



# User's Guide

## D0420SD-42-2001FN

# VFD- **RoHS Compliant**

(Vacuum Fluorescent Display Module)

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# Vacuum Fluorescent Display Specification

**PART NUMBER:** **D0420SD-42-2001FN**

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

**APPLICATION:** POS: Character Display (*Dot Matrix*)

**RATINGS:** Below

<b>Outer Dimensions</b>	Panel Length	P.L.	120.0	mm	
	Panel Height	P.H.	42.0	mm	
	Panel Thickness	P.T.	9.0	mm	
<b>Leads</b>	Lead Pitch	L.P.	1.27	mm	
	Lead Out	-	DIL		
<b>Character Size</b>	Character Height	C.H.	5.0	mm	
	Character Width	C.W.	3.0	mm	
<b>Item</b>	<b>Symbol</b>	<b>Min.</b>	<b>Recommended</b>	<b>Max.</b>	<b>Unit</b>
<b>Filament Voltage</b>	Ef	4.0	4.4	4.8	Vac
<b>Peak Grid Voltage</b>	ec	-	30.0	36.0	Vp-p
<b>Peak Anode Voltage</b>	eb	-	30.0	36.0	Vp-p
-	-	-	-	-	-
<b>Duty Cycle</b>	Du	-	1/ 22	-	-
<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				

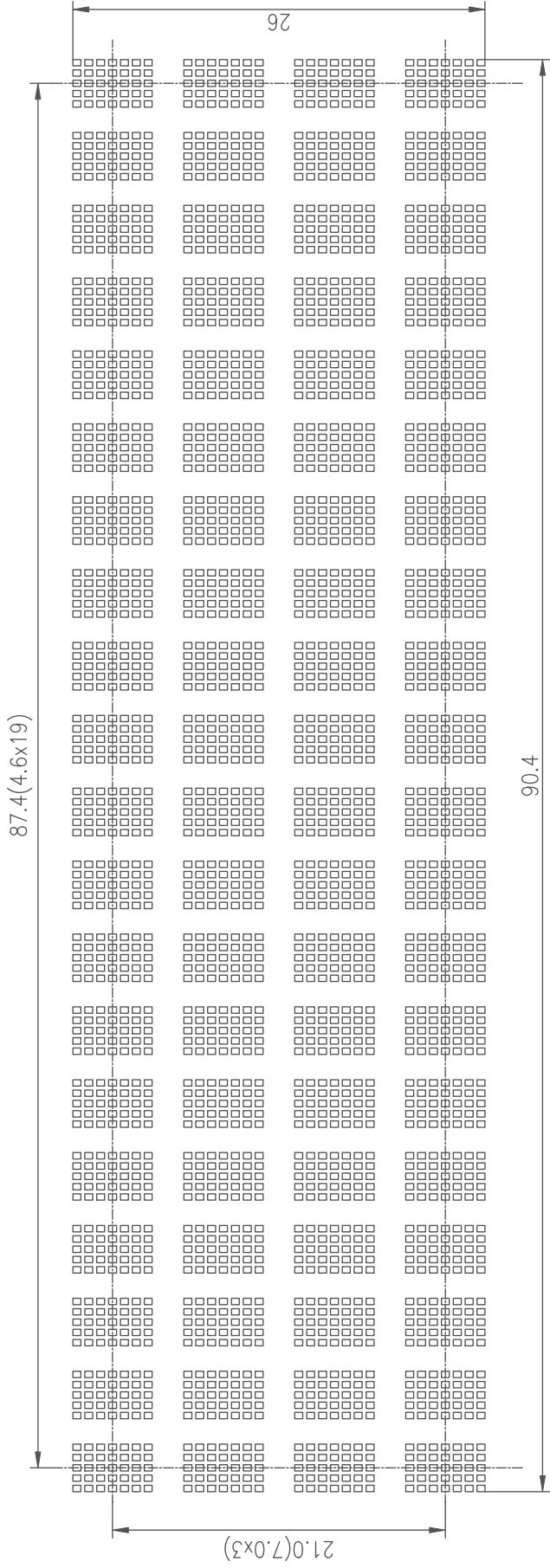
**Electrical  
Characteristics**

Item	Symbol	Test Condition	Min.	Typical	Max.	Unit
<b>Filament Current</b>	If -	Ef = 4.4 Vac eb = ec = 0	180.0 -	200.0 -	220.0 -	mAac -
<b>Anode Current</b>	ib/1~20G - - - -	Ef = 4.4 Vac eb = 30.0 Vp-p ec = 30.0 Vp-p Du = 1/22 tp = 100 uS	-	10.0	20.0	mAp-p
			-	-	-	mAp-p
			-	-	-	mAp-p
			-	-	-	mAp-p
			-	-	-	mAp-p
<b>Grid Current</b>	ic/1~20G - - - -		-	10.0	20.0	mAp-p
			-	-	-	mAp-p
			-	-	-	mAp-p
			-	-	-	mAp-p
			-	-	-	mAp-p
<b>Luminance</b>	L(G) -		350 (102)	700 (204)	-	cd/m <sup>2</sup> fL
<b>Luminance Ratio</b>	Lmin/Lmax		50	-	-	%
<b>Grid Cut-off Voltage</b>	Ecco	Ef = 4.4 Vac Eb = 30.0 Vdc	-5.0	-	-	Vdc
<b>Anode Cut-off Voltage</b>	Ebco	Ef = 4.4 Vac ec = 30.0 Vp-p Du = 1/22 tp = 100 uS	-5.0	-	-	Vdc

\* Drive Mode is Dynamic State



附图2: 显示内容 Display Pattern



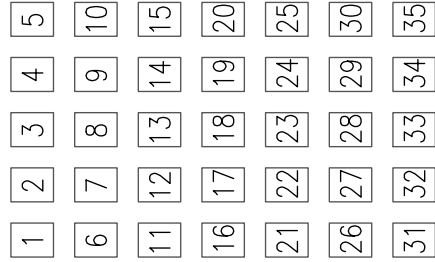
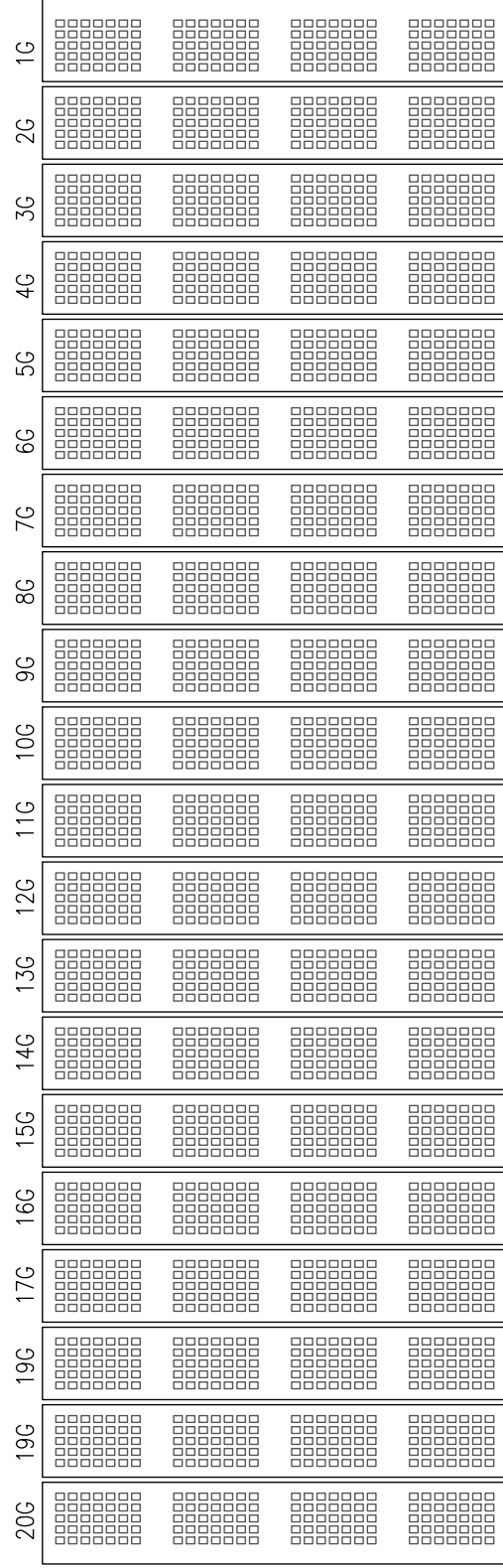
显示颜色 Colour of illumination:

绿色 Green (X=0.250 Y=0.440): 全部显示面 All graphics

Cadmium Free Phosphor Used

control No.	030.07.3-05
Spec. No.	SPC06.04.13-02
MODEL	D0420SD-42-2001FN

附图3: 栅网分割 Grid Assignment



(1G~20G)

control No.	030.07.3-05
Spec. No.	SPC06.04.13-02
MODEL	D0420SD-42-2001FN

附图4：阳极连接 Anode 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
连接 CONNECTION	IC	PC11	PC12	PC13	PC14	PC15	PC16	PC17	PC18	PC19	PC20	PC21	PC22	PC23	PC24	PC25	PC26	PC27	PC28	PC29	PC30
端子序号 PIN NO.	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
连接 CONNECTION	PD31	PD32	PD33	PD34	PD35	NC	20G	19G	18G	17G	16G	15G	14G	13G	12G	11G	10G	9G	8G	7G	6G
端子序号 PIN NO.	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
连接 CONNECTION	5G	4G	3G	2G	1G	NC	PD30	PD29	PD28	PD27	PD26	PD25	PD24	PD23	PD22	PD21	PD20	PD19	PD18	PD17	PD16
端子序号 PIN NO.	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84
连接 CONNECTION	PD15	PD14	PD13	PD12	PD11	PD10	PD9	PD8	PD7	PD6	PD5	PD4	PD3	PD2	PD1	PC35	PC34	PC33	PC32	PC31	IC
端子序号 PIN NO.	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
连接 CONNECTION	F	F	NP	PC10	PC9	PC8	PC7	PC6	PC5	PC4	PC3	PC2	PC1	PB35	PB34	PB33	PB32	PB31	PB30	PB29	PB28
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
连接 CONNECTION	PB27	PB26	PB5	PB4	PB3	PB2	PB1	PA35	PA34	PA33	PA32	PA31	PA30	PA29	PA28	PA27	PA26	PA25	PA24	PA23	PA22
端子序号 PIN NO.	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147
连接 CONNECTION	PA21	PA1	PA2	PA3	PA4	PA5	PA6	PA7	PA8	PA9	PA10	PA11	PA12	PA13	PA14	PA15	PA16	PA17	PA18	PA19	PA20
端子序号 PIN NO.	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168
连接 CONNECTION	PB6	PB7	PB8	PB9	PB10	PB11	PB12	PB13	PB14	PB15	PB16	PB17	PB18	PB19	PB20	PB21	PB22	PB23	PB24	PB25	NP
端子序号 PIN NO.	169	170																			
连接 CONNECTION	F	F																			

NOTE: F: 灯丝 Filament G: 栅网 Grid NC: 无连接 NO CONNECTION NP: 无引出脚 No pin IC: 内连接 INTERNAL CONNECTION

PA,PB,PC,PD:Dot Anode 点阵阳极

(A: 1st row, B: 2nd row, C: 3rd row, D: 4th row) (A: 第一行, B: 第二行, C: 第三行, D: 第四行)

control No.	030.07.3-05
Spec. No.	SPC06.04.13-02
MODEL	D04205D-42-2001FN