

User's Guide

D0116SY-20-1601FB

VFD- **RoHS Compliant**

(Vacuum Fluorescent Display Module)

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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 | | | | |

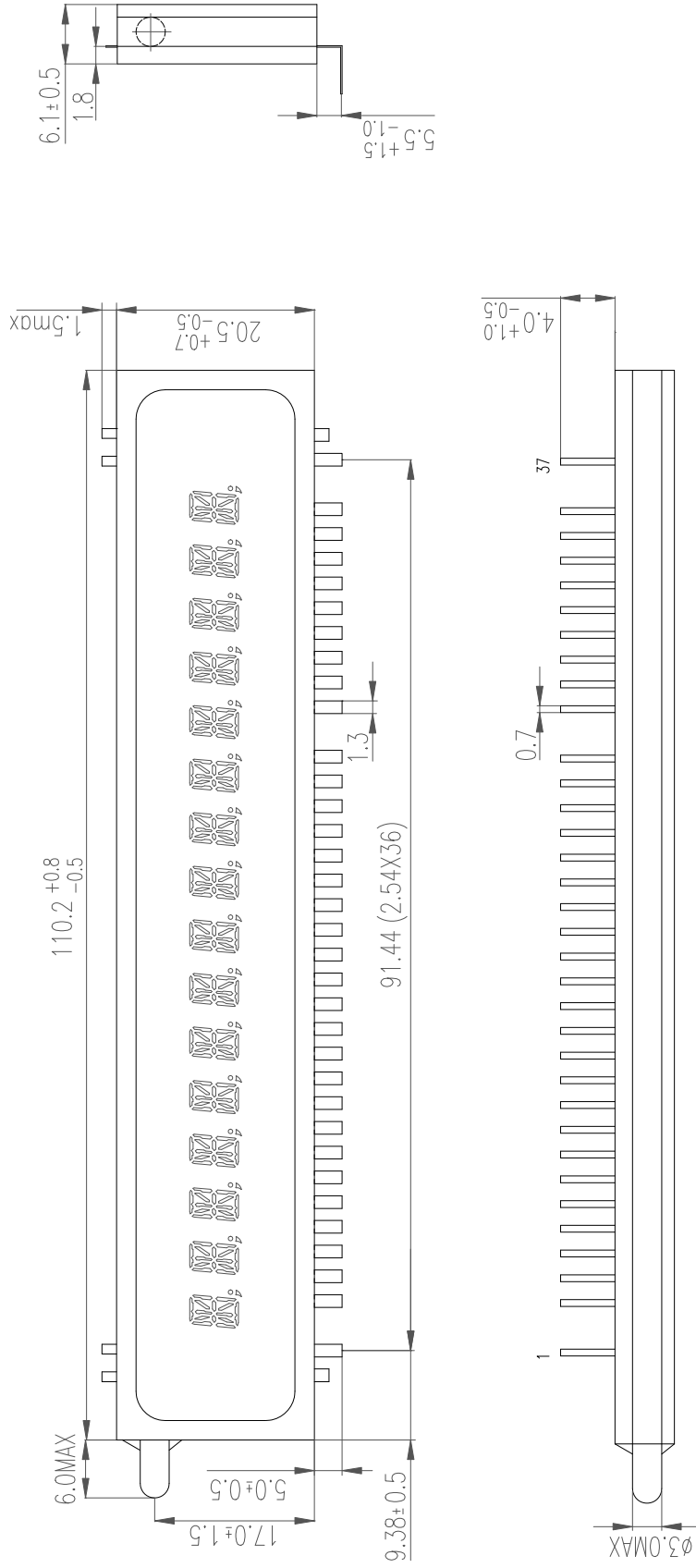
**Electrical
Characteristics**

| 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

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附图 1: 外形图 Outline Drawing (Unit:mm)



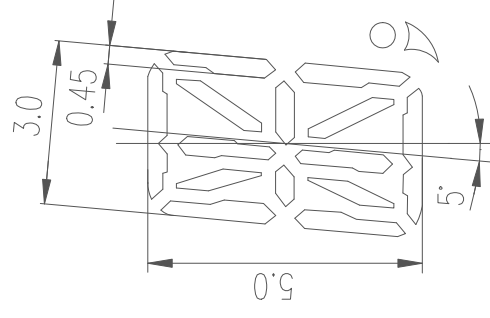
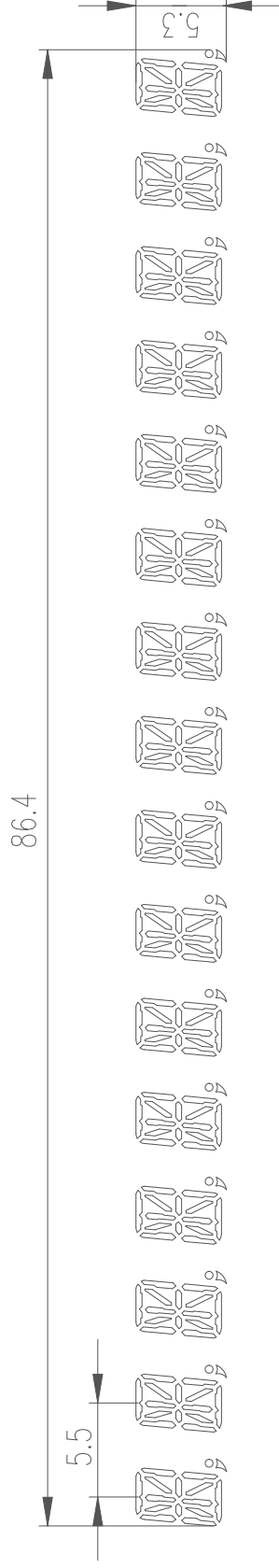
管脚连接 (PIN CONNECTION)

| | | | | | | | | | | | | | | | | | | | |
|-----------------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|
| 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)

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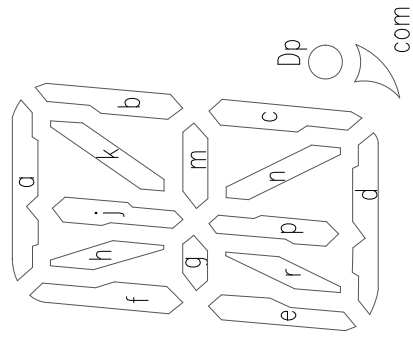
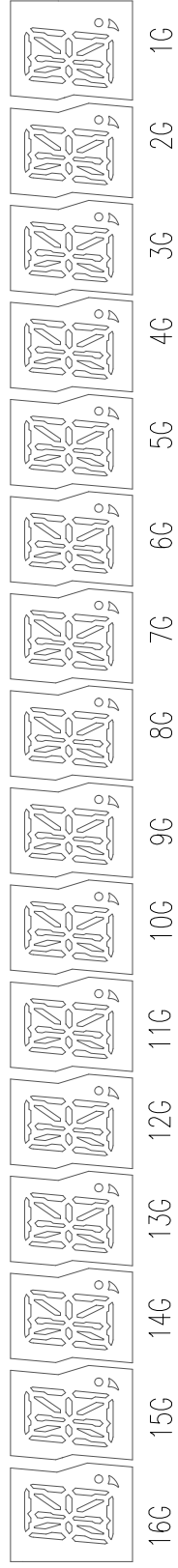
附图 2: 显示内容 Display Pattern



绿色 Green : 全部 ALL (X=0.250, Y=0.440)

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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 |