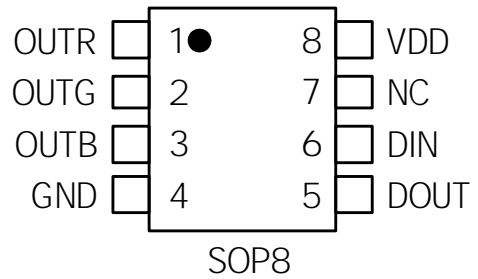


# SM16703SP3

- ◆ 2.5~26V
- ◆ OUT R/G/B 17mA
- ◆ OUT R/G/B
- ◆ OUT R/G/B >30V
- ◆ OUT R/G/B 256
- ◆ 200uA
- ◆
- ◆ SID
- ◆
- ◆ 800Kbps
- ◆ SOP8

- ◆ LED
- ◆ /
- ◆
- ◆

SM16703SP3 LED  
SID  
SM16703SP3  
OUT R/G/B  
17mA



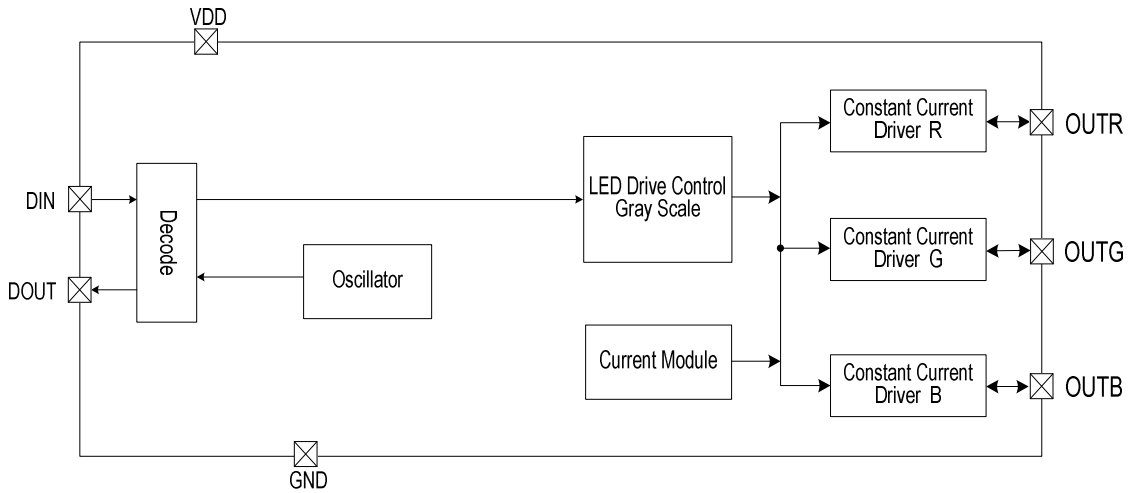


Fig. SM16703SP3

OUTR	
OUTG	
OUTB	
GND	
DOUT	
DIN	
NC	GND VDD
VDD	

SM16703SP3	SOP8	10000 /	4000 /	13

1

$T_A=25^{\circ}\text{C}$

$V_{DD}$			-0.4~+300	V
$V_I$			-0.4~+300	V
$BV_{OUT}$	OUT R/G/B		30	V
$R_{JA}$	PN	2	130	$^{\circ}\text{C}/\text{W}$
$P_D$		3	0.5	W
$T_J$			-40~150	$^{\circ}\text{C}$
$T_{stg}$			-55~150	$^{\circ}\text{C}$
$V_{HBM}$	HBM		4	KV

1

2  $R_{JA}$   $T_A=25^{\circ}\text{C}$

JEDEC JESD51

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

4 5

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

$V_{DD}$			25	-	260	V
$I_{DD}$		$I_{OUT}$ "OFF"	-	0.14	-	mA
$I_{OUT\_R/G/B}$	R/G/B	$V_{DS}=1.5V$	-	17	-	mA
$V_{IH}$		DIN	26	-	-	V
$V_{IL}$		DIN	-	-	1.4	V
$I_{OH}$	DOUT	DOUT $10\Omega$ GND	-	85	-	mA
$I_{OL}$	DOUT	DOUT VDD	-	13.6	-	mA
$V_{DS\_S}$	OUT R/G/B	$I_{OUT} = 17\text{mA}$	-	0.9	-	V
%VS. $V_{DS}$	OUT R/G/B	$I_{OUT}=17\text{mA}$ $V_{DS}=1\sim 3V$	-0.3	-	+0.3	%
%VS. $V_{DD}$		$I_{OUT}=17\text{mA}$ $V_{DD}=3.3\sim 28V$	-0.5	-	+0.5	%
%VS. $T_A$		$I_{OUT}=17\text{mA}$ $T_A = -40\sim +85$	-5.0	-	+5.0	%
$I_{leak}$	OUT R/G/B	$V_{DS} = 47V$ $I_{OUT}$ "OFF"	-	-	1	$\mu\text{A}$

4

5

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

$f_{PWM}$	OUT R/G/B PWM	$I_{OUT}=17mA$ OUT VDD	200	-	1.15	-	KHz
$t_{PLH}$	6	DOUT	30pF	-	-	90	ns
$t_{PHL}$		DIN DOUT		-	-	90	ns
$t_{LH}$	7	DOUT	30pF	-	20	-	ns
$t_{HL}$				-	20	-	ns
$t_r$	8	$I_{OUT}=9mA$ OUT R/G/B	200	-	772	-	ns
$t_f$		VDD	15pF	-	660	-	ns

6 7 8

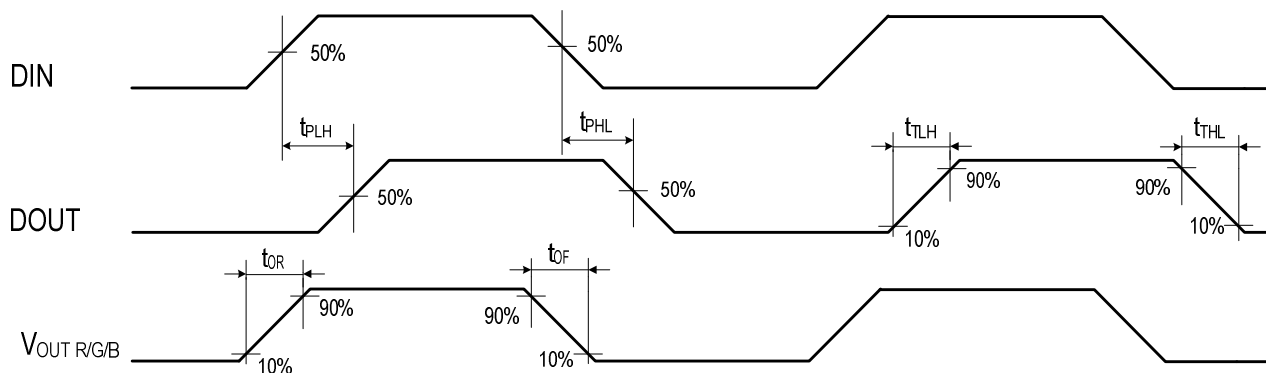


Fig. SM16703SP3

9

1

"0" "1"

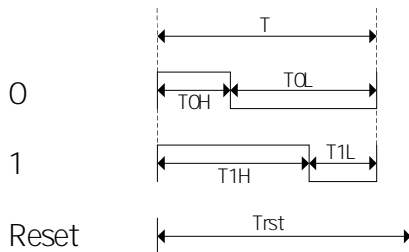


Fig. SM16703SP3

T		900	1200	20000	ns
T0H	0	200	300	400	ns
T0L	0	700	900	-	ns
T1H	1	700	900	-	ns
T1L	1	200	300	-	ns
Trst	Reset	200	-	-	us

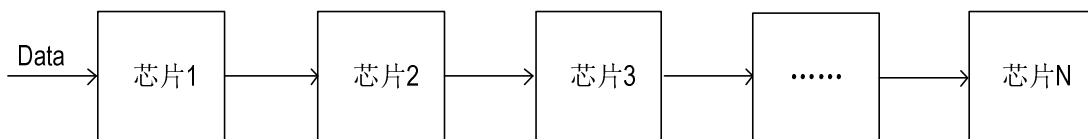
9 0 1

0 1

100us

2

Trst+ 24bits + 24bits +.....+ N 24bits +Trst



3



SM16703SP3                      OUT                      V<sub>DS</sub>

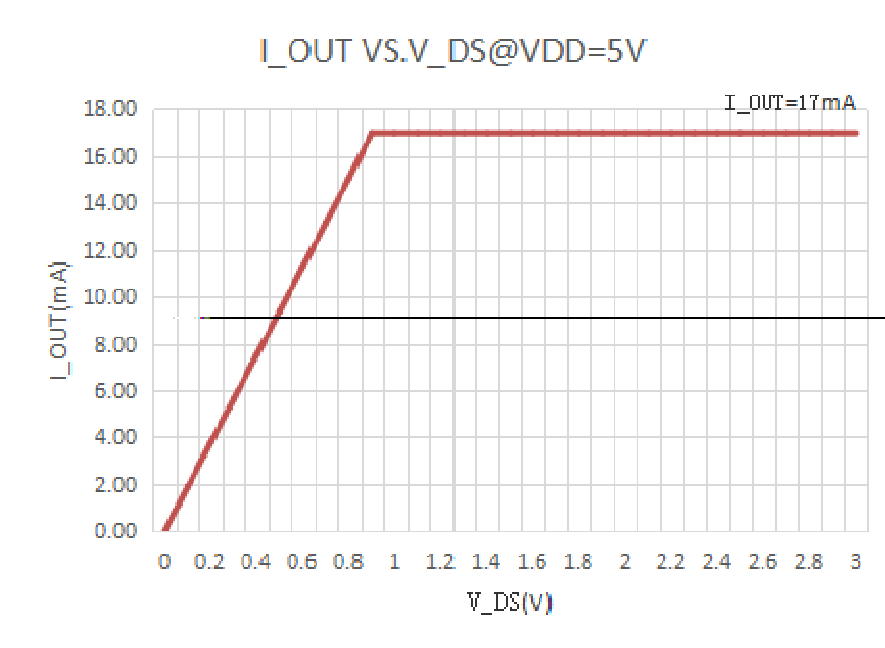


Fig. SM16703SP3 I<sub>OUT</sub>    OUT                      V<sub>DS</sub>

SM16703SP3 RGB

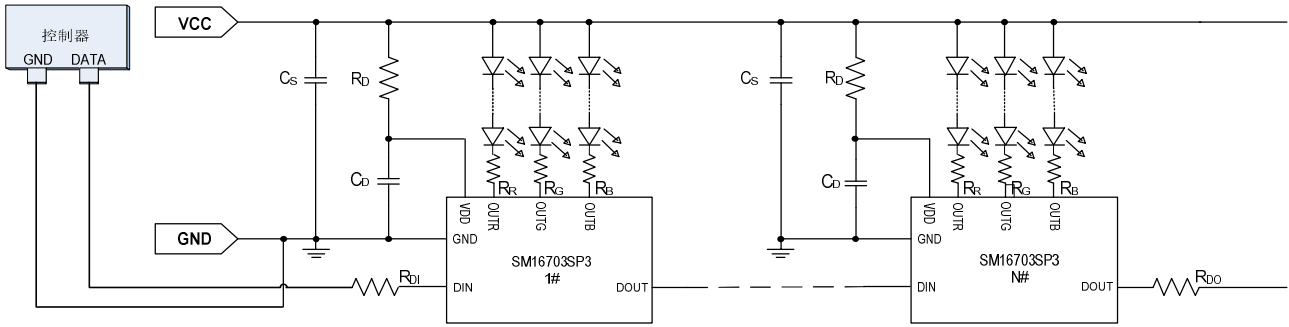
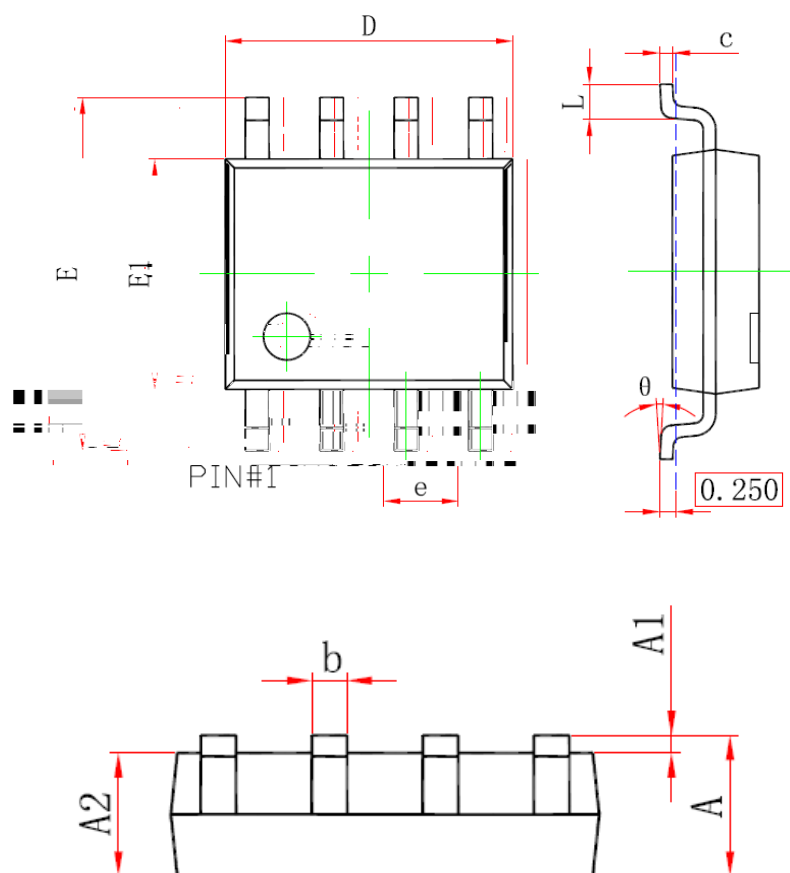


Fig. SM16703SP3

- SM16703SP3      VCC      RD      LED      RR/RG/RB
- DIN      RD1      DOUT      RD0
- 1 VCC      RD      80mA      RD
- = - ×      IDD      RD
- RD      RD
- |        |     |     |     |     |     |    |
|--------|-----|-----|-----|-----|-----|----|
| VCC    | RD  |     |     |     |     |    |
| VCC(V) | 5   | 9   | 12  | 15  | 18  | 24 |
| RD( )  | 100 | 180 | 510 | 620 | 820 | 1K |
- 2 Cs      0.1uF-10uF
- 3 Cd      VDD      Cd      100nF
- 4 RD1      DIN
- 5 RD0      DOUT
- 6 RR/RG/RB      OUTR/G/B      VCC      VLED      LED
- / G / B (Ω) =      ×      /      VDS      VLED      20-22V
- IOUT      VDS      OUTR      VLED
- 3.0-3.2V

VCC(V)	OUT LED	RD( )	RD1( )	RD0( )	RR( )	RG( )	RB( )
12	3	510	120	120	200		
24	6	1K	220	220	500	150	150

SOP8



Symbol	Mn(mm)	Max(mm)
A	1.25	1.95
A1	-	0.25
A2	1.25	1.75
b	0.25	0.7
c	0.1	0.35
D	4.6	5.3
e	1.27(BSC)	
E	5.7	6.4
E1	3.7	4.2
L	0.2	1.5
	0°	10°

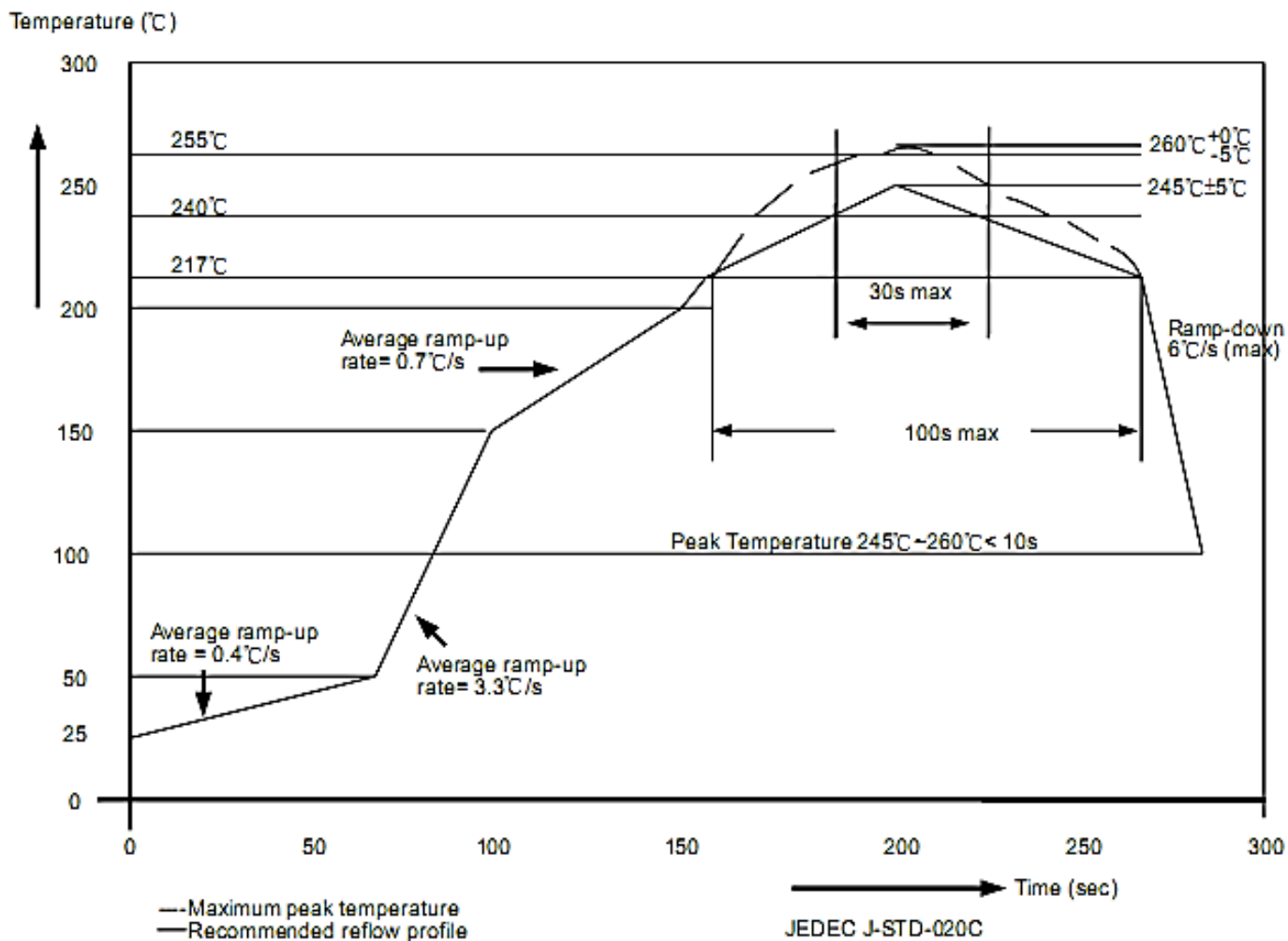
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RoHs

J-STD-020



	mm <sup>3</sup> < 350	mm <sup>3</sup> 350-2000	mm <sup>3</sup> 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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2023-02-01	ZZZQZW1.0	

