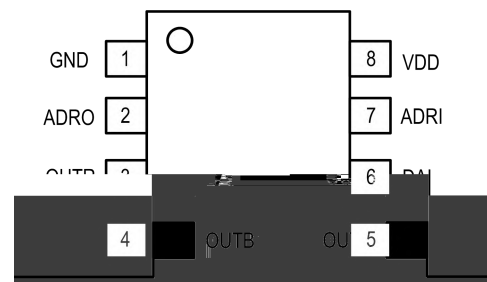


SM18511PB

- ◆ 5V 36V
- ◆ DMX512(1990)
- ◆ 200kbps 750kbps
- ◆ 4096
- ◆ OUT R/G/B
- ◆ / /
- ◆ OUT 7
- ◆ 2
- ◆ 1/2/3
- ◆ OUT R/G/B 5bit
- ◆ OUT R/G/B 40V
- ◆ SOP8
- ◆ LED
- ◆ LED /
- ◆
- ◆

SM18511PB LED
DMX512 1990
OUT R/G/B 18mA,
OUT R/G/B 32 OUT
4KH PWM



SM18511PB(SOP8)



业务电话：400-033-6518

注：如需最新资料或技术资料，请与我们联系

1

T_A=25 C

| | | | | |
|-------------------|----------|---|---------------------------|-----|
| V _{DD} | | | -0.4 5.5 | V |
| V _{IO} | | | -0.4 V _{DD} +0.4 | V |
| BV _{OUT} | OUTR/G/B | | 45 | V |
| I _{OUT} | OUTR/G/B | | 22 | mA |
| I _{damp} | VDD | | 20 | mA |
| R _{JA} | PN | 2 | 90 | C/W |
| P _D | | 3 | 0.9 | W |
| T _J | | | -40 150 | C |
| T _{STG} | | | -55 150 | C |
| V _{ESD} | HBM | | 2 | KV |

1

2 R_{JA} T_A=25 C

JEDEC JESD51

3

T_{JMAX} R_{JA}

T_A

P_D = (T_{JMAX}-T_A) / R_{JA}

4 5

$V_{DD}=5V$ $T_A = 25$ C

| | | | | | | |
|------------------|-----------|--|--------------|-----|--------------|---------|
| V_{DD} | | $V_{CC}=12V$ V_{CC} V_{DD} $R_D = 1K$ | 4.8 | 5.2 | 5.4 | V |
| I_{DD} | () | $V_{DD} = 5V$ I_{OUT} OFF | - | 3.8 | - | mA |
| | () | $V_{DD} = 5V$ I_{OUT} ON | - | 5.1 | - | mA |
| I_{OUT_RGB} | OUT R/G/B | D5:D4:D3:D2:D1=11111 | - | 18 | - | mA |
| dI_{OUT_RGB} | OUT R/G/B | $I_{OUT}=18mA$ | - | 3 | - | % |
| $R_{do_n_ADI}$ | ADI | $V_{DD}=4.5V$ | - | 200 | - | K |
| R_{UP_ADI} | ADI | $V_{DD}=4.5V$ | - | 250 | - | K |
| V_{IH} | DAI | $V_{DD} = 5.0V$ | $0.7*V_{DD}$ | | | V |
| V_{IL} | | $V_{DD} = 5.0V$ | | | $0.3*V_{DD}$ | V |
| V_{DS_S} | I_{OUT} | $I_{OUT} = 18mA$ | - | 0.3 | - | V |
| % VS V_{DS} | OUT R/G/B | $I_{OUT} = 18mA, V_{DS}=1\ 3V$ | - | 1 | - | % |
| %VS V_{DD} | | $I_{OUT} = 18mA, V_{DS}=4.5\ 5.5V$ | - | 1 | - | |
| %VS T_A | | $I_{OUT} = 18mA, T_A = -40\ +85$ | - | 4 | - | |
| R_{UP_ADRI} | ADRI | - | - | 23 | - | K |
| T_{OTP} | | - | - | 135 | - | |
| I_{leak} | OUT R/G/B | I_{OUT} OFF , $V_{DS} = 40V$ | - | - | 1 | μA |

4

5

$V_{DD}=5V$ $T_A = 25\text{ C}$

| | | | | | | |
|-----------|------------------|-------------------------------------|---|-----|---|----|
| f_{PWM} | OUT R/G/B PWM | $I_{OUT}=18mA$ OUT R/G/B 200 VDD | - | 4K | - | H |
| t_r | OUT R/G/B | $I_{OUT}=16mA$ OUT R/G/B 100 | - | 100 | - | ns |
| t_f | 6 VDD | 15pF | - | 170 | - | ns |

6

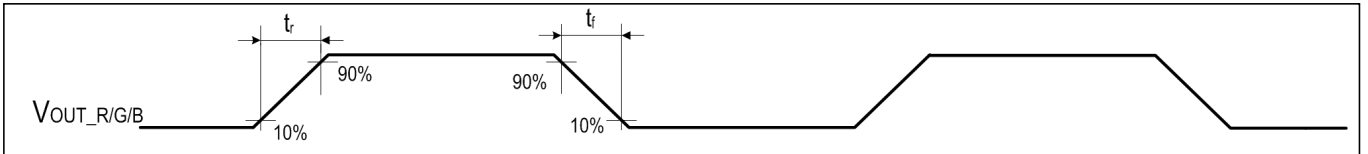


Fig. SM18511PB

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SM18511PB OUT
V_{DS}

I_{OUT} OUT V_{DS} I_{OUT}

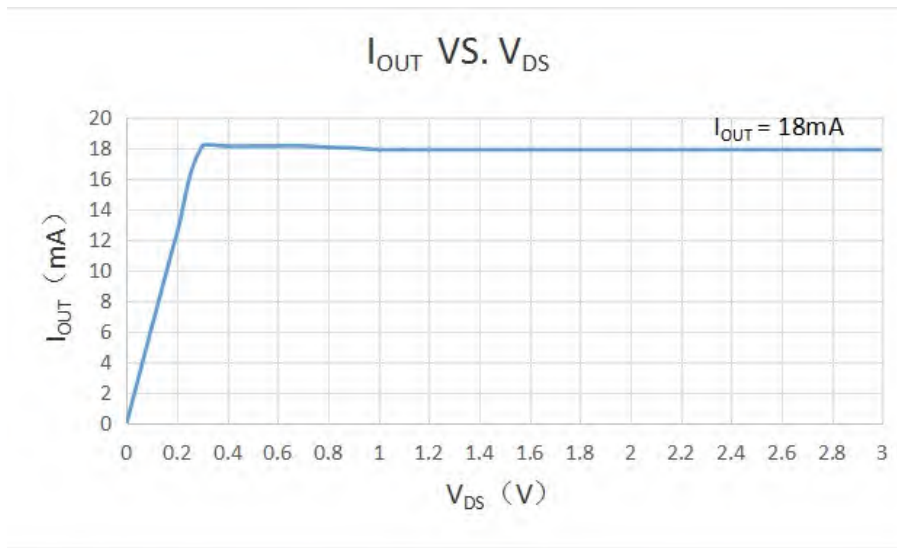


Fig. SM18511PB I_{OUT} OUT V_{DS}

SM18511PB OUT RGB 5bits D5 D1

| | D5 | D4 | D3 | D2 | D1 | mA |
|----|----|----|----|----|----|------|
| 0 | 0 | 0 | 0 | 0 | 0 | 1.1 |
| 1 | 0 | 0 | 0 | 0 | 1 | 1.7 |
| 2 | 0 | 0 | 0 | 1 | 0 | 2.2 |
| 3 | 0 | 0 | 0 | 1 | 1 | 2.7 |
| 4 | 0 | 0 | 1 | 0 | 0 | 3.3 |
| 5 | 0 | 0 | 1 | 0 | 1 | 3.9 |
| 6 | 0 | 0 | 1 | 1 | 0 | 4.4 |
| 7 | 0 | 0 | 1 | 1 | 1 | 4.9 |
| 8 | 0 | 1 | 0 | 0 | 0 | 5.5 |
| 9 | 0 | 1 | 0 | 0 | 1 | 6.1 |
| 10 | 0 | 1 | 0 | 1 | 0 | 6.6 |
| 11 | 0 | 1 | 0 | 1 | 1 | 7.1 |
| 12 | 0 | 1 | 1 | 0 | 0 | 7.7 |
| 13 | 0 | 1 | 1 | 0 | 1 | 8.2 |
| 14 | 0 | 1 | 1 | 1 | 0 | 8.8 |
| 15 | 0 | 1 | 1 | 1 | 1 | 9.3 |
| 16 | 1 | 0 | 0 | 0 | 0 | 9.9 |
| 17 | 1 | 0 | 0 | 0 | 1 | 10.4 |
| 18 | 1 | 0 | 0 | 1 | 0 | 10.9 |
| 19 | 1 | 0 | 0 | 1 | 1 | 11.5 |

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| | | | | | | |
|----|---|---|---|---|---|------|
| 20 | 1 | 0 | 1 | 0 | 0 | 12.0 |
| 21 | 1 | 0 | 1 | 0 | 1 | 12.6 |
| 22 | 1 | 0 | 1 | 1 | 0 | 13.1 |
| 23 | 1 | 0 | 1 | 1 | 1 | 13.6 |
| 24 | 1 | 1 | 0 | 0 | 0 | 14.2 |
| 25 | 1 | 1 | 0 | 0 | 1 | 14.8 |
| 26 | 1 | 1 | 0 | 1 | 0 | 15.3 |
| 27 | 1 | 1 | 0 | 1 | 1 | 15.8 |
| 28 | 1 | 1 | 1 | 0 | 0 | 16.4 |
| 29 | 1 | 1 | 1 | 0 | 1 | 16.9 |
| 30 | 1 | 1 | 1 | 1 | 0 | 17.5 |
| 31 | 1 | 1 | 1 | 1 | 1 | 18.0 |

1

2

ADRI

1

3

2

1

2

2

1

2

2

1

/ /

2

/

3

/

4

5

SM18511PB

1

2

OUT

SM18511PB

1

2 OUT

0.6

OUT

260ns 0

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SM18511PB

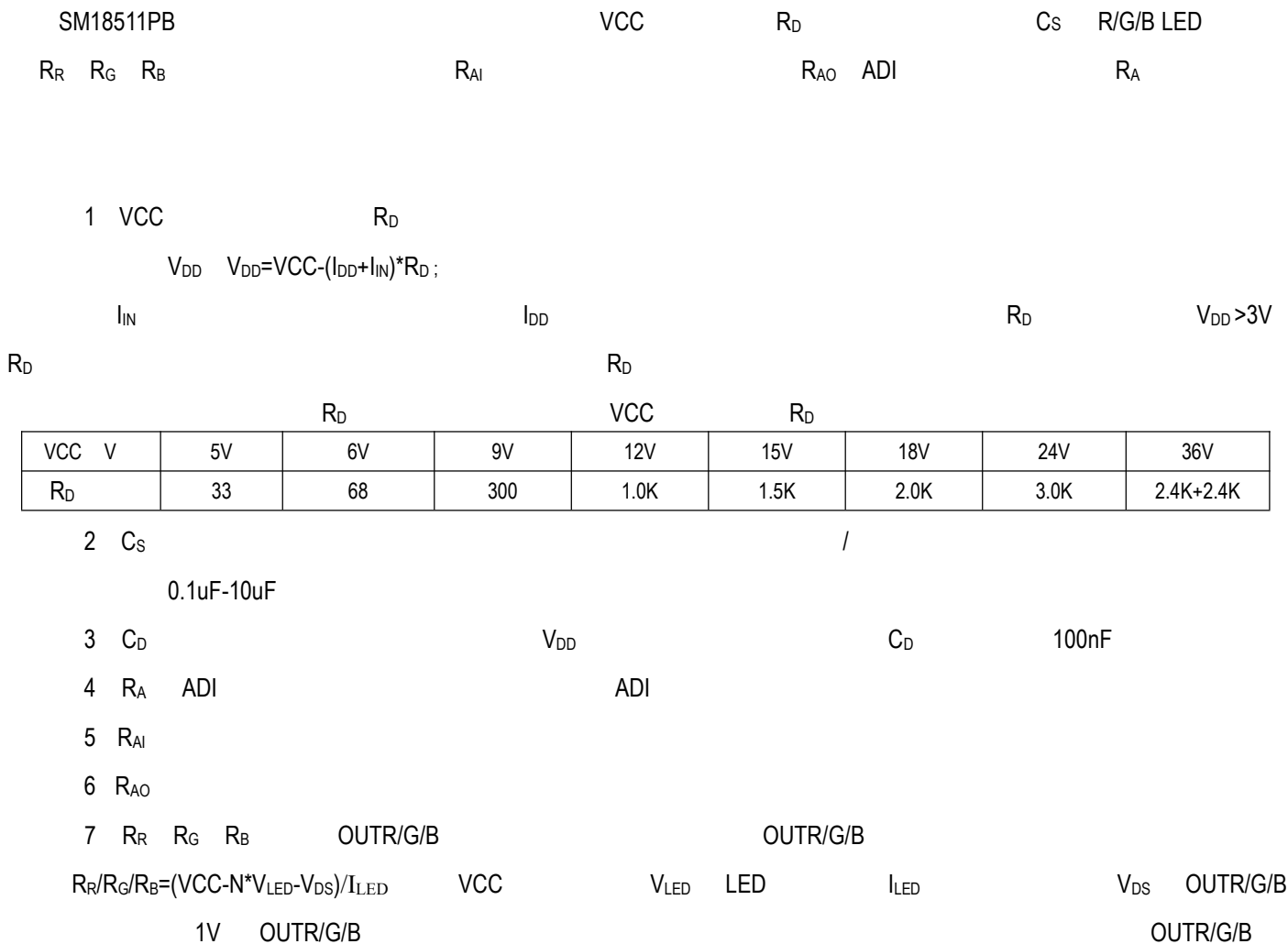
DMX512 1990

4095

ADI

1 SM18511PB RGB

Fig. SM18511PB



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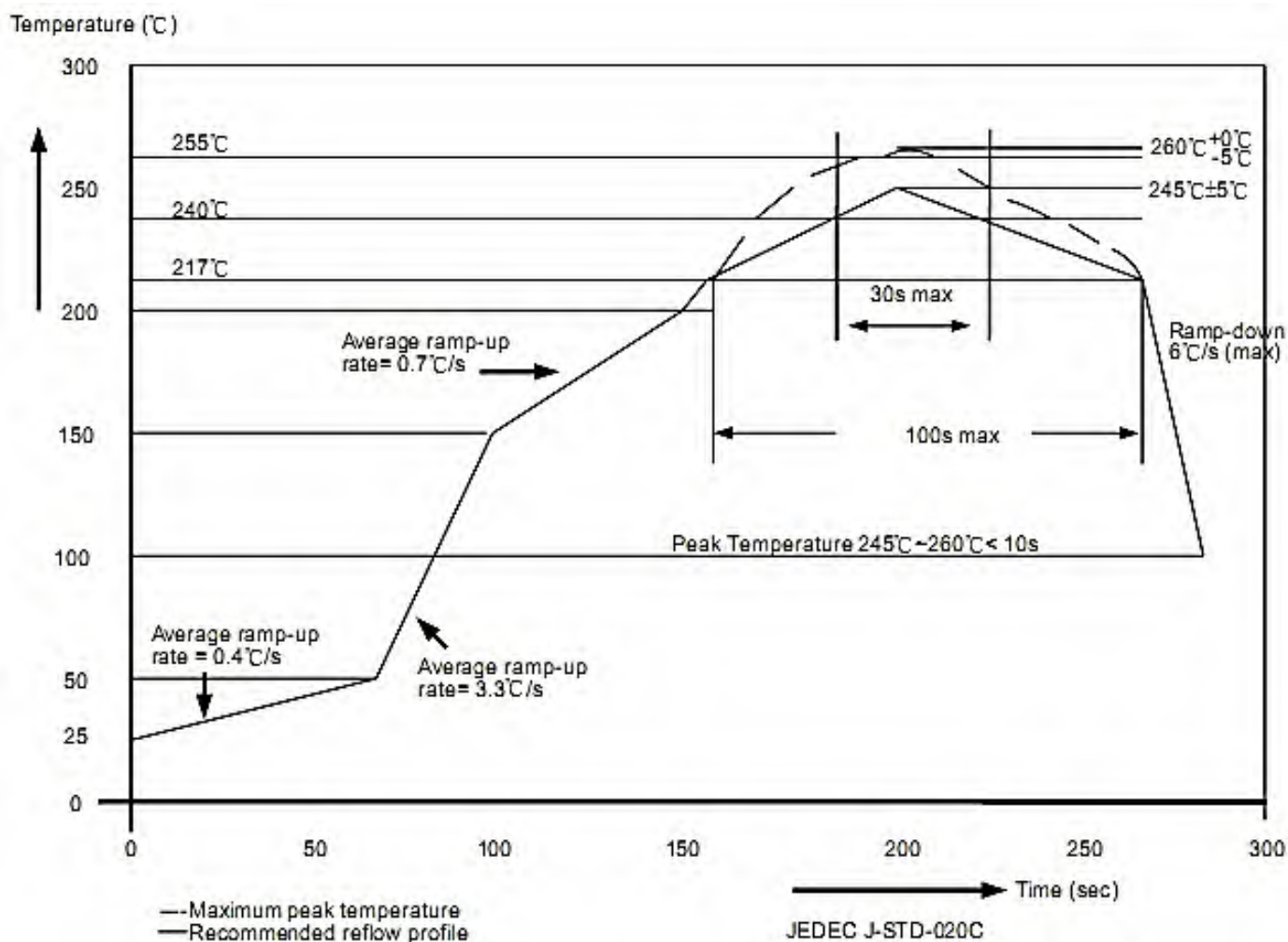
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RoHs

J-STD-020



| | mm ³ < 350 | mm ³ 350 2000 | mm ³ 2000 |
|-------------|-----------------------|--------------------------|----------------------|
| <1.6mm | 260+0 C | 260+0 C | 260+0 C |
| 1.6mm 2.5mm | 260+0 C | 250+0 C | 245+0 C |
| 2.5mm | 250+0 C | 245+0 C | 245+0 C |

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