



# User's Guide

# D0109MT-25-1101

# 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:** D0109MT-25-1101

**FEATURES:** 9 Digits – Seven Segmented, with custom segments, Decimals + Apostrophe

**APPLICATION:** Character Display- (7-Seg) - Scales

**RATINGS:** Below

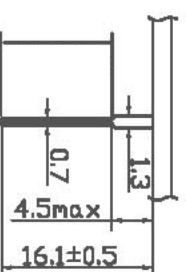
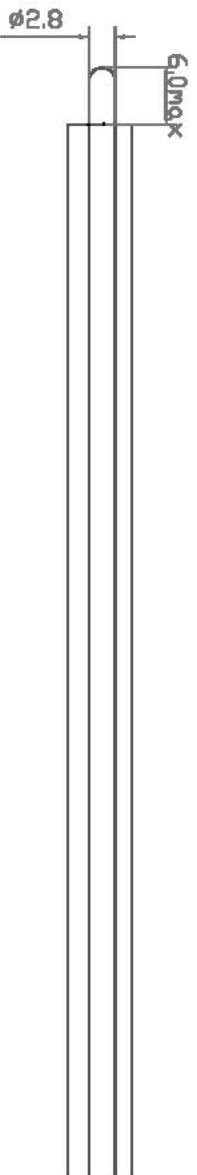
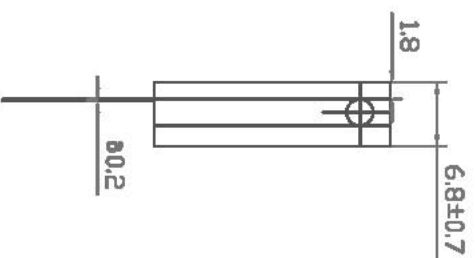
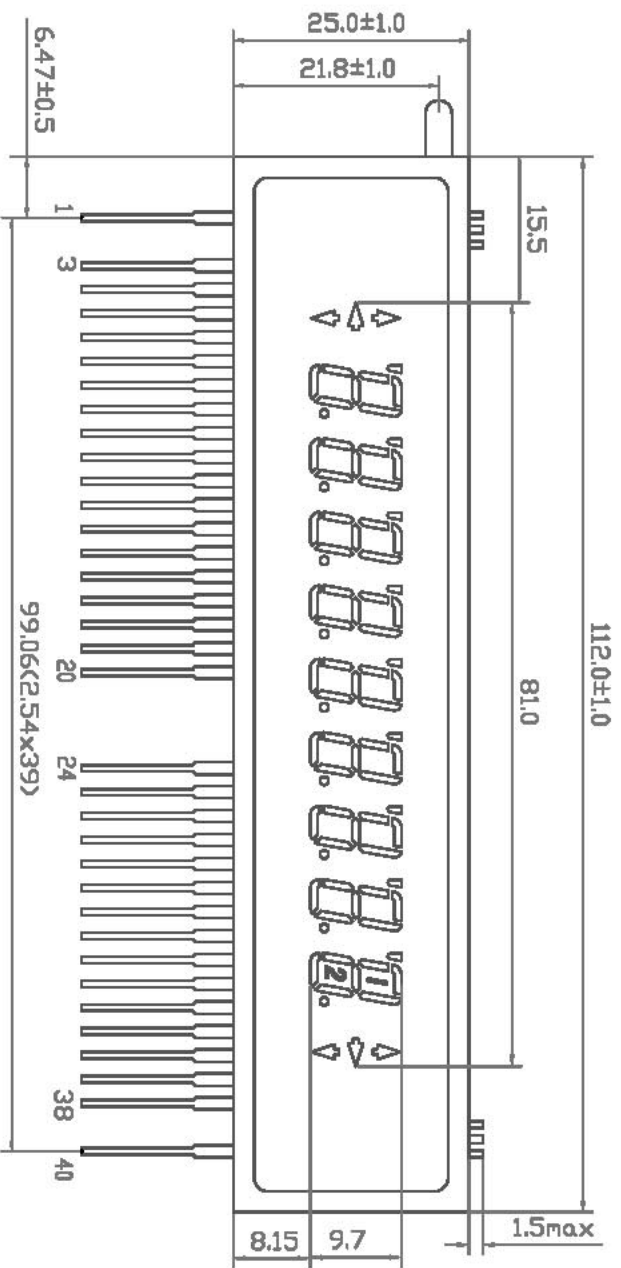
<b>Outer Dimensions</b>	Panel Length	P.L.	112.0	mm	
	Panel Height	P.H.	25.0	mm	
	Panel Thickness	P.T.	6.8	mm	
<b>Leads</b>	Lead Pitch	L.P.	2.54	mm	
	Lead Out	-	SIL		
<b>Character Size</b>	Character Height	C.H.	9.7	mm	
	Character Width	C.W.	-	mm	
<b>Item</b>	<b>Symbol</b>	<b>Min.</b>	<b>Recommended</b>	<b>Max.</b>	<b>Unit</b>
<b>Filament Voltage</b>	Ef	3.9	4.3	4.7	Vac
<b>Peak Grid Voltage</b>	ec	-	25.0	30.0	Vp-p
<b>Peak Anode Voltage</b>	eb	-	25.0	30.0	Vp-p
<b>Cut-off Bias</b>	Ek	-	0	-	Vdc
<b>Duty Cycle</b>	Du	-	1/15	-	-
<b>Pulse Width</b>	tp	-	100	-	uS
<b>Operating Temperature</b>	Topr	-20	-	+ 70	C
<b>Storage Temperature</b>	Tstg	-55	-	+ 80	C
<b>Color of Illumination</b>	Green				

**Electrical  
Characteristics**

Item	Symbol	Test Condition	Min.	Typical	Max.	Unit
<b>Filament Current</b>	if	Ef = 4.3 Vac	70.0	78.0	86.0	mAac
	-	eb = ec = 0	-	-	-	-
<b>Anode Current</b>	ib / 1~11G	Ef = 4.3 Vac	-	4.0	8.0	mAp-p
	-	eb = 25.0 Vp-p	-	-	-	-
	-	ec = 25.0 Vp-p	-	-	-	-
	-	Du = 1/15	-	-	-	-
	-	tp = 100uS	-	-	-	-
<b>Grid Current</b>	ic / 1~11G	( All segs are ON )	-	5.0	10.0	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 = 4.3 Vac Eb = 25.0 Vdc	-4.5	-	-	Vdc
<b>Anode Cut-off Voltage</b>	Ebco	Ef = 4.3 Vac ec = 25.0 Vp-p Du = 1/15 Tp = 100uS	-4.5	-	-	Vdc

**DRIVE MODE: Dynamic State**

1: Outline Drawing (Unit:mm)

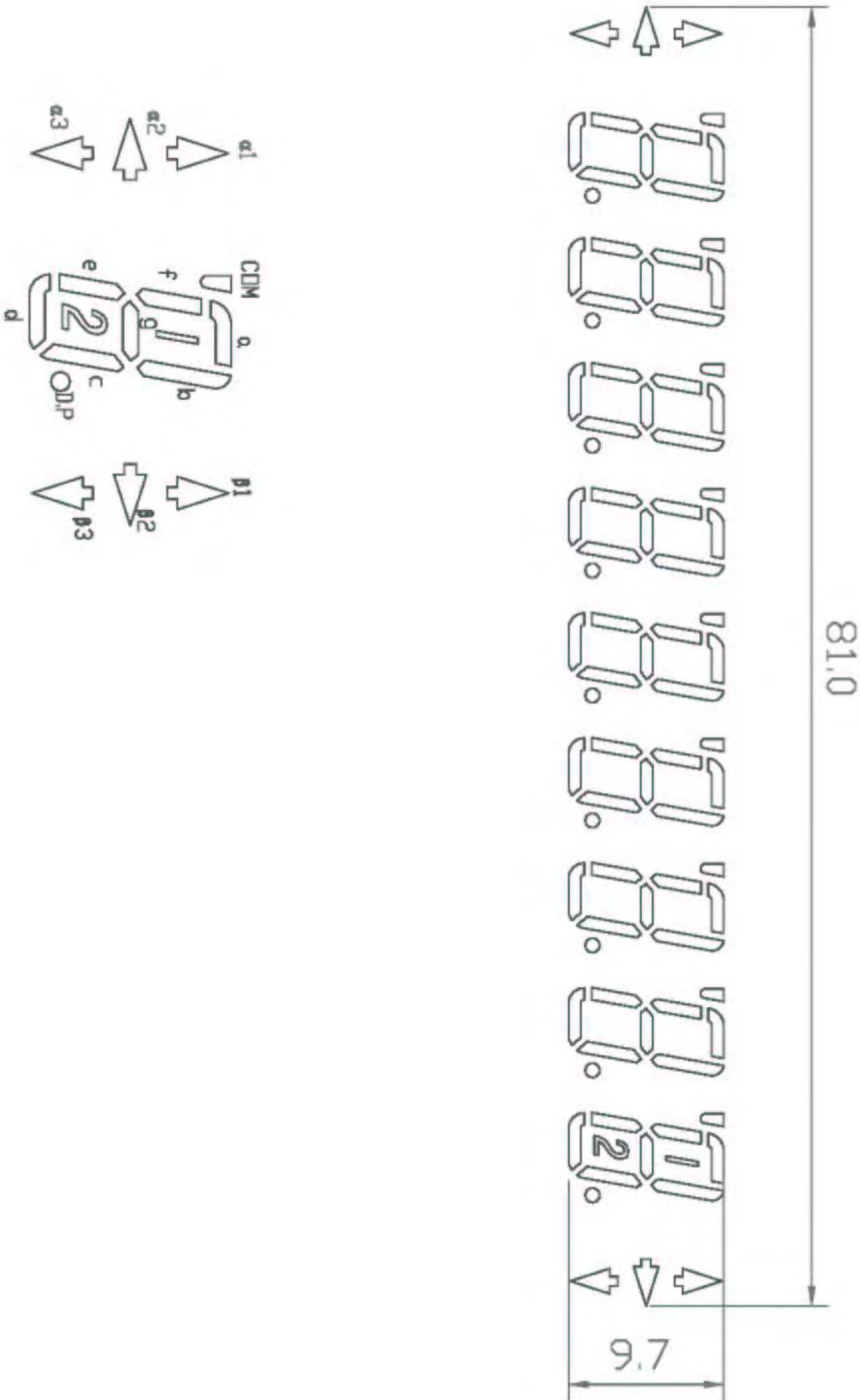


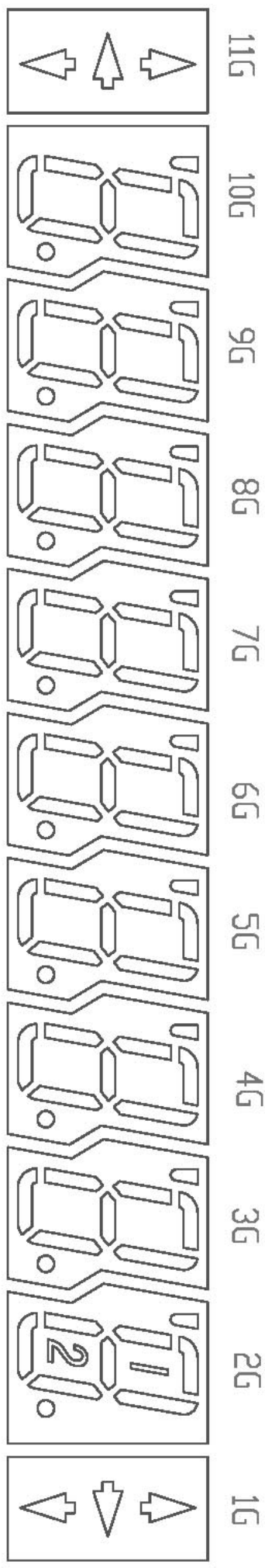
Pin Connections:

Pin Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Connection	F	NP	P1	P2	11G	P3	NC	10G	NC	P4	9G	P5	F6	8G	NC	P7	7G	NC	NC	8G
Pin Number	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Connection	NP	NP	NP	5G	P8	P9	4G	P10	P11	3G	P12	NC	2G	P13	P14	1G	P15	P16	NP	F

NOTE: F: Filament G: Grid P: Anode NP: No Pin NC: No Connection

2: Grid Assignment:





## 4: Anode Connection:

	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G
P1											$\alpha 1$
P2											$\alpha 2$
P3											$\alpha 3$
P4		g	g	g	g	g	g	g	g	g	
P5		f	f	f	f	f	f	f	f	f	
P6		e	e	e	e	e	e	e	e	e	
P7		d	d	d	d	d	d	d	d	d	
P8		D.P	D.P	D.P	D.P	D.P	D.P	D.P	D.P	D.P	
P9		c	c	c	c	c	c	c	c	c	
P10		b	b	b	b	b	b	b	b	b	
P11		a	a	a	a	a	a	a	a	a	
P12		COM	COM	COM	COM	COM	COM	COM	COM	COM	
P13		1 2									
P14	$\beta 3$										
P15	$\beta 2$										
P16	$\beta 1$										