

## User's Guide

# D0220MD-48-4001F

## **VFD- RoHS Compliant**

(Vacuum Fluorescent Display Module)

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# Vacuum Fluorescent Display Specification

PART NUMBER: D0220MD-48-4001F

FEATURES: 2 Row x 20 Digits, 5x7 Dot Matrix with Carrot – All

APPLICATION: Character Display ( Dot Matrix)

RATINGS: Below

Outer Dimensions	Panel Length	P.L.	175.0	mm	
	Panel Height	P.H.	48.3	mm	
	Panel Thickness	P.T.	10.5	mm	
Leads	Lead Pitch	L.P.	2.54	mm	
	Lead Out	-	SIL		
Character Size	Character Height	C.H.	10.5	mm	
	Character Width	C.W.	5.5	mm	
Item	Symbol	Min.	Recommended	Max.	Unit
Filament Voltage	Ef	6.4	7.1	7.8	Vac
Peak Grid Voltage	ec	-	52.0	58.0	Vp-p
Peak Anode Voltage	eb	-	52.0	58.0	Vp-p
-	-	-	-	-	-
Duty Cycle	Du	-	1/43	-	-
Pulse Width	tp	-	100	-	uS
Operating Temperature	Topr	-40	-	+ 85	C
Storage Temperature	Tstg	-50	-	+ 95	C
Color of Illumination	Green				

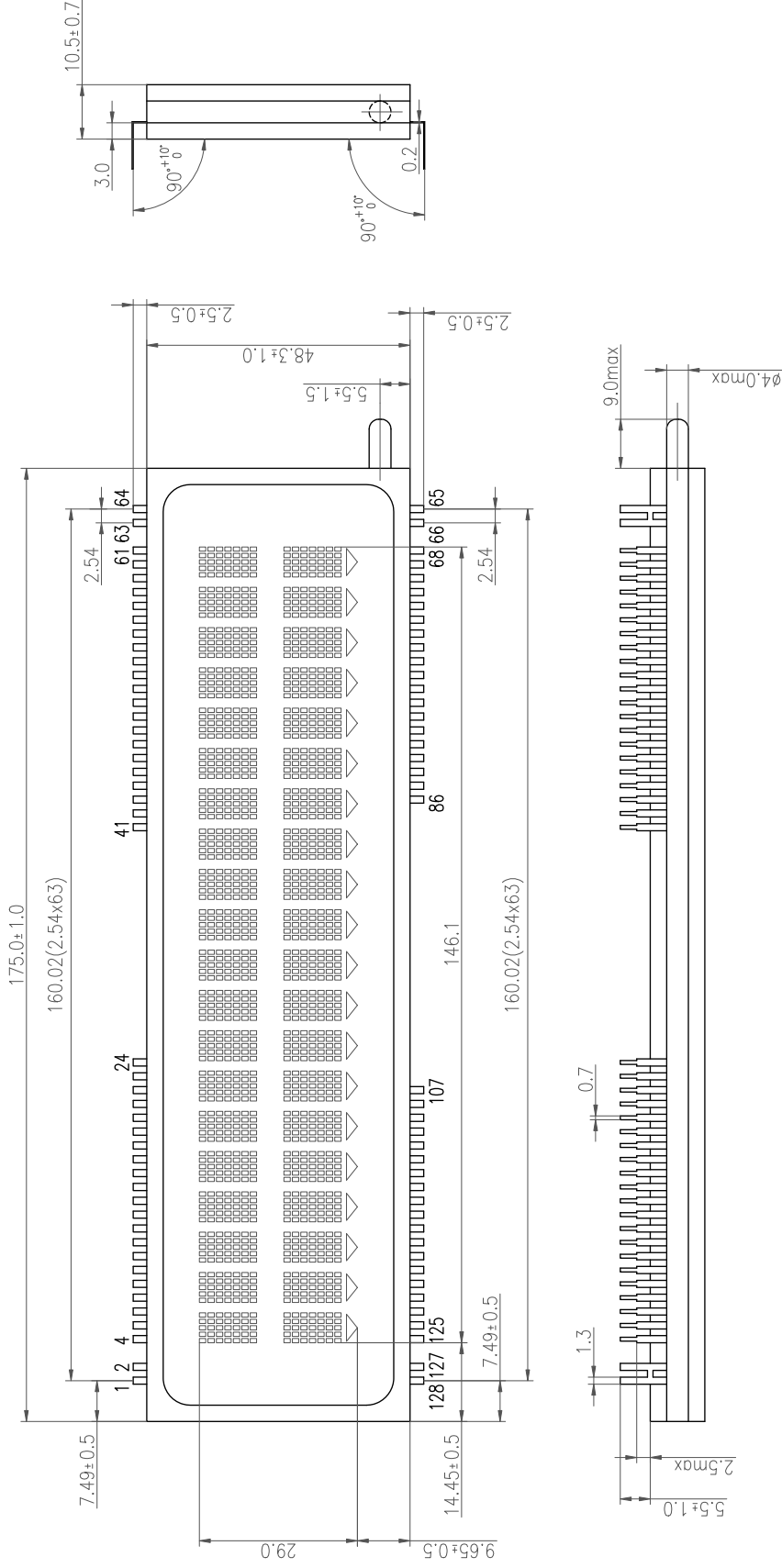
**Electrical  
Characteristics**

Item	Symbol	Test Condition	Min.	Typical	Max.	Unit
Filament Current	lf	Ef = 7.1 Vac	247.5	275.0	302.5	mAac
	-	eb = ec = 0	-	-	-	-
Anode Current	ib/1~20G	Ef = 7.1 Vac eb = 52.0 Vp-p ec = 52.0 Vp-p Du = 1/43 tp = 100uS	-	13.0	26.0	mAp-p
	lb/21~40G		-	14.0	28.0	mAp-p
	-		-	-	-	mAp-p
	-		-	-	-	mAp-p
	-		-	-	-	mAp-p
Grid Current	ic/1~20G		-	11.5	23.0	mAp-p
	lc/21~40G		-	13.0	26.0	mAp-p
	-		-	-	-	mAp-p
	-		-	-	-	mAp-p
	-		-	-	-	mAp-p
Luminance	L(G)		350	700	-	cd/m <sup>2</sup>
	-		(102)	(204)	-	fL
Luminance Ratio	Lmin/Lmax		50	-	-	%
Grid Cut-off Voltage	Ecco	Ef = 7.1 Vac Eb = 52.0 Vdc	-9.0	-	-	Vdc
Anode Cut-off Voltage	Ebco	Ef = 7.1 Vac ec = 52.0 Vp-p Du = 1/50	-6.0	-	-	Vdc

# 1: Outline Drawing

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外形图



## 管脚连接 Pin Connection

Pin Connection	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
端子序号	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
连接	F	NP	NC	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G	16G	17G	18G	19G	20G	NP	NP	NP	NP	NP	NP	NP	NP	NP
端子序号	33	34	35	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
连接	NP	NP	NP	NP	NP	NP	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	NC	NP	F	F	
端子序号	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	91	92	93	94	95	96
连接	F	NP	P21	P22	P23	P24	P25	P26	P27	P28	P29	P30	P31	P32	P33	P34	P35	P36	40G	39G	NC	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
端子序号	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128
连接	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	38G	37G	36G	35G	34G	33G	32G	31G	30G	29G	28G	27G	26G	25G	24G	23G	22G	21G	NC	NP	F

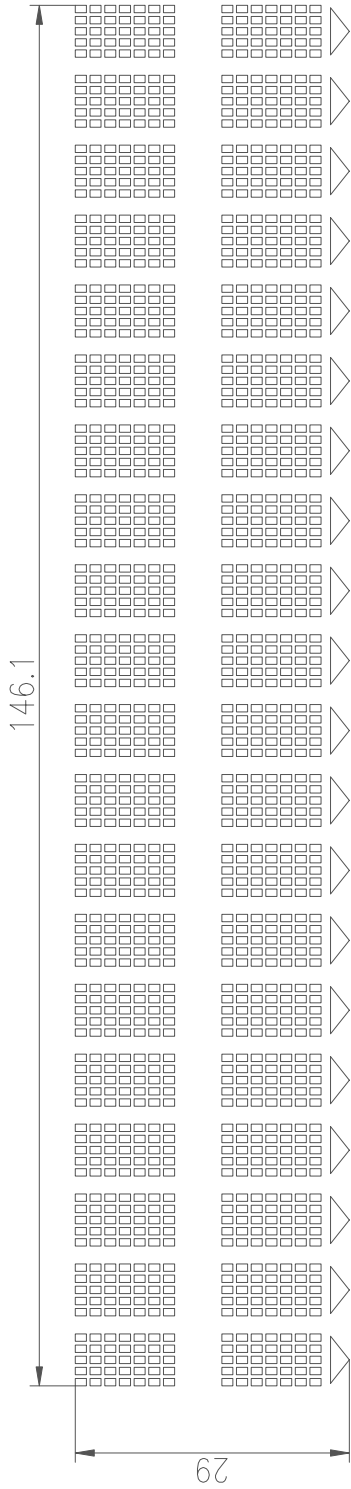
注：F：灯丝 NC：空脚 G：栅极 P：阳极 NP：无引出脚

Filament No Connect Grid Anode No Pin -3-

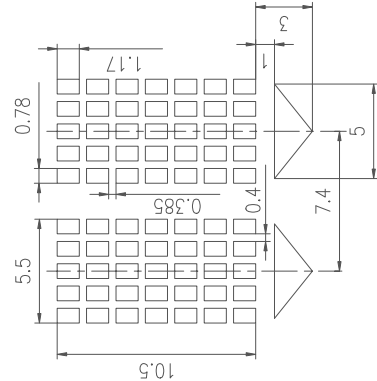
## 2: Display pattern

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显示面



- 显示颜色  
绿色 (全部)
- a11 a12 a13 a14 a15
  - a21 a22 a23 a24 a25
  - a31 a32 a33 a34 a35
  - a41 a42 a43 a44 a45
  - a51 a52 a53 a54 a55
  - a61 a62 a63 a64 a65
  - a71 a72 a73 a74 a75



(1G~40G)

栅网分割

