NEWHAVEN DISPLAY INTERNATIONAL

User's Guide

C-33-0801N

VFD

(Vacuum Fluorescent Character Display Module)

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October 31, 2006

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Vacuum Fluorescent Display Specification

PART NUMBER: C-33-0801N

FEATURES: 7 Digits, Alphanumeric, with Icons

APPLICATION: Character Display (*Alphanumeric*)

RATINGS: Below

Outer Dimensions	Panel Length	P.L.	144.2	mm
	Panel Height	P.H.	33.5	mm
	Panel Thickness	P.T.	8.0	mm
Leads	Lead Pitch	L.P.	2.54	mm
	Lead Out	-	SIL	
Character Size	Character Height	C.H.	6.5	mm
	Character Width	C.W.	3.0	mm

Item	Symbol	Min.	Recommended	Max.	Unit
Filament Voltage	Ef	4.3	4.8	5.3	Vac
Peak Grid Voltage	ec	-	30.0	33.0	Vp-p
Peak Anode Voltage	eb	-	30.0	33.0	Vp-p
Cut-off Bias	Ek	-	-	-	-
Duty Cycle	Du	-	1/ 10	-	-
Pulse Width	tp	-	80	-	uS
Operating Temperature	Topr	-20	-	+ 70	C
Storage Temperature	Tstg	-40	-	+ 85	C
Color of Illumination	Green				

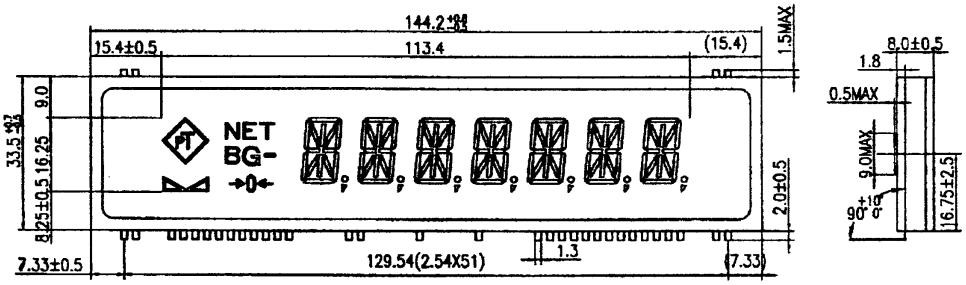
Electrical Characteristics

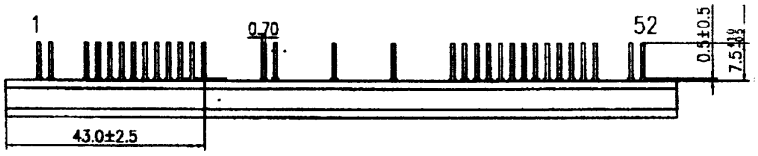
Item	Symbol	Test Condition	Min.	Typical	Max.	Unit
Filament Current	If -	Ef = 4.8 Vac eb = ec = 0	108.0 -	120.0 -	132.0 -	mAac -
Anode Current	ib/1~7G ib/8G - - -	Ef = 4.8 Vac eb = 30.0 Vp-p ec = 30.0 Vp-p Du = 1/10 tp = 80 uS	- - - - -	8.0 12.0 - - -	16.0 24.0 - - -	mAp-p mAp-p mAp-p mAp-p mAp-p
Grid Current	ic/1~7G ib/8G - - -	All Segs are lit	- - - - -	12.0 29.0 - - -	26.0 58.0 - - -	mAp-p mAp-p mAp-p mAp-p mAp-p
Luminance	L(G) -		350 (102)	700 (240)	- 	cd/m^2 fL
Luminance Ratio	Lmin/Lmax		50	-	-	%
Grid Cut-off Voltage	Ecco	Ef = 4.8 Vac Eb = 30.0 Vdc	-6.5	-	-	Vdc
Anode Cut-off Voltage	Ebco	Ef = 4.8 Vac ec = 30.0 Vp-p Du = 1/10 tp = 80 uS	-3.0	-	-	Vdc

* Drive Mode is Dynamic State

OUTLINE DRAWING

Unit - mm





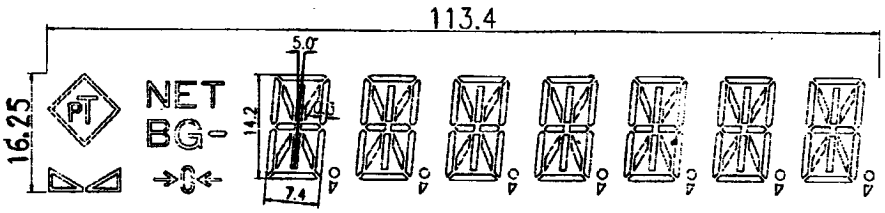
PINOUT CONNECTIONS

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
Connection	F1	F1	NP	NP	P1	P2	P3	P4	P5	NC	P6	P7	P8	P9	8G	NP	NP	
Pin No.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	
Connection	NP	NP	7G	6G	NP	NP	NP	NP	5G	NP	NP	NP	NP	4G	NP	NP	NP	
Pin No.	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Connection	NP	3G	NC	P10	NC	P11	NC	P12	P13	2G	1G	P14	P15	P16	NP	NP	F2	F2

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

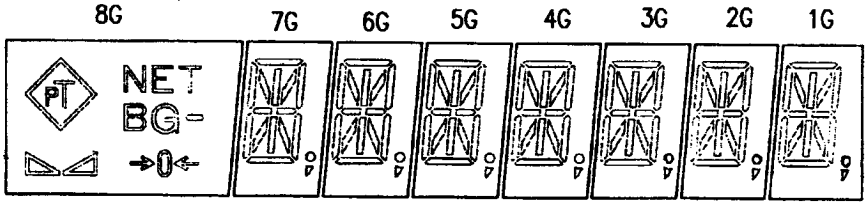
Display Pattern

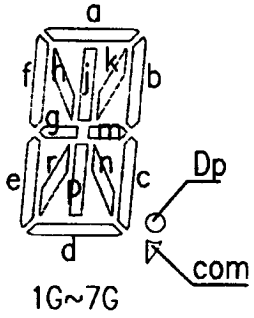
Color of Illumination



Green :(X=0.250,Y=0.439)

Grid Assignment





Anode Connection

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