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## User's Guide

# C-29-1002FN

# VFD

(Vacuum Fluorescent Character Display Module)

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# Vacuum Fluorescent Display Specification

**PART NUMBER:** C-29-1002FN

**FEATURES:** 8 Digits, Alphanumeric, with Icons – AUDIO

**APPLICATION:** Character Display (Alphanumeric)

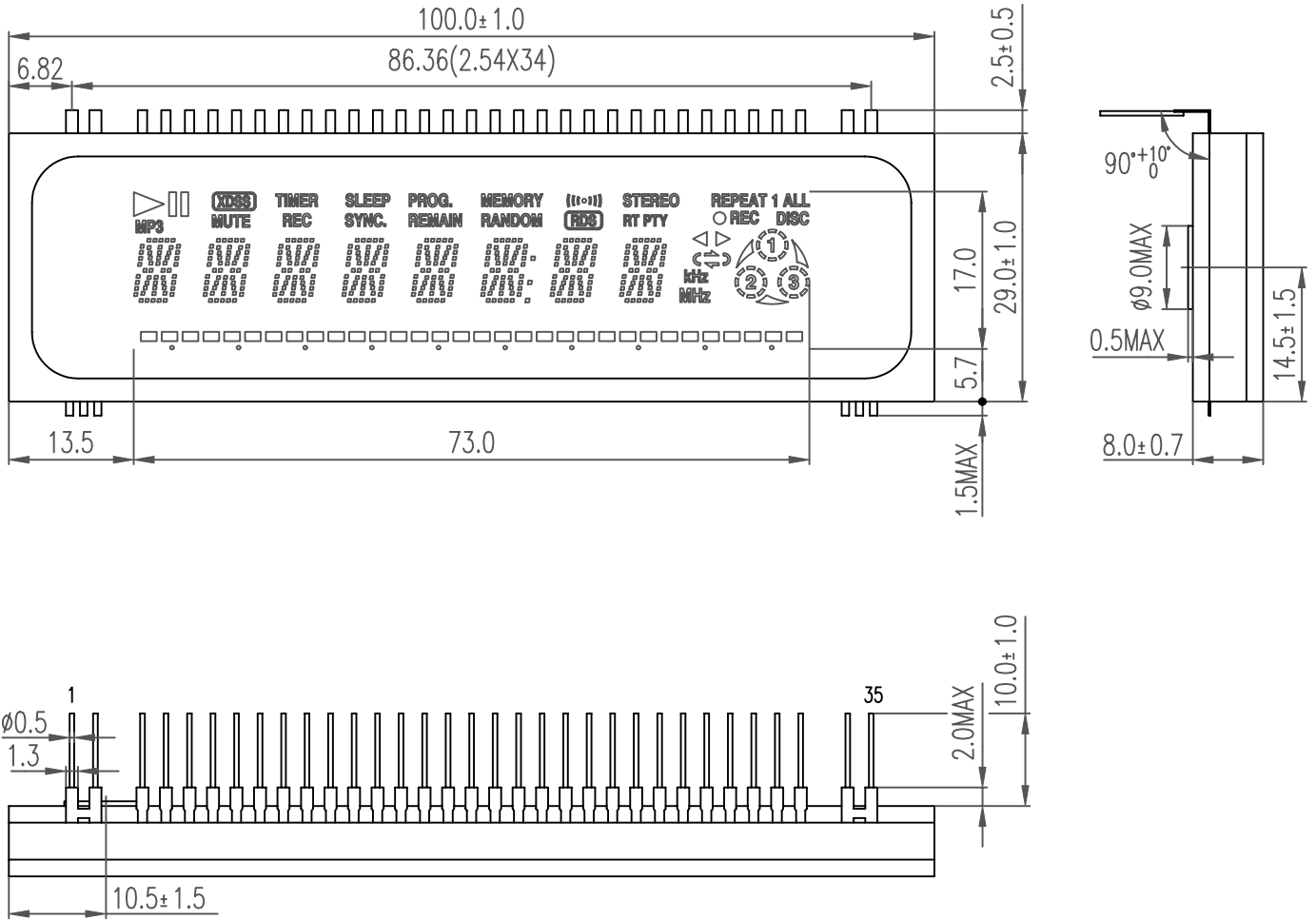
**RATINGS:** Below

<b>Outer Dimensions</b>	Panel Length	P.L.	100.0	mm	
	Panel Height	P.H.	29.0	mm	
	Panel Thickness	P.T.	8.0	mm	
<b>Leads</b>	Lead Pitch	L.P.	2.54	Mm	
	Lead Out	-	SIL		
<b>Character Size</b>	Character Height	C.H.	10.5	mm	
	Character Width	C.W.	5.0	mm	
<b>Item</b>	<b>Symbol</b>	<b>Min.</b>	<b>Recommended</b>	<b>Max.</b>	<b>Unit</b>
<b>Filament Voltage</b>	Ef	3.4	3.8	4.2	Vac
<b>Peak Grid Voltage</b>	Ec	-	28.0	32.0	Vp-p
<b>Peak Anode Voltage</b>	Eb	-	28.0	32.0	Vp-p
<b>Cut-off Bias</b>	Ek	-	-	-	-
<b>Duty Cycle</b>	Du	-	1/11	-	-
<b>Pulse Width</b>	Tp	-	100	-	uS
<b>Operating Temperature</b>	Topr	-40	-	+ 80	C
<b>Storage Temperature</b>	Tstg	-55	-	+ 85	C
<b>Color of Illumination</b>	Green / Red				

Electrical Characteristics

Item	Symbol	Test Condition	Min.	Typical	Max.	Unit
<b>Filament Current</b>	lf -	Ef = 3.8 Vac eb = ec = 0	148.5 -	165.0 -	181.5 -	mAac -
<b>Anode Current</b>	ib/1~8G	Ef = 3.8 Vac eb = 28.0 Vp-p ec = 28.0 Vp-p Du = 1/11 tp = 100 uS	-	9.0	16.0	mAp-p
	ib/9G		-	11.0	22.0	mAp-p
	ib/10G		-	15.0	30.0	mAp-p
	-		-	-	-	mAp-p
	-		-	-	-	mAp-p
<b>Grid Current</b>	ic/1~8G		-	8.5	17.0	mAp-p
	ic/9G		-	10.0	20.0	mAp-p
	ic/10G		-	12.0	24.0	mAp-p
	-		-	-	-	mAp-p
	-		-	-	-	mAp-p
<b>Luminance</b>	L(G)		350 (102)	700 (204)	-	cd/m <sup>2</sup> (fL)
	L(R)		35 (10.2)	70 (20.4)		cd/m <sup>2</sup> (fL)
						cd/m <sup>2</sup> (fL)
<b>Luminance Ratio</b>	Lmin/Lmax		50	-	-	%
<b>Grid Cut-off Voltage</b>	Ecco	Ef = 3.8 Vac Eb = 28.0 Vdc	-5.0	-	-	Vdc
<b>Anode Cut-off Voltage</b>	Ebco	Ef = 3.8 Vac ec = 28.0 Vp-p Du = 1/11 tp = 100 uS	-5.0	-	-	Vdc

附图 1: 外形图 Outline Drawing (Unit:mm)

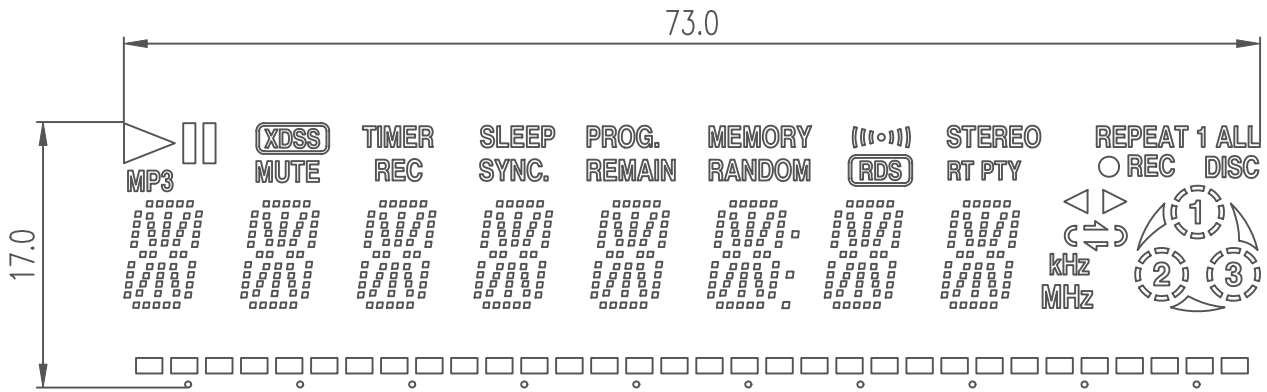


管脚连接 (PIN CONNECTION)

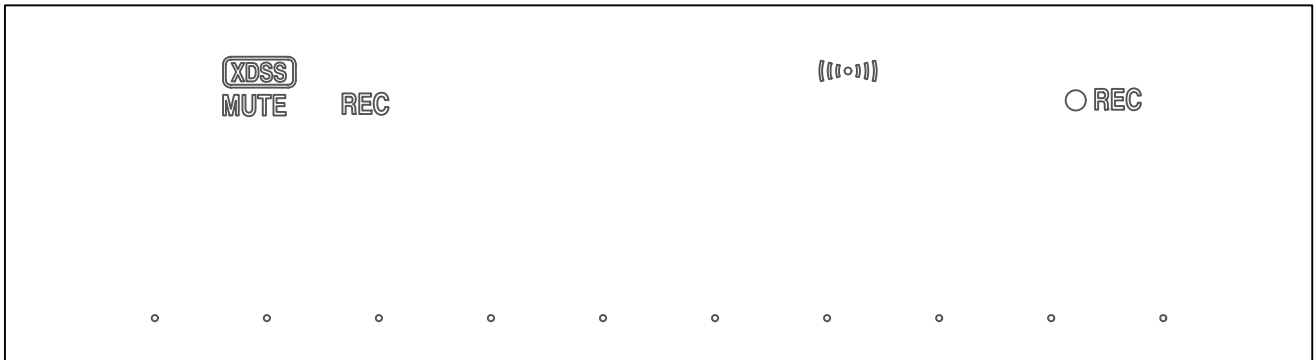
端子序号 (PIN NO.)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
连接 (CONNECTION)	F	F	NP	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	NC	P1	P2	P3	P4
端子序号 (PIN NO.)	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
连接 (CONNECTION)	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	NP	F	F	

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)

附图 2: 显示内容 Display Pattern

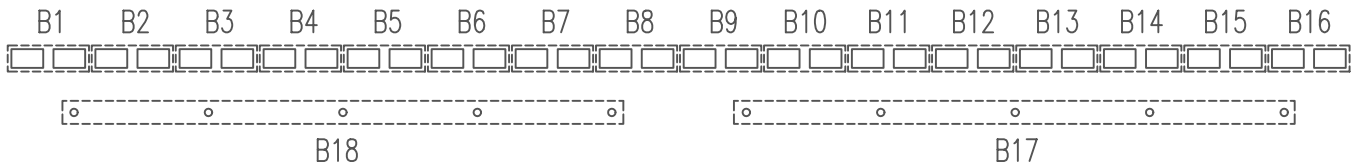
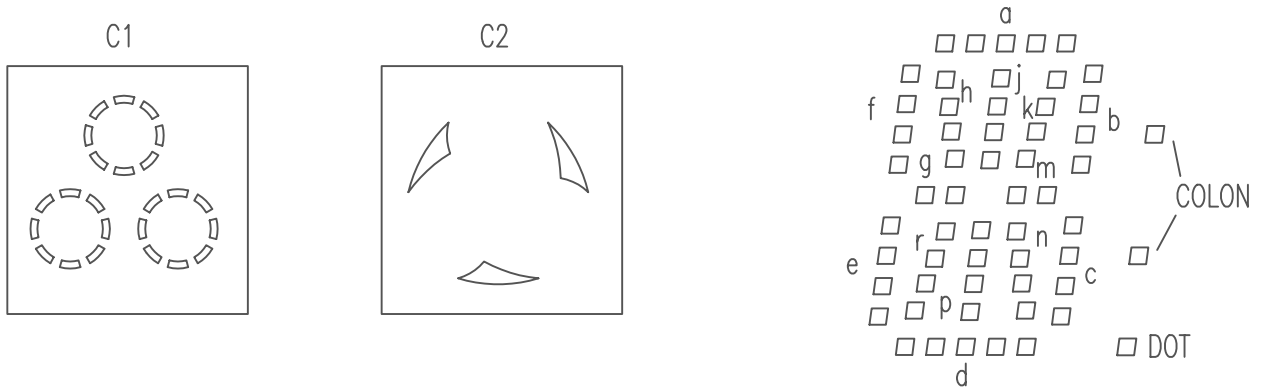
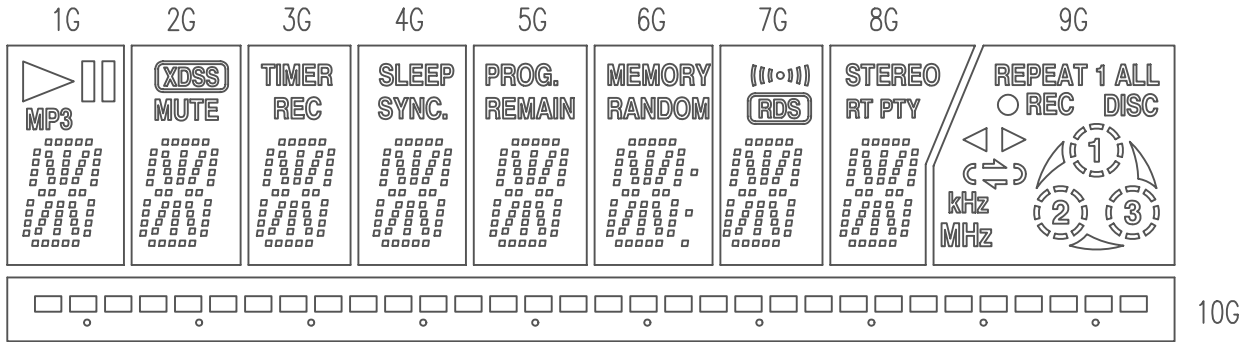


红色 Red (X=0.627,Y=0.371)



绿色 Green : 其他 Other (X=0.250, Y=0.440)

附图 3: 栅网分割 Grid Assignment



附图 4: 阳极连接 Anode Connection

	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G
P1			TIMER	SLEEP	PROG.	MEMORY		STEREO	REPEAT	B18
P2		MUTE	REC	SYNC.	REMAIN	RANDOM		RT	1	B17
P3	MP3					COLON		PTY	ALL	B16
P4						DOT			DISC	B15
P5	d	d	d	d	d	d	d	d		B14
P6	p	p	p	p	p	p	p	p		B13
P7	n	n	n	n	n	n	n	n		B12
P8	r	r	r	r	r	r	r	r		B11
P9	e	e	e	e	e	e	e	e		B10
P10	c	c	c	c	c	c	c	c		B9
P11	m	m	m	m	m	m	m	m		B8
P12	g	g	g	g	g	g	g	g	C1	B7
P13	f	f	f	f	f	f	f	f	C2	B6
P14	b	b	b	b	b	b	b	b	1	B5
P15	k	k	k	k	k	k	k	k	2	B4
P16	h	h	h	h	h	h	h	h	3	B3
P17	j	j	j	j	j	j	j	j	kHz	B2
P18	a	a	a	a	a	a	a	a	MHz	B1