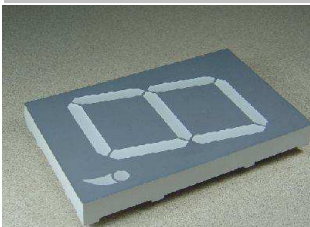


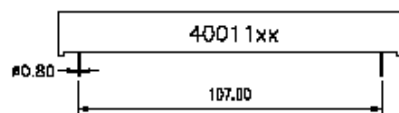
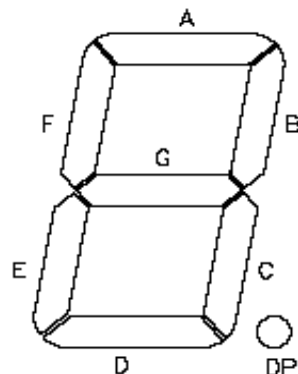
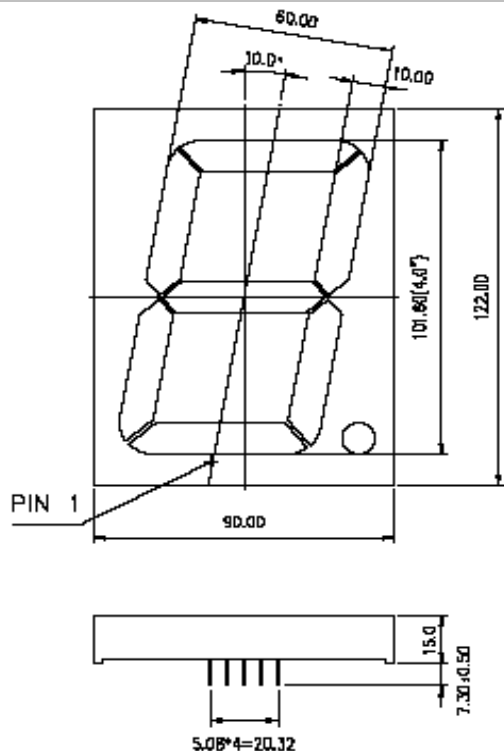
# EDCON-COMPONENTS



The Power of LED Light

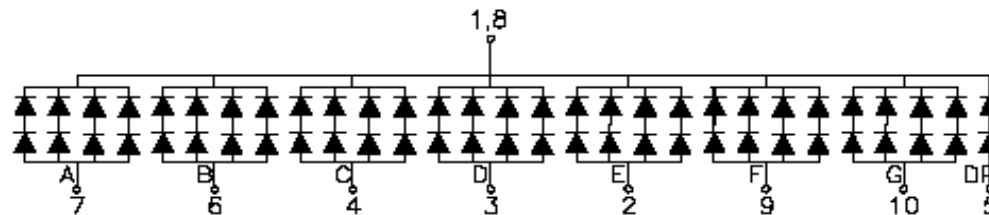


## Dimensions / Informations Model No. 1

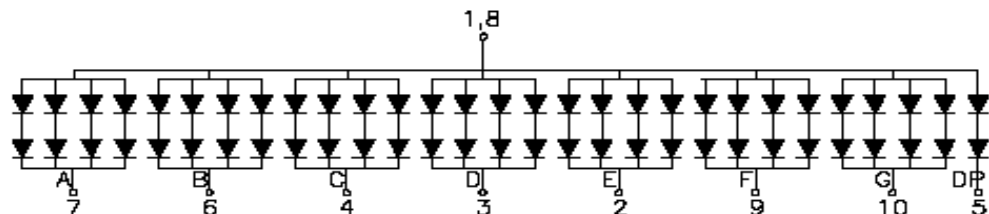


## Package Dimensions & Internal Circuit Diagramm

Diode Drive Code K



Diode Drive Code L



## Features

- Low Current Operation
- Excellent Character appearance
- Easy mounting on P.C. Board or Sockets
- Standard Brightness / Ultra Brightness

**Segment Display Digit  
Height 101,60mm**

Part No.: **M21A1112**

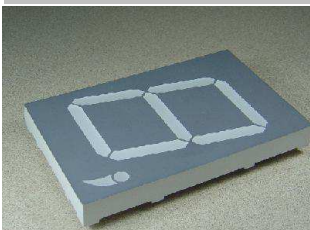
All Dimensions are in millimeters (inches).  
Tolerance is +/- 0,25 (0,01") unless otherwise specified.  
Specifications are subject to change without notice.

|       |        |      |        |        |        |           |           |          |            |           |
|-------|--------|------|--------|--------|--------|-----------|-----------|----------|------------|-----------|
| DRW:  | Jason  | CHKD | Wilson | MATL:  | Wilson | TOLERANCE | Mason     | DATE     | 30.09.2010 | Customer: |
| APPD: | Schumi |      |        | FINISH | Jamy   |           | Sheet No. | 1 from 6 |            |           |

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email: [info@edcon-components.com](mailto:info@edcon-components.com)

# EDCON-COMPONENTS



The Power of LED Light



## Description

| Emitting Order Code (nm) | Emitting Color      | Dice Material | Peak Wave Length | Spectral Line Width | Forward Voltage (VF) |        | Luminous Intensity (Iv) Unit: mcd |
|--------------------------|---------------------|---------------|------------------|---------------------|----------------------|--------|-----------------------------------|
|                          |                     |               |                  |                     | Unit:V               | Unit:V |                                   |
| 700A                     | Red                 | GaP           | 700nm            | 90nm                | 2,20                 | 2,50   | 5,0                               |
| 660A                     | Hi Red              | AlGaAs, (A)   | 660nm            | 20nm                | 1,80                 | 2,20   | 15~20                             |
| 660B                     | Super Red           | AlGaAs, (B)   | 660nm            | 20nm                | 1,80                 | 2,20   | 20~30                             |
| 660C                     | Ultra Red           | AlGaAs, (C)   | 660nm            | 20nm                | 1,90                 | 2,40   | 26~38                             |
| 640A                     | High Efficiency Red | GaAsP         | 640nm            | 45nm                | 1,90                 | 2,40   | 50~80                             |
| 630A                     | Orange              | GaAsP         | 630nm            | 35nm                | 2,10                 | 2,50   | 10~20                             |
| 610A                     | Amber               | GaAsP         | 610nm            | 35nm                | 2,10                 | 2,50   | 15~20                             |
| 590A                     | Yellow              | GaAsP         | 590nm            | 35nm                | 2,10                 | 2,50   | 15~20                             |
| 570A                     | Green               | GaP           | 570nm            | 30nm                | 2,10                 | 2,50   | 14~18                             |
| 645U                     | Ultra Hi Red        | AlGaInP       | 645nm            | 20nm                | 2,10                 | 2,50   | 80~50                             |
| 630U                     | Ultra Orange        | AlGaInP       | 630nm            | 20nm                | 2,10                 | 2,50   | 180~120                           |
| 610U                     | Ultra Amber         | AlGaInP       | 610nm            | 20nm                | 2,10                 | 2,50   | 90~120                            |
| 590U                     | Ultra Yellow        | AlGaInP       | 590nm            | 20nm                | 2,10                 | 2,50   | 150~200                           |
| 570U                     | Ultra Green         | AlGaInP       | 570nm            | 30nm                | 2,20                 | 2,50   | 60~100                            |
| 520U                     | Ultra Pure Green    | InGaN         | 520nm            | 36nm                | 2,80                 | 3,80   | 260~310                           |
| 505U                     | Ultra Blue Green    | InGaN         | 505nm            | 36nm                | 2,80                 | 3,80   | 260~310                           |
| 430U                     | Blue                | InGaN         | 430nm            | 30nm                | 2,80                 | 3,80   | 10~20                             |
| 470U                     | Ultra Blue Green    | InGaN         | 470nm            | 30nm                | 2,80                 | 3,80   | 80~90                             |
| 405U                     | UViolett            | InGaN         | 405nm            |                     | 2,80                 | 3,80   | 5~8                               |
| 2930                     | White               | InGaN         | X=0,29 / Y=0,30  |                     | 2,80                 | 3,80   | 180~200                           |
| 2931                     | Ultra White         | InGaN         | X=0,29 / Y=0,30  |                     | 2,80                 | 3,80   | 180~200                           |

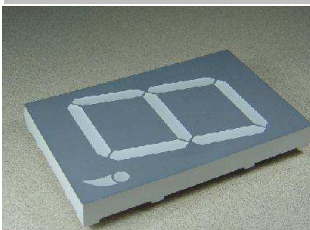
**Segment Display Digit  
Height 101,60mm**

Part No.: **M21A1112**

|       |        |      |        |        |        |           |           |      |            |
|-------|--------|------|--------|--------|--------|-----------|-----------|------|------------|
| DRW:  | Jason  | CHKD | Wilson | MATL:  | Wilson | TOLERANCE | Mason     | DATE | 30.09.2010 |
| APPD: | Schumi |      |        | FINISH | Jamy   |           | Sheet No. |      | 2 from 6   |

Customer:

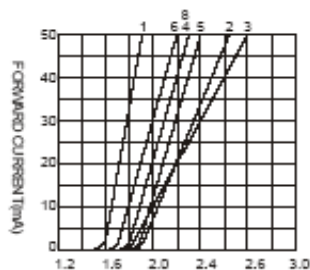
# EDCON-COMPONENTS



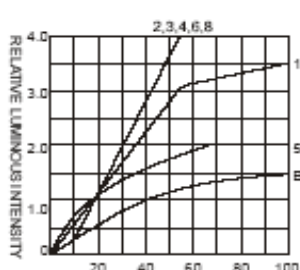
The Power of LED Light



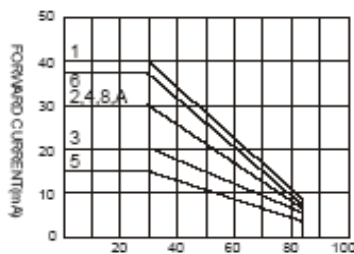
## Characteristics



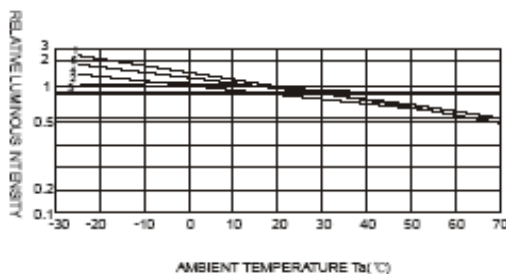
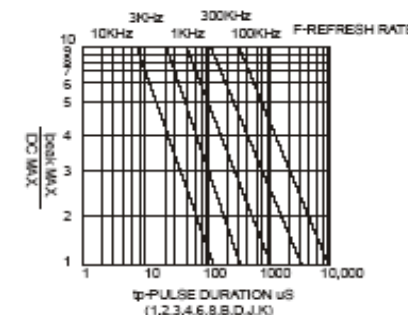
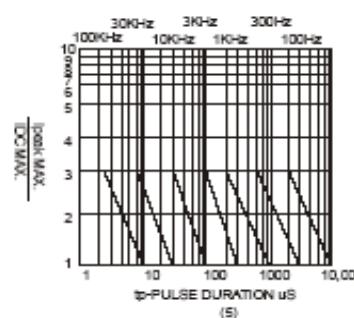
FORWARD VOLTAGE (V)  
FORWARD CURRENT VS.  
FORWARD VOLTAGE



FORWARD CURRENT (mA)  
RELATIVE LUMINOUS  
INTENSITY VS. FORWARD  
CURRENT



AMBIENT TEMPERATURE T<sub>a</sub> (°C)  
FORWARD CURRENT VS. AMBIENT  
TEMPERATURE



Note: 25°C free air temperature unless otherwise specified

**Segment Display Digit  
Height 101,60mm**

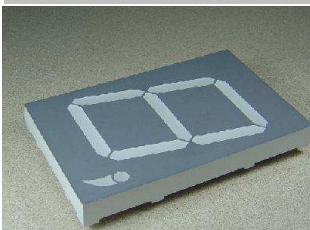
Part No.: **M21A1112**

|       |        |      |        |        |        |           |           |          |            |
|-------|--------|------|--------|--------|--------|-----------|-----------|----------|------------|
| DRW:  | Jason  | CHKD | Wilson | MATL:  | Wilson | TOLERANCE | Mason     | DATE     | 30.09.2010 |
| APPD: | Schumi |      |        | FINISH | Jamy   |           | Sheet No. | 3 from 6 | Customer:  |

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email: [info@edcon-components.com](mailto:info@edcon-components.com)

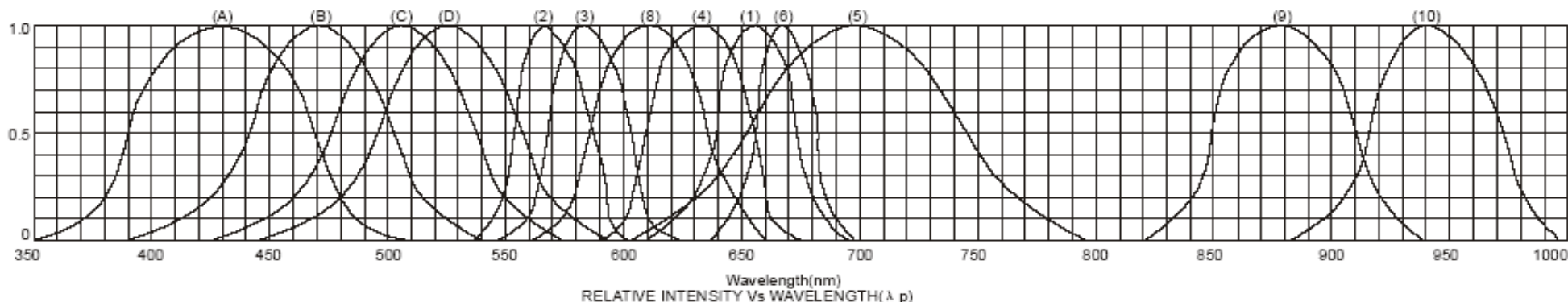
# EDCON-COMPONENTS



The Power of LED Light



## Characteristics



- |   |                                  |
|---|----------------------------------|
| 1 GaAsPI/GaAs 655nm Red                 | 9 GaAlAs 880nm                   |
| 2 GaP 570nm / Yellow Green              | 10 GaAs/GaAs & GaAlAs/GaAs 940nm |
| 3 GaAsP/GaP 585nm / Yellow              | A GaN/SiC 430nm Blue             |
| 4 GaAsP/GaP 635nm / Orange & Hi Eff Red | B InGaN/SiC 470nm Blue           |
| 5 GaP 700nm Bright /Red                 | C InGaN/SiC 505nm Ultra Green    |
| 6 GaAlAs/GaAs 660nm / Super Red         | D InGaN/SiC 525nm Ultra Green    |
| 8 GaAsPI/GaP 610nm / Super Red          |                                  |

| Parameter             | Symbol | Test Conditions  | Value |      | Unit |
|-----------------------|--------|------------------|-------|------|------|
|                       |        |                  | Min   | Max  |      |
| Reverse Voltage       | VR     | IR=30μA          | 5     | ---- | V    |
| Forward Voltage       | IF     | ----             | ----  | 30   | mA   |
| Power Dissipation     | Pd     | ----             | ----  | 100  | mW   |
| Pulse Current         | Ipeak  | Duty= 0,1mS 1KHZ | ----  | 150  | mA   |
| Operating Temperature | Topr   | ----             | -40   | +85  | °C   |
| Storage Temperature   | Tstr   | ----             | -40   | +85  | °C   |

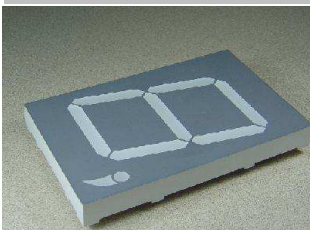
Absolute maximum ratings (Ta=25°C)

**Segment Display Digit  
Height 101,60mm**

Part No.: **M21A1112**

|       |        |      |        |        |        |           |           |          |            |           |
|-------|--------|------|--------|--------|--------|-----------|-----------|----------|------------|-----------|
| DRW:  | Jason  | CHKD | Wilson | MATL:  | Wilson | TOLERANCE | Mason     | DATE     | 30.09.2010 | Customer: |
| APPD: | Schumi |      |        | FINISH | Jamy   |           | Sheet No. | 4 from 6 |            |           |

# EDCON-COMPONENTS



The Power of LED Light



## Ordering Informations

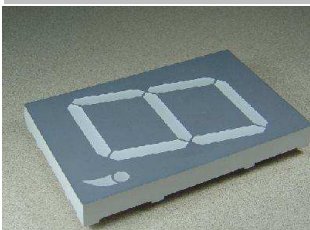
| Serie | Digit Height Code | Quantity of Digits | Model Number | Diode Drive Code | Emitting Color (nm) | Surface Color Code | Segment Color Code | Lead Length Code | ROHS | Package |
|-------|-------------------|--------------------|--------------|------------------|---------------------|--------------------|--------------------|------------------|------|---------|
|-------|-------------------|--------------------|--------------|------------------|---------------------|--------------------|--------------------|------------------|------|---------|

|                 |            |          |          |          |             |          |          |           |          |          |
|-----------------|------------|----------|----------|----------|-------------|----------|----------|-----------|----------|----------|
| <b>M21A1112</b> | <b>400</b> | <b>1</b> | <b>1</b> | <b>K</b> | <b>700A</b> | <b>2</b> | <b>1</b> | <b>62</b> | <b>R</b> | <b>Y</b> |
|-----------------|------------|----------|----------|----------|-------------|----------|----------|-----------|----------|----------|

|  |                           |                             |                             |                           |                                  |   |   |  |   |  |                             |
|--|---------------------------|-----------------------------|-----------------------------|---------------------------|----------------------------------|---|---|--|---|--|-----------------------------|
| <b>400= 0,400"</b><br>Digit<br>Dimension | <b>1= Single</b><br>Digit | <b>1= Model</b><br>Number 1 | <b>K= Commun</b><br>Cathode | Standard                  | Ultra Brightn                    | <b>0= White</b><br>Surface<br><b>1= Black</b><br>Surface<br><b>2= Gray</b><br>Surface<br><b>3= Red</b><br>Surface<br><b>4= Green</b><br>Surface | <b>0= Water</b><br>Clear<br><b>1= White</b><br>Diffused<br><b>2= Red</b><br>Diffused<br><b>3= Green</b><br>Diffused<br><b>4= Yellow</b><br>Diffused | <b>62= Lead</b><br>Length<br>6,2mm<br><b>xx= Lead</b><br>length<br>Specified | <b>R= ROHS</b><br>conform<br><b>N= NON</b><br>ROHS<br>conform | <b>Y= Tray</b><br>Packing<br>(Standard)<br><b>U= Tube</b><br>Packing on<br>Request |                             |
|  |                           |                             |                             | <b>700A= Red</b>          | <b>645U= Hi</b><br>Red           |   |   |  |   |  |                             |
|  |                           |                             |                             | <b>660A= Hi</b><br>Red    | <b>630U= Ultra</b><br>Orange     |   |   |  |   |  |                             |
|  |                           |                             |                             | <b>660B= Super</b><br>Red | <b>610U= Ultra</b><br>Amber      |   |   |  |   |  |                             |
|  |                           |                             |                             | <b>660C= Ultra</b><br>Red | <b>590U= Ultra</b><br>Yellow     |   |   |  |   |  |                             |
|  |                           |                             |                             | <b>640A= HE</b><br>Red    | <b>570U= Ultra</b><br>Green      |   |   |  |   |  |                             |
|  |                           |                             |                             | <b>630A=</b><br>Orange    | <b>520U= Ultra</b><br>Pure Green |   |   |  |   |  |                             |
|  |                           |                             |                             | <b>610A=</b><br>Amber     | <b>505U= Ultra</b><br>Blue Green |   |   |  |   |  |                             |
|  |                           |                             |                             | <b>590A=</b><br>Yellow    | <b>470U= Ultra</b><br>Blue       |   |   |  |   |  |                             |
|  |                           |                             |                             | <b>570A= Green</b>        | <b>430U= Blue</b>                |   |   |  |   |  |                             |
|  |                           |                             |                             | <b>L= Commun</b><br>Anode | <b>405U= Ultra</b><br>Violett    |   |   |  |   |  | <b>2931= Ultra</b><br>White |
|  |                           |                             |                             |                           | <b>2930= White</b>               |   |   |  |   |  |                             |

|  |
|--|
| <b>Segment Display Digit</b><br><b>Height 101,60mm</b> |
| Part No.: <b>M21A1112</b>                              |

|       |        |      |        |        |        |           |           |          |            |           |
|-------|--------|------|--------|--------|--------|-----------|-----------|----------|------------|-----------|
| DRW:  | Jason  | CHKD | Wilson | MATL:  | Wilson | TOLERANCE | Mason     | DATE     | 30.09.2010 | Customer: |
| APPD: | Schumi |      |        | FINISH | Jamy   |           | Sheet No. | 5 from 6 |            |           |

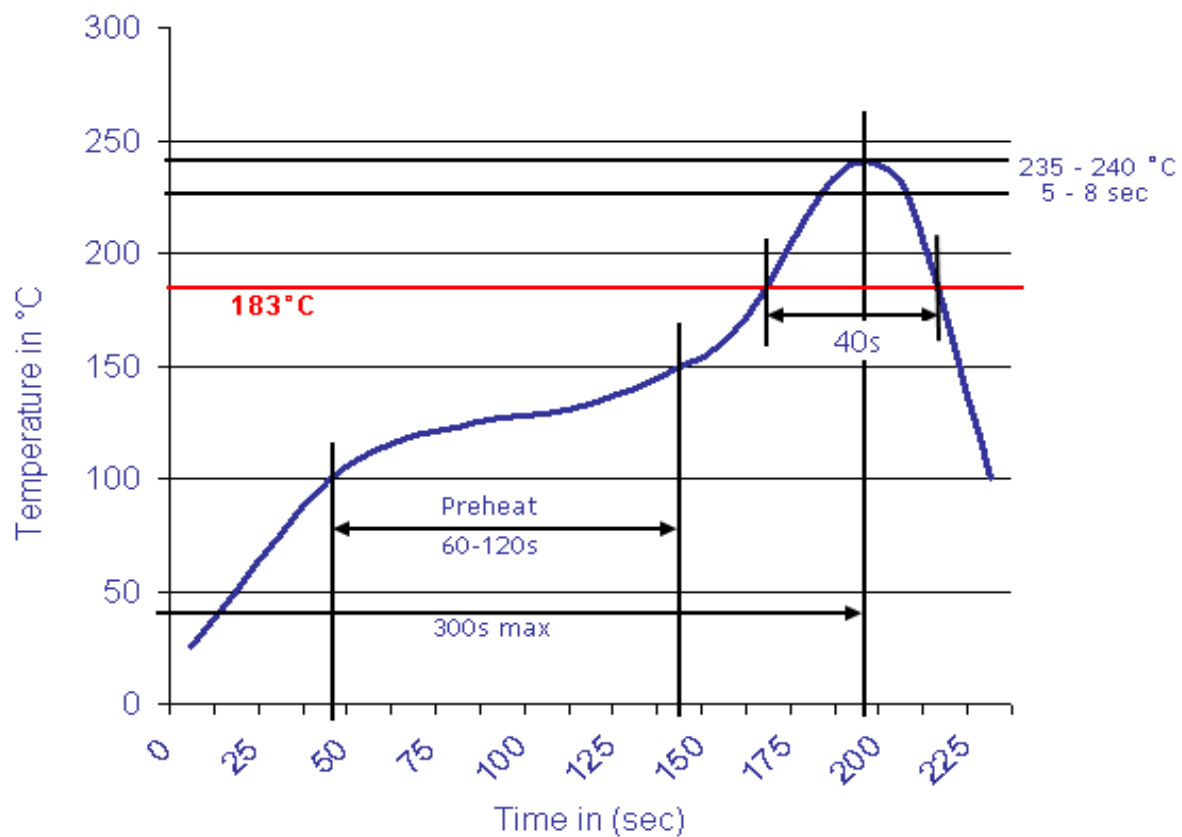


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Soldering Profile Curve

Classification Reflow Profile (JEDEC J-STD-020C)



**Segment Display Digit  
Height 101,60mm**

Part No.: **M21A1112**

|       |        |      |        |        |        |           |           |          |            |
|-------|--------|------|--------|--------|--------|-----------|-----------|----------|------------|
| DRW:  | Jason  | CHKD | Wilson | MATL:  | Wilson | TOLERANCE | Mason     | DATE     | 30.09.2010 |
| APPD: | Schumi |      |        | FINISH | Jamy   |           | Sheet No. | 6 from 6 | Customer:  |