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## User's Guide

# D0220SD-35-4002FN

# **VFD- RoHS Compliant**

(Vacuum Fluorescent Display Module)

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For product support, contact

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# Vacuum Fluorescent Display Specification

**PART NUMBER:** **D0220SD-35-4002FN**

**FEATURES:** 2x20 Digits – 5x7 dot matrix, Pb-Free, No exhaust tip , RoHS Compliant

**APPLICATION:** Character Display- Dot Matrix

**RATINGS:** Below

<b>Outer Dimensions</b>	Panel Length	P.L.	125.0	mm	
	Panel Height	P.H.	35.0	mm	
	Panel Thickness	P.T.	7.8	mm	
<b>Leads</b>	Lead Pitch	L.P.	2.54	mm	
	Lead Out	-	DIL		
<b>Character Size</b>	Character Height	C.H.	5.0	mm	
	Character Width	C.W.	3.5	mm	
<b>Item</b>	<b>Symbol</b>	<b>Min.</b>	<b>Recommended</b>	<b>Max.</b>	<b>Unit</b>
<b>Filament Voltage</b>	Ef	4.8	5.3	5.8	Vac
<b>Peak Grid Voltage</b>	ec	-	50.0	60.0	Vp-p
<b>Peak Anode Voltage</b>	eb	-	50.0	60.0	Vp-p
<b>Cut-off Bias</b>	Ek	-	0	-	Vdc
<b>Duty Cycle</b>	Du	-	1/45	-	-
<b>Pulse Width</b>	tp	-	100	-	uS
<b>Operating Temperature</b>	Topr	-40	-	+ 85	C
<b>Storage Temperature</b>	Tstg	-50	-	+ 85	C
<b>Color of Illumination</b>	Green				

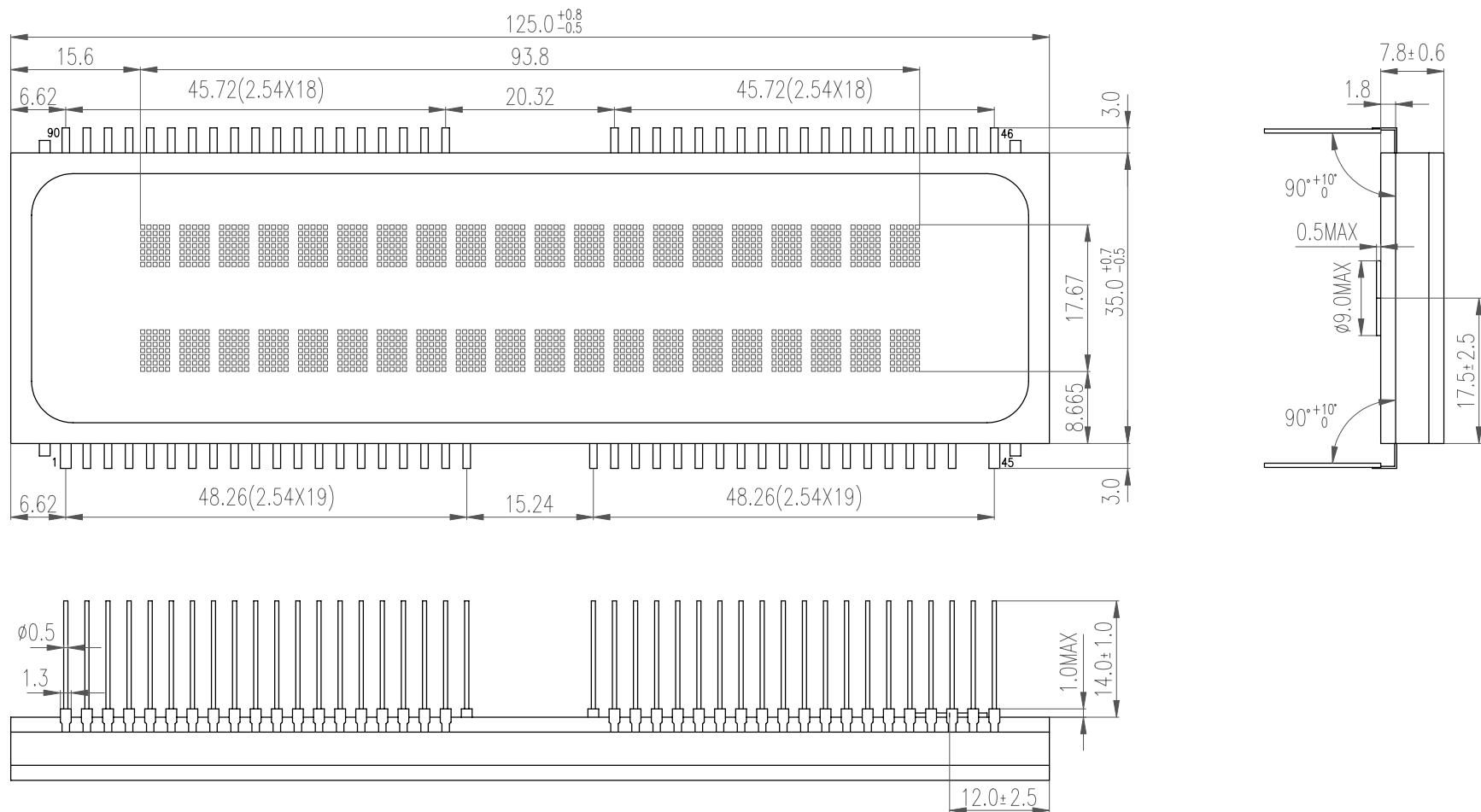
**Electrical  
Characteristics**

Item	Symbol	Test Condition	Min.	Typical	Max.	Unit
<b>Filament Current</b>	if	Ef = 5.3 Vac	108.0	120.0	132.0	mAac
	-	eb = ec = 0	-	-	-	-
<b>Anode Current</b>	ib / 1~40G	Ef = 5.3 Vac	-	4.0	8.0	mAp-p
	-	eb = 50.0 Vp-p	-	-	-	-
	-	ec = 50.0 Vp-p	-	-	-	-
	-	Du = 1/45	-	-	-	-
	-	tp = 100uS	-	-	-	-
<b>Grid Current</b>	ic / 1~40G	( All segs are ON )	-	8.0	16.0	mAp-p
	-		-	-	-	-
	-		-	-	-	-
	-		-	-	-	-
	-		-	-	-	-
<b>Luminance</b>	L(G)		427	855	-	cd/m <sup>2</sup>
	-		(125)	(250)		fL
<b>Luminance Ratio</b>	Lmin/Lmax		50	-	-	%
<b>Grid Cut-off Voltage</b>	Ecco	Ef = 5.3 Vac Eb = 50.0 Vdc	-5.0	-	-	Vdc
<b>Anode Cut-off Voltage</b>	Ebco	Ef = 5.3 Vac ec = 50.0 Vp-p Du = 1/45 Tp = 100uS	-1.0	-	-	Vdc

**DRIVE MODE: Dynamic State**

**D0220SD-35-4002FN**

附图 1: 外形图 Outline Drawing (Unit:mm)



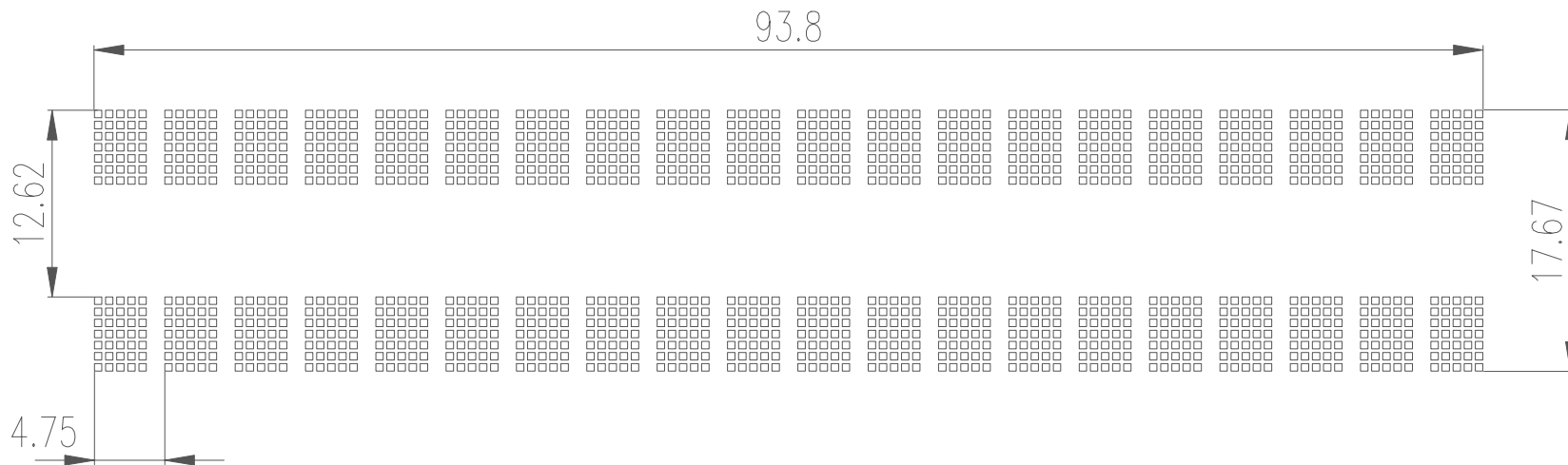
管脚连接 (PIN CONNECTION)

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	36	37	38	39	40	41	42	43	44	45	
连接 (CONNECTION)	F	P19	P20	P21	P22	P23	P24	P25	P26	P27	P28	P29	P30	P31	P32	P33	P34	P35	40G	39G	NP	NP	NP	NP	NP	NP	38G	37G	36G	35G	34G	33G	32G	31G	30G	29G	28G	27G	26G	25G	24G	23G	22G	21G	NP	F
端子序号 (PIN NO.)	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	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	
连接 (CONNECTION)	P18	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1	1G	NP	NP	NP	NP	NP	NP	NP	NP	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G	16G	17G	18G	19G	20G

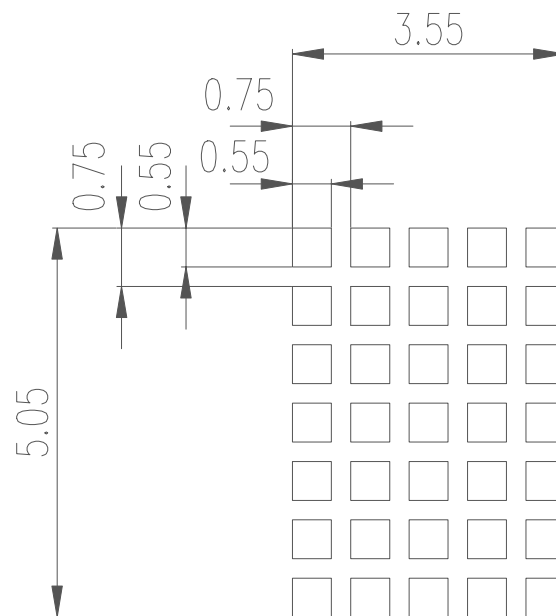
注 Note: F: 灯丝 (Filament) P: 阳极 (Anode) G: 栅极 (Grid) NP: 无引脚 (No pin)

**D0220SD-35-4002FN**  
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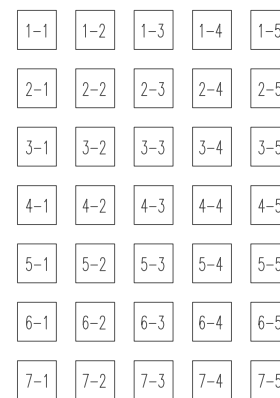
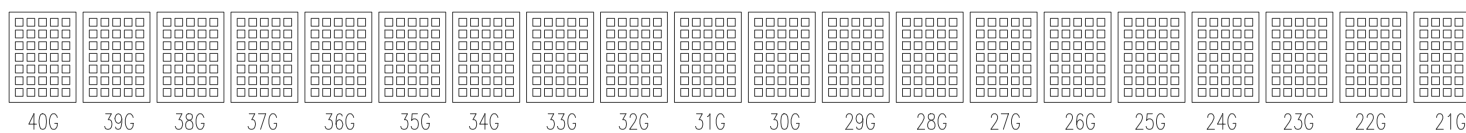
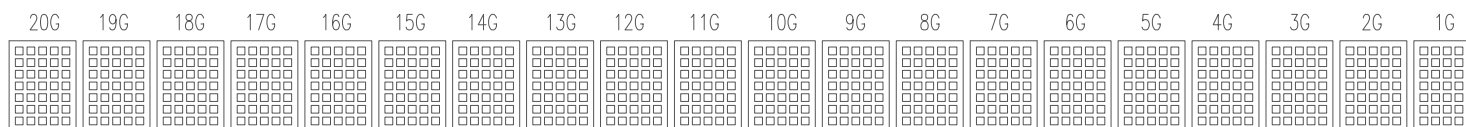
附图 2: 显示内容 DiAplay Pattern



绿色 Green : 全部 ALL (X=0.250, Y=0.440)



附图 3: 栅网分割 Grid Assignment



(1~40G)

附图 4: 阳极连接 Anode Connection

	1G~40G		1G~40G		1G~40G
P1	1-1	P15	3-5	P29	6-4
P2	1-2	P16	4-1	P30	6-5
P3	1-3	P17	4-2	P31	7-1
P4	1-4	P18	4-3	P32	7-2
P5	1-5	P19	4-4	P33	7-3
P6	2-1	P20	4-5	P34	7-4
P7	2-2	P21	5-1	P35	7-5
P8	2-3	P22	5-2		
P9	2-4	P23	5-3		
P10	2-5	P24	5-4		
P11	3-1	P25	5-5		
P12	3-2	P26	6-1		
P13	3-3	P27	6-2		
P14	3-4	P28	6-3		