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User's Guide

D0116SY-20-1601FB

VFD- **RoHS Compliant**

(Vacuum Fluorescent Display Module)

For product support, contact

Newhaven Display International
2511 Technology Drive, #101
Elgin, IL 60124

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October 31,2006

Vacuum Fluorescent Display Specification

PART NUMBER: D0116SY-20-1601FB

FEATURES: 16 Digits, Alphanumeric, 14 segments with Decimal Points, Commas

APPLICATION: Character Display (Alphanumeric)

RATINGS: Below

Outer Dimensions	Panel Length	P.L.	110.2	mm	
	Panel Height	P.H.	20.5	mm	
	Panel Thickness	P.T.	6.1	mm	
Leads	Lead Pitch	L.P.	2.54	mm	
	Lead Out	-	SIL		
Character Size	Character Height	C.H.	5.0	mm	
	Character Width	C.W.	3.0	mm	
Item	Symbol	Min.	Recommended	Max.	Unit
Filament Voltage	Ef	4.14	4.6	5.06	Vac
Peak Grid Voltage	ec	-	24.0	30.0	Vp-p
Peak Anode Voltage	eb	-	24.0	30.0	Vp-p
Cut-off Bias	Ek	-	-	-	Vdc
Duty Cycle	Du	-	1/20	-	-
Pulse Width	tp	-	80	-	uS
Operating Temperature	Topr	-40	-	+ 85	C
Storage Temperature	Tstg	-50	-	+ 95	C
Color of Illumination	Green				

**Electrical
Characteristics**

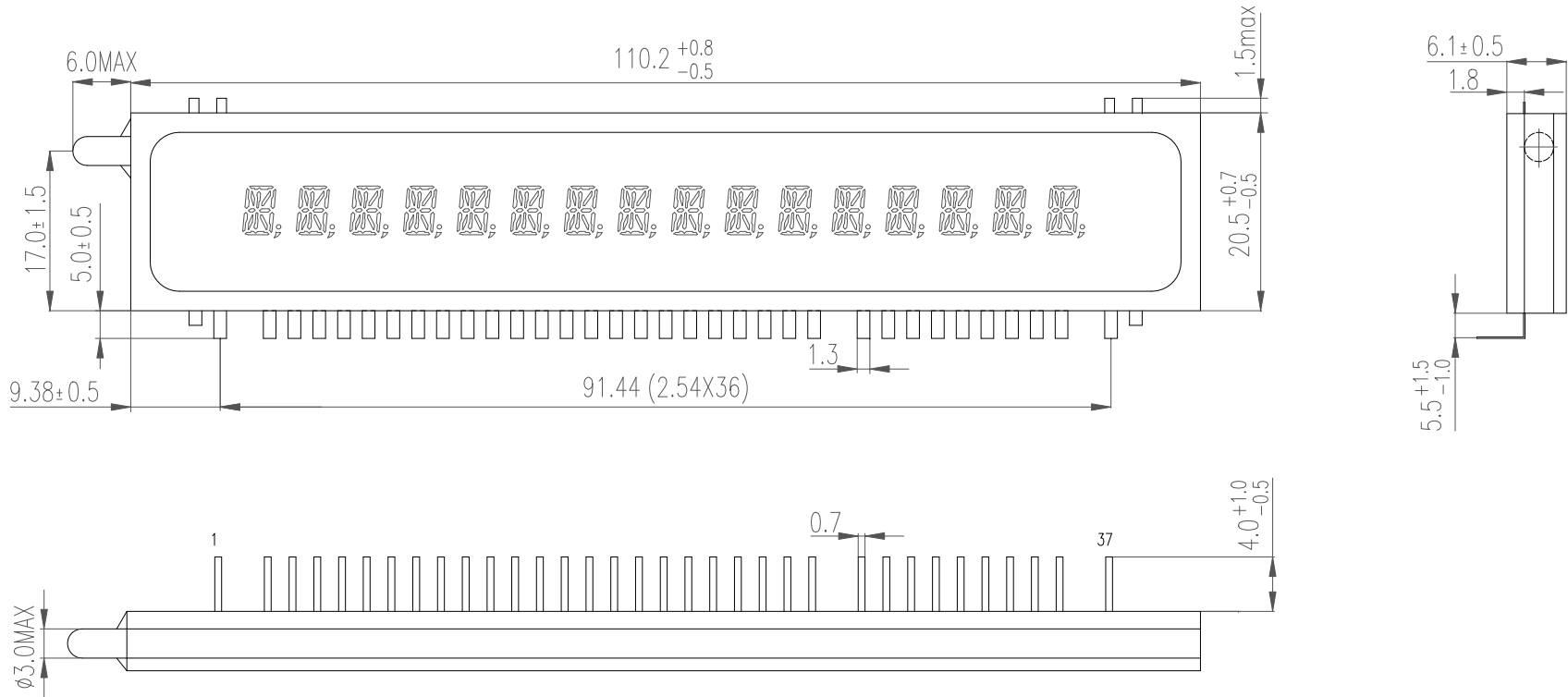
Item	Symbol	Test Condition	Min.	Typical	Max.	Unit	
Filament Current	lf	Ef = 4.6 Vac	54.0	60.0	66.0	mAac	
	-	eb = ec = 0	-	-	-	-	
Anode Current	ib/1~16G	Ef = 4.6 Vac eb = 24.0 Vp-p ec = 24.0 Vp-p Du = 1/20 tp = 80 uS	-	2.2	4.4	mAp-p	
	-		-	-	-	mAp-p	
	-		-	-	-	-	mAp-p
	-		-	-	-	-	mAp-p
	-		-	-	-	-	mAp-p
Grid Current	ic/1~16G		-	2.3	4.6	mAp-p	
	-		-	-	-	mAp-p	
	-		-	-	-	mAp-p	
	-		-	-	-	mAp-p	
	-		-	-	-	mAp-p	
Luminance	L(G)		350	700	-	cd/m ²	
	-		(102)	(204)		fL	
Luminance Ratio	Lmin/Lmax		50	-	-	%	
Grid Cut-off Voltage	Ecco	Ef = 4.6 Vac Eb = 24.0 Vdc	-6.0	-	-	Vdc	
Anode Cut-off Voltage	Ebco	Ef = 4.6 Vac ec = 24.0 Vp-p Du = 1/20 tp = 80 uS	-3.0	-	-	Vdc	

Drive Mode: Dynamic state

型号 Type No.: VFD20-1601FB

D0116SY-20-1601FB

附图 1: 外形图 Outline Drawing (Unit:mm)



管脚连接 (PIN CONNECTION)

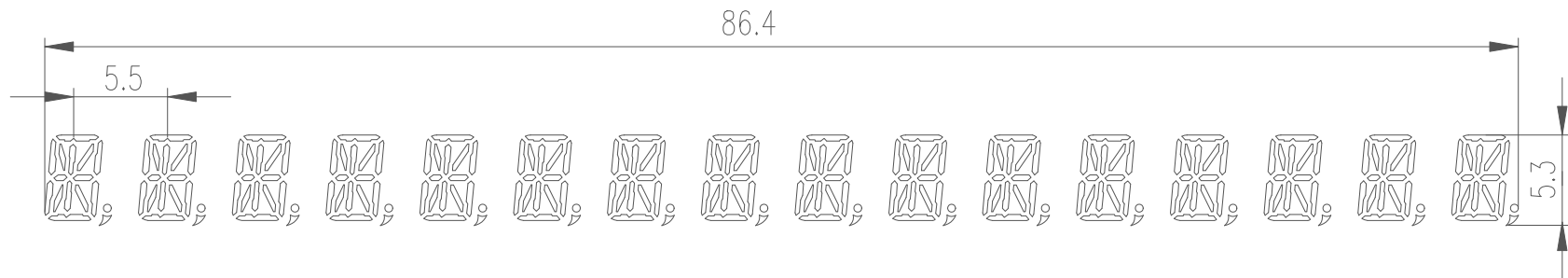
端子序号 (PIN NO.)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
连接 (CONNECTION)	F	NP	16G	P16	15G	P15	14G	P14	13G	P13	12G	P12	P11	11G	P10	10G	P9	9G	P8
端子序号 (PIN NO.)	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	
连接 (CONNECTION)	8G	P7	7G	P6	6G	P5	NP	5G	P4	4G	P3	3G	P2	2G	P1	1G	NP	F	

注 : F: 灯丝 (Filament) P: 阳极 (Anode) G: 栅极 (Grid) NC: 无连接 (No connection) NP: 无引出脚 (No pin)

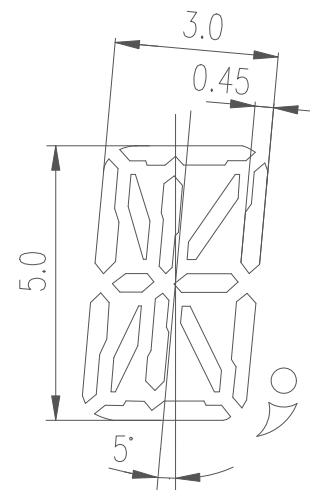
型号 Type No.: VFD20-1601FB

D0116SY-20-1601FB

附图 2: 显示内容 Display Pattern

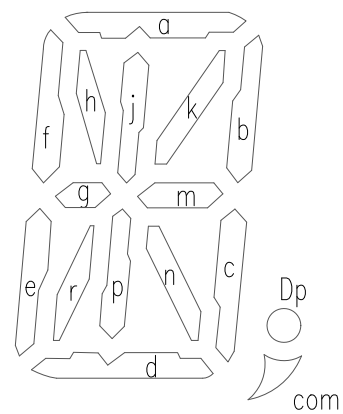
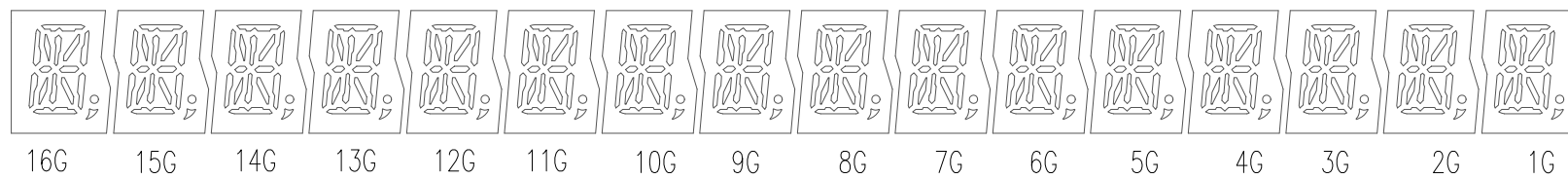


绿色 Green : 全部 ALL (X=0.250, Y=0.440)



D0116SY-20-1601FB

附图 3: 栅网分割 Grid Assignment



附图 4: 阳极连接 Anode Connection

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