

## User's Guide

# C40-1405

## VFD

(Vacuum Fluorescent Character Display Module)

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# Vacuum Fluorescent Display Specification

**PART NUMBER:** **C40-1405**

**FEATURES:** 140 Segments– 14 x 10 Dot Matrix Grid

**APPLICATION:** Elevator

**RATINGS:** Below

<b>Outer Dimensions</b>	Panel Length	P.L.	65.2	mm	
	Panel Height	P.H.	40.0	mm	
	Panel Thickness	P.T.	9.0	mm	
<b>Leads</b>	Lead Pitch	L.P.	1.50	mm	
	Lead Out	-	SIL		
<b>Character Size</b>	Character Height	C.H.	1.75	mm	
	Character Width	C.W.	1.14	mm	
<b>Item</b>	<b>Symbol</b>	<b>Min.</b>	<b>Recommended</b>	<b>Max.</b>	<b>Unit</b>
<b>Filament Voltage</b>	Ef	1.89	2.1	2.31	Vac
<b>Grid Voltage</b>	ec	-	27.0	32.0	Vp-p
<b>Anode Voltage</b>	eb	-	27.0	32.0	Vp-p
<b>Cut-off Bias</b>	Ek	-	3.5	-	Vdc
<b>Duty Cycle</b>	Du	-	1/17.5	-	-
<b>Pulse Width</b>	tp	-	80	-	uS
<b>Operating Temperature</b>	Topr	-20	-	+ 70	C
<b>Storage Temperature</b>	Tstg	-55	-	+ 80	C
<b>Color of Illumination</b>	Green: X=0.250, Y=0.440				

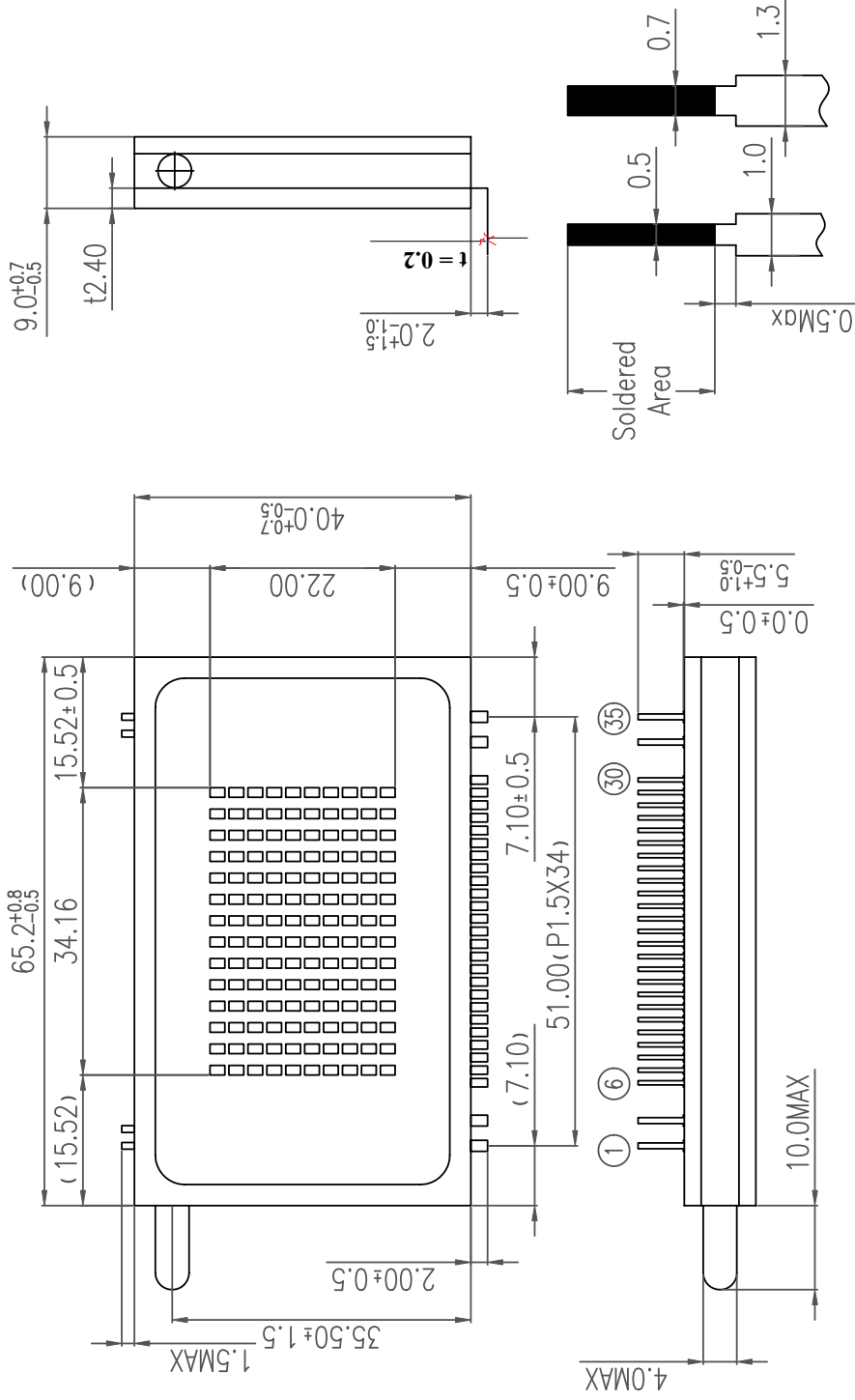
电气特性 Electrical Characteristics

项 目 Item	符 号 Symbol	测试条件 Test Condition	最小值 Min	典型值 Typical	最大值 Max	单 位 Unit	
灯丝电流 Filament Current	If	Ef=2.1 Vac eb=ec=0	203.0	225.0	248.0	mAac	
阳极电流 Anode Current	ib/1G~14G	Ef=2.1 Vac	—	5.0	10.0	mAp-p	
	—	eb=27.0 Vp-p	—	—	—	mAp-p	
	—	ec=27.0 Vp-p	—	—	—	mAp-p	
	—	Du=1/17.5	—	—	—	mAp-p	
	—	tp=80μs tb=20μs	—	—	—	mAp-p	
栅极电流 Grid Current	ic/1G~14G	(笔段全亮)	—	4.5	9.0	mAp-p	
	—		—	—	—	mAp-p	
	—		—	—	—	mAp-p	
	—		—	—	—	mAp-p	
	—		—	—	—	mAp-p	
亮度 Luminance	L(G)		350 (102)	700 (204)	—	cd/m <sup>2</sup> (fl)	
	—		—	—	—	—	cd/m <sup>2</sup> (fl)
	—		—	—	—	—	cd/m <sup>2</sup> (fl)
	—		—	—	—	—	cd/m <sup>2</sup> (fl)
位间亮度比 Luminance Ratio	Lmin/Lmax		50	—	—	%	
栅极截止电压 Grid Cut-off Voltage	Ecco	Ef=2.1 Vac Eb=27.0 Vdc	-3.5	—	—	Vdc	
阳极截止电压 Anode Cut-off Voltage	Ebco	Ef=2.1 Vac ec=27.0 Vp-p Du=1/17.5 tp=80 μs	-3.5	—	—	Vdc	

注：驱动方式 动态  
Drive mode:Dynamic state

control No.	QG/ZBOE 030.07.3-05
Spec. No.	SPC04.09.09-01
MODEL	<b>C40-1405</b>

附图1：外形图 Outline Drawing (Unit:mm)



管脚连接 (PIN CONNECTION)

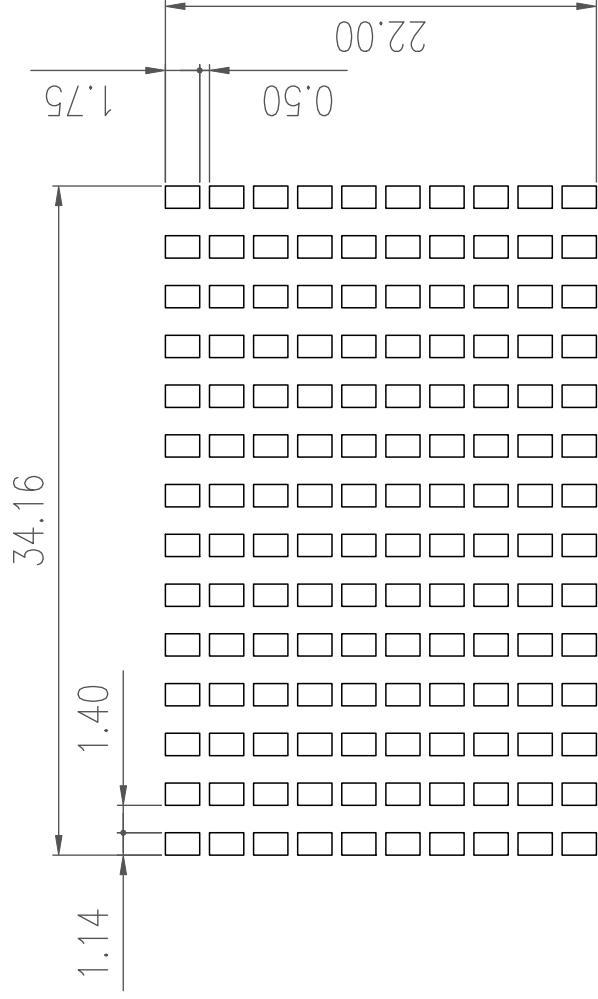
端子序号 (PIN NO.)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
连接 (CONNECTION)	F1	NP	F1	NP	P1	P2	P3	P4	P5	P10	P9	P8	P7	P6	NC	14G	13G	
端子序号 (PIN NO.)	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
连接 (CONNECTION)	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	F2	NP	F2	

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) NX：无外引脚 (No extended pin)

OTHER F-LEAD  
LEAD DETAILS

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附图2：显示内容 Display Pattern

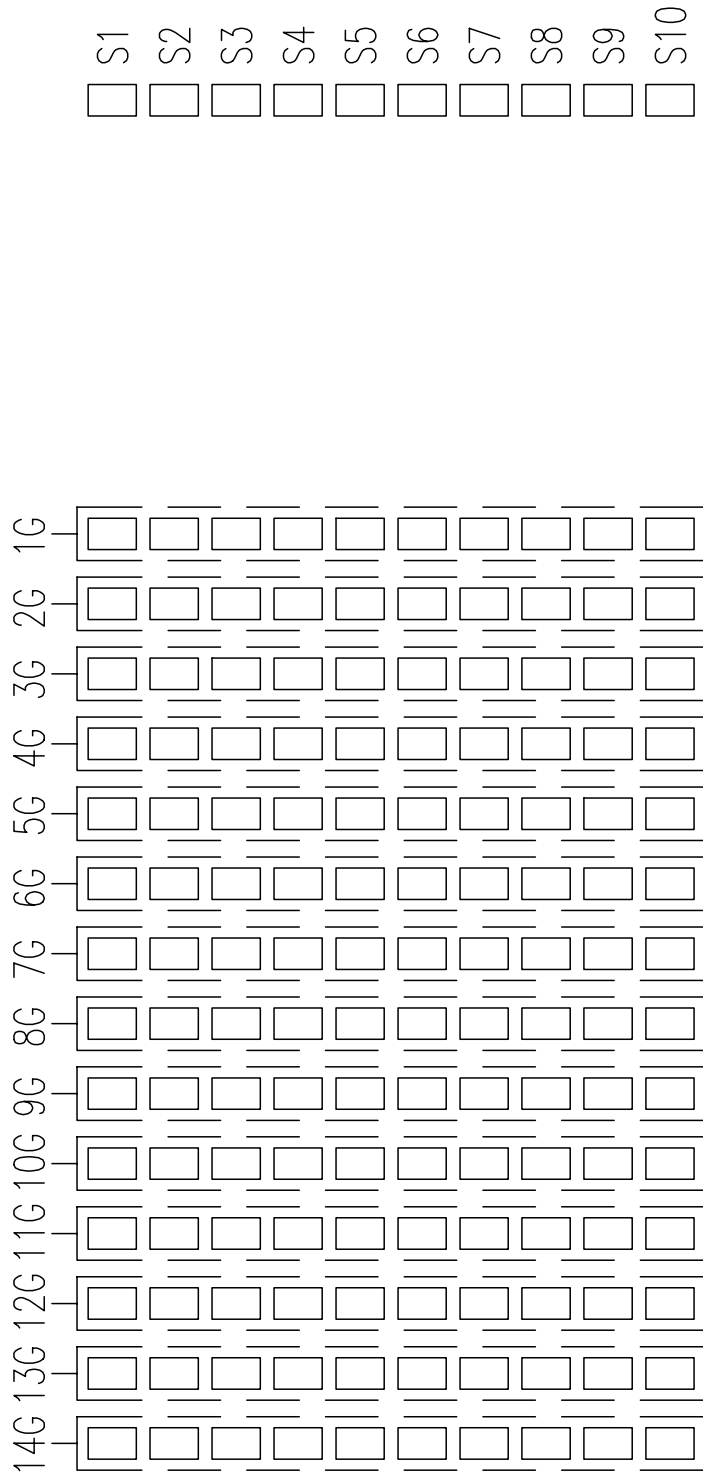


显示颜色(Color of illumination)

绿色 (Green:x=0.250,y=0.440): 全部 All

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# 附图3: 栅网分割 Grid Assignment



(14G~1G)

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附图4：阳极连接 Anode Connection

	14G	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1
P2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2
P3	S3	S3	S3	S3	S3	S3	S3	S3	S3	S3	S3	S3	S3	S3
P4	S4	S4	S4	S4	S4	S4	S4	S4	S4	S4	S4	S4	S4	S4
P5	S5	S5	S5	S5	S5	S5	S5	S5	S5	S5	S5	S5	S5	S5
P6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
P7	S7	S7	S7	S7	S7	S7	S7	S7	S7	S7	S7	S7	S7	S7
P8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8
P9	S9	S9	S9	S9	S9	S9	S9	S9	S9	S9	S9	S9	S9	S9
P10	S10	S10	S10	S10	S10	S10	S10	S10	S10	S10	S10	S10	S10	S10

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