Seven-Segment-Display-Driver

1.0

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Chapter 1

File Index

1.1 File List

Here is a list of all files with brief descriptions:

seven_segment.c 3

Chapter 2

File Documentation

2.1 seven_segment.c File Reference

```
#include "seven_segment.h"
```

Macros

- #define shutdown_on 0x00
  Shutdown command.
- #define shutdown_off 0x01
  Shutdown command off.
- #define self_test_on 0xf9
  Activate self-test function.
- #define self_test_off 0x08
  Deactivate self-test function.
- #define display_1 0x11
  Write data to display 1.
- #define display_2 0x21
  Write data to display 2.
- #define display_3 0x41
  Write data to display 3.
- #define display_all 0xf1
  Write data to all displays.

Functions

- static void segment_write (alt_u8 reg_number, alt_u8 data)
  This function is used to write data directly to a segment-group.
- void seven_segment_init (void)
  Initialize the seven segment device.
- void seven_segment_on (void)
  Activate seven segment device.
- void seven_segment_off (void)

Deactivate seven segment device.

- void seven_segment_test_on (void)

  Starts the hardware selftest.

- void seven_segment_test_off (void)

  Stops the hardwar selftest.

- void seven_segment_clear (void)

  Clears all displays.

- void display_char (alt_u8 digit, alt_u8 character)

  Main function for device.

2.1.1 Macro Definition Documentation

2.1.1.1 display_1

```
#define display_1 0x11
```

Write data to display 1.

2.1.1.2 display_2

```
#define display_2 0x21
```

Write data to display 2.

2.1.1.3 display_3

```
#define display_3 0x41
```

Write data to display 3.

2.1.1.4 display_all

```
#define display_all 0xf1
```

Write data to all displays.

2.1.1.5 self_test_off

```
#define self_test_off 0x08
```

Deactivate self-test function.

2.1.1.6 self_test_on

```
#define self_test_on 0xf9
```

Activate self-test function.

2.1.1.7 shutdown_off

```
#define shutdown_off 0x01
```

Shutdown command off.

2.1.1.8 shutdown_on

```
#define shutdown_on 0x00
```

Shutdown command.

2.1.2 Function Documentation

2.1.2.1 display_char()

```
void display_char (
            alt_u8 digit,
            alt_u8 character )
```

Main function for device.

Write a character betwen 0-99 to the display. The user can choose between the three conectable digits or all of them at once.

Parameters

in	*digit*	digit number (1-4),
in	*character*	character to display (0-9)
out	*none*	

2.1.2.2 segment_write()

```
static void segment_write (
            alt_u8 reg_number,
            alt_u8 data )  [static]
```

This function is used to write data directly to a segment-group.
The user can call it for more controll but it is reccomended to use the display_char function

Parameters

in	*reg_number*	Register to write data,
in	*data*	data to write to device
out	*none*	

2.1.2.3 seven_segment_clear()

```
void seven_segment_clear (
            void  )
```

Clears all displays.

Parameters

in	*none*	
out	*none*	

2.1.2.4 seven_segment_init()

```
void seven_segment_init (
            void  )
```

Initialize the seven segment device.
The init function activates the device and puts it into self-test mode after that the displays are cleared and set for normal operation.

Parameters

in	*none*	
out	*none*	

clear display

2.1.2.5 seven_segment_off()

```
void seven_segment_off (
            void  )
```

Deactivate seven segment device.

Parameters

in	*none*	
out	*none*	

2.1.2.6 seven_segment_on()

```
void seven_segment_on (
```

```
            void  )
```

Activate seven segment device.

Parameters

in	*none*	
out	*none*	

2.1.2.7 seven_segment_test_off()

```
void seven_segment_test_off (
            void  )
```

Stops the hardwar selftest.

Parameters

in	*none*	
out	*one*	

2.1.2.8 seven_segment_test_on()

```
void seven_segment_test_on (
            void  )
```

Starts the hardware selftest.

Parameters

in	*none*	
out	*none*	

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