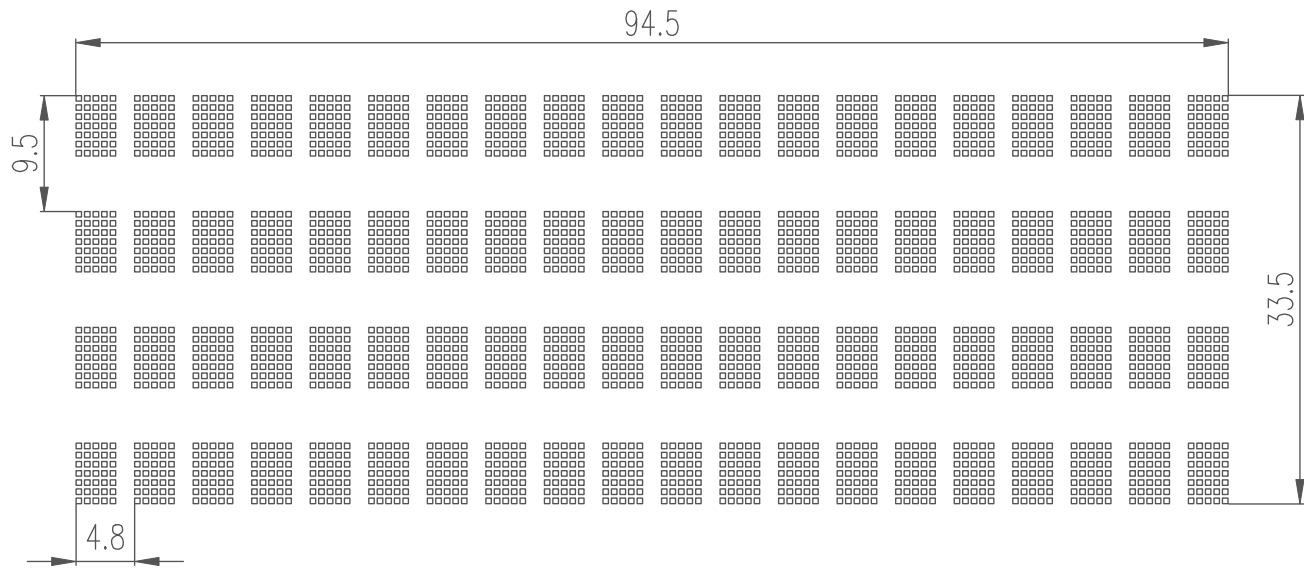
管脚连接 (PIN CONNECTION)

端子序号 (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
连接 (CONNECTION)	F	F	F	F	NP	NP	NP	NC	40G	39G	38G	37G	36G	35G	34G	33G	32G	31G	30G	29G	28G	27G	26G	25G	24G	23G	22G	21G	P36	P37	P38	P39	P40	P41	P42
端子序号 (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	69	70
连接 (CONNECTION)	P43	P44	P45	P46	P47	P48	P49	P50	P51	P52	P53	P54	P55	P56	P57	P58	P59	P60	P61	P62	P63	P64	P65	P66	P67	P68	P69	P70	NP	NP	NP	F	F	F	F
端子序号 (PIN NO.)	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	102	103	104	105	
连接 (CONNECTION)	F	F	F	F	NP	NP	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	P23	P24	P25	P26	P27	P28
端子序号 (PIN NO.)	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
连接 (CONNECTION)	P29	P30	P31	P32	P33	P34	P35	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G	16G	17G	18G	19G	20G	NC	NP	NP	NP	F	F	F	F

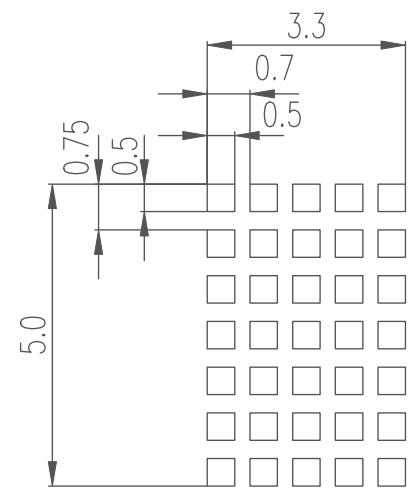
注 Note: F: 灯丝 (Filament) P: 阳极 (Anode) G: 栅板 (Grid) NP: 无引出脚 (No pin) NC: 无连接 (No connection)

D0420SD-53-4001FN

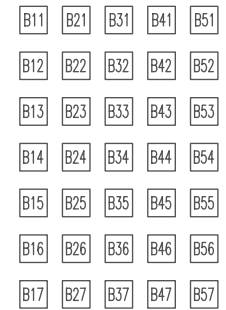
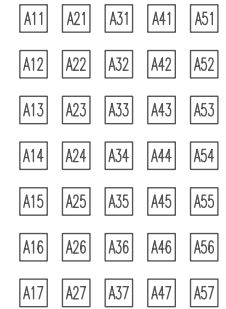
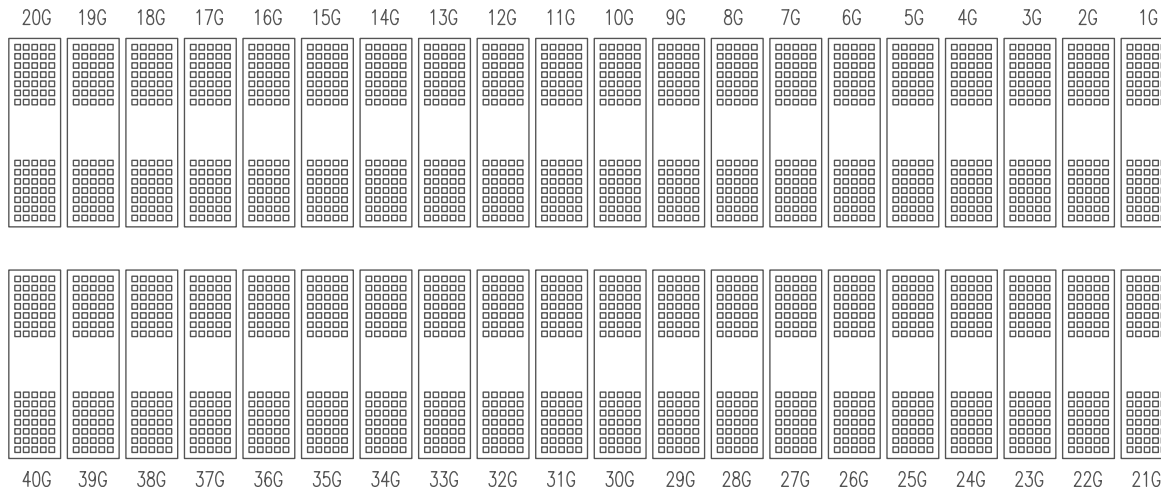
附图 2: 显示内容 DiAplay Pattern



绿色 Green : 全部 ALL (X=0.250, Y=0.440)



附图 3: 栅网分割 Grid AAssignment



(1~40G)

附图 4: 阳极连接 Anode Connection

	1G~40G		1G~40G		1G~40G		1G~40G		1G~40G
P1	A11	P15	A53	P29	A46	P43	B32	P57	B25
P2	A21	P16	A14	P30	A56	P44	B42	P58	B35
P3	A31	P17	A24	P31	A17	P45	B52	P59	B45
P4	A41	P18	A34	P32	A27	P46	B13	P60	B55
P5	A51	P19	A44	P33	A37	P47	B23	P61	B16
P6	A12	P20	A54	P34	A47	P48	B33	P62	B26
P7	A22	P21	A15	P35	A57	P49	B43	P63	B36
P8	A32	P22	A25	P36	B11	P50	B53	P64	B46
P9	A42	P23	A35	P37	B21	P51	B14	P65	B56
P10	A52	P24	A45	P38	B31	P52	B24	P66	B17
P11	A13	P25	A55	P39	B41	P53	B34	P67	B27
P12	A23	P26	A16	P40	B51	P54	B44	P68	B37
P13	A33	P27	A26	P41	B12	P55	B54	P69	B47
P14	A43	P28	A36	P42	B22	P56	B15	P70	B57