



## User's Guide

# D0120MY-A1H

**VFD - RoHS Compliant**  
(Vacuum Fluorescent Character Display Module)

---

For product support, contact

**Newhaven Display International, LLC**  
**2511 Technology Drive #101**  
**Elgin, IL 60124**  
Tel: (847) 844-8795 Fax: (847) 844-8796

*August 10, 2007*

# Vacuum Fluorescent Display Specification

**PART NUMBER:** D0120MY-A1H

**FEATURES:** 20 Digits, Alphanumeric, Decimal point + Apostrophe

**APPLICATION:** Character Display (*Alphanumeric*)

**RATINGS:** Below

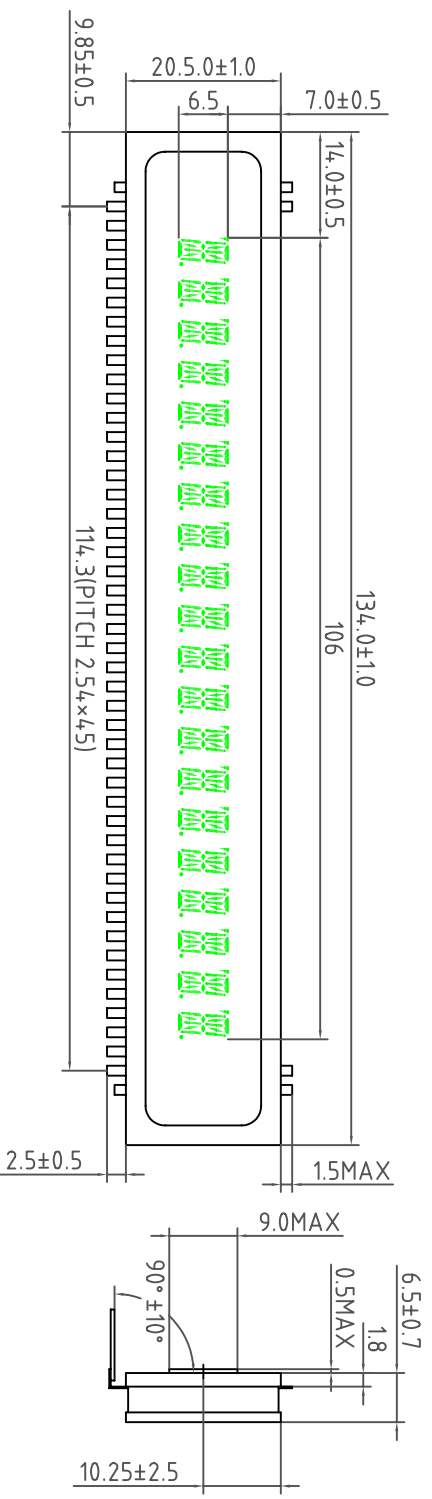
<b>Outer Dimensions</b>	Panel Length	P.L.	134.0	mm	
	Panel Height	P.H.	20.5	mm	
	Panel Thickness	P.T.	6.5	mm	
<b>Leads</b>	Lead Pitch	L.P.	2.54	mm	
	Lead Out	-	SIL		
<b>Character Size</b>	Character Height	C.H.	6.5	mm	
	Character Width	C.W.	3.0	mm	
<b>Item</b>	<b>Symbol</b>	<b>Min.</b>	<b>Recommended</b>	<b>Max.</b>	<b>Unit</b>
<b>Filament Voltage</b>	Ef	5.22	5.8	6.38	Vac
<b>Peak Grid Voltage</b>	ec	-	32.0	39.0	Vp-p
<b>Peak Anode Voltage</b>	eb	-	32.0	39.0	Vp-p
<b>Cut-off Bias</b>	Ek	-	-	-	-
<b>Duty Cycle</b>	Du	-	1/ 24	-	-
<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				

<b>D0120MY-A1H</b>
--------------------

**Electrical  
Characteristics**

Item	Symbol	Test Condition	Min.	Typical	Max.	Unit
<b>Filament Current</b>	If	Ef = 5.8 Vac	54.0	60.0	66.0	mAac
	-	eb = ec = 0	-	-	-	-
<b>Anode Current</b>	ib/1~20G	Ef = 5.6 Vac	-	3.5	7.0	mAp-p
	-	eb = 32.0 Vp-p	-	-	-	mAp-p
	-	ec = 32.0 Vp-p	-	-	-	mAp-p
	-	Du = 1/24	-	-	-	mAp-p
	-	tp = 100 uS	-	-	-	mAp-p
<b>Grid Current</b>	ic/1~20G	All Segs are lit	-	3.5	7.0	mAp-p
	-		-	-	-	mAp-p
	-		-	-	-	mAp-p
	-		-	-	-	mAp-p
	-		-	-	-	mAp-p
<b>Luminance</b>	L(G)		514	1028	-	cd/m <sup>2</sup>
	-		(150)	(300)	-	fL
<b>Luminance Ratio</b>	Lmin/Lmax		50	-	-	%
<b>Grid Cut-off Voltage</b>	Ecco	Ef = 5.8 Vac Eb = 32.0 Vdc	-7.0	-	-	Vdc
<b>Anode Cut-off Voltage</b>	Ebco	Ef = 5.8 Vac ec = 32.0 Vp-p Du = 1/24 tp = 100 uS	-4.0	-	-	Vdc

\* Drive Mode is Dynamic State

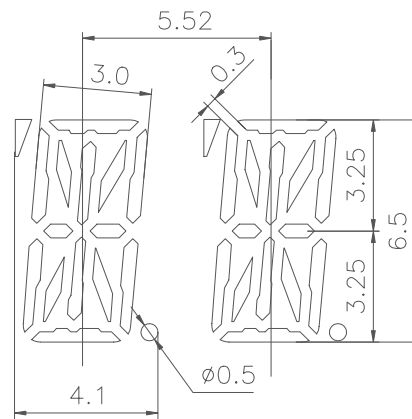
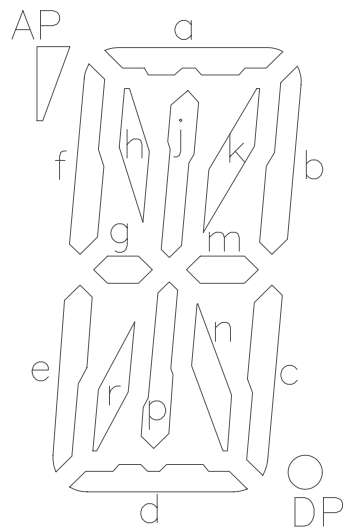
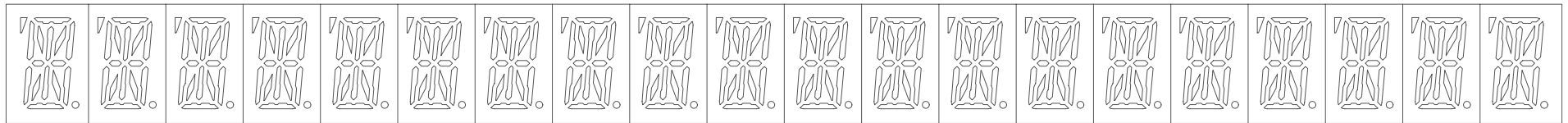


Pin No. :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Connect :	F	P1	P2	P3	P4	P5	P6	P7	P8	20G	19G	18G	17G	16G	15G	14G	13G	12G	11G	NP	NP	NP	NP
Pin No. :	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Connect :	NP	NP	NP	NP	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	P9	P10	P11	P12	P13	P14	P15	P16	F

# Grid separation, Anode designation, Font Pattern

20G

1G



COLOR: Green

TERMINAL CONNECTION Table

	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G	16G	17G	18G	19G	20G
P1	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f
P2	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g
P3	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
P4	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r
P5	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
P6	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
P7	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP	DP
P8	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d
P9	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
P10	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
P11	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b
P12	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h
P13	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k
P14	j	j	j	j	j	j	j	j	j	j	j	j	j	j	j	j	j	j	j	j
P15	AP	AP	AP	AP	AP	AP	AP	AP	AP	AP	AP	AP	AP	AP	AP	AP	AP	AP	AP	AP
P16	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a