

5~24V

OUT R/G/BW

OUT R/G/BW 26V

REXT OUT R/G/BW

60~350mA

OUT R/G/BW ±5%

OUT R/G/BW 65536

GAMMA

OUT R/G/BW 4bits

SM-PWM 4KHz

800Kbps

SM17500P -

SOP8

LED

/

SM16824E LED

SM16824E

SM16824E REXT

60~350mA OUT R/G/BW

16

65536 GAMMA

4KHz

SM16824E SM17500P -

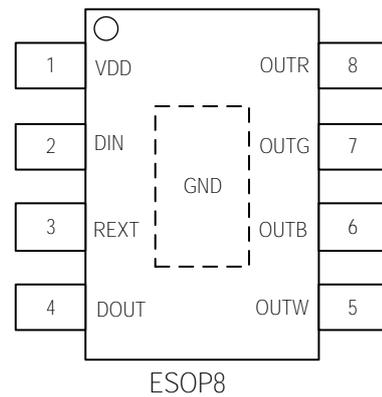


Fig. SM16824E

1	VDD	
2	DIN	
3	REXT	OUT R/G/BW
4	DOUT	
5	OUTW	
6	OUTB	
7	OUTG	
8	OUTR	
	GND	

SM16824E	ESOP8	100000 /	4000 /	13

业务电话：400-033-6518

注：如需最新资料或技术支持，请与我们联系

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



VDD=5V TA=25

VDD		VIN=12V VIN VDD 1K	4.8	5.2	5.5	V	
		5V	3.0	-	5.0	V	
I _{DD}		VDD=4.5V I _{OUT} "OFF" I _{OUT} "OFF"	-	4.2	-	mA	
V _{IH}		DIN	0.7xVDD	-	-	V	
V _{IL}		DIN	-	-	0.3xVDD	V	
I _{OH}		DOUT GND	-	-45	-	mA	
I _{OL}		DOUT VDD	-	45	-	mA	
V _{REXT}	REXT	Rext=2.2K	1.05	1.15	1.25	V	
I _{OUT_R/G/B/W}	OUT R/G/B/W	V _{DS} =2V 1111	Rext=2.2K	-	350	-	mA
			Rext=5.1K	-	150	-	mA
			Rext=13K	-	60	-	mA
V _{DS_S}		I _{OUT} =350mA	-	1.1	-	V	
		I _{OUT} =150mA	-	0.7	-	V	
		I _{OUT} =60mA	-	0.5	-	V	
I _{OUT}		I _{OUT} = 60~350mA	-5		+5	%	
%VS.V _{DS}	OUT R/G/B/W	I _{OUT} =150mA V _{DS} =1.0~3.0V	-	1.0	-	%	
%VS.VDD		I _{OUT} =150mA VDD=4.5~5.5V	-	1.0	-	%	
%VS.TA		I _{OUT} =150mA TA=-40~+85	-	3.0	-	%	
OTP		-	-	140	-	°C	
I _{IEAK}	OUT R/G/B/W	V _{DS} = 26V I _{OUT} "OFF"	-	-	1	uA	

4

5

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VDD=5V TA= 25

f_{PWM}	OUT R/G/B/W PWM	$I_{OUT}=150mA$ OUT R/G/B/W 20 VDD	-	4	-	KHz
t_{PLH}		DOUT DIN DOUT	30pF	-	73	ns
t_{PHL}				-	73	ns
t_{TLH}	DOUT	DOUT	30pF	-	3.0	ns
t_{THL}				-	3.0	ns
t_r	OUT R/G/B/W	$I_{OUT}=150mA$ OUT VDD	20 15pF	-	75	ns
t_f				-	50	ns

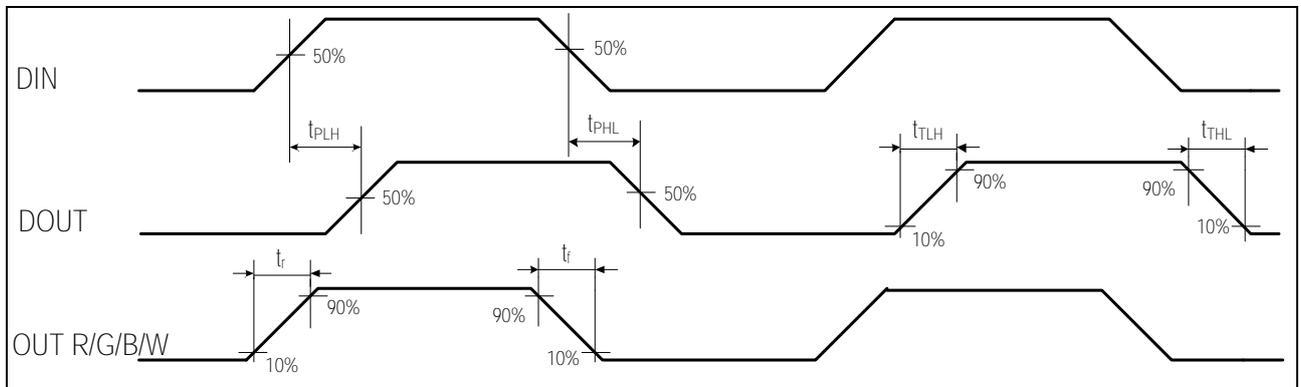


Fig. SM16824E

SM16824E

"0" "1"

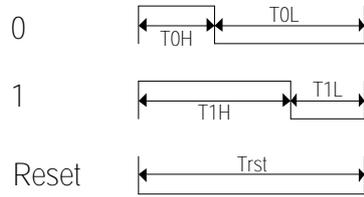
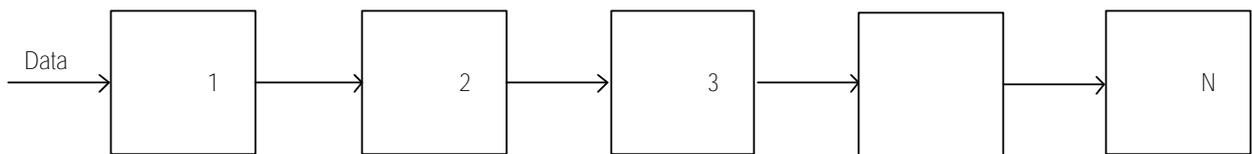
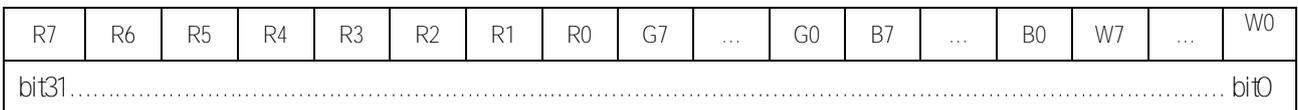


Fig. SM16824E

T0H	0	-	0.3	-	± 0.05	us
T0L	0	-	0.9	-	± 0.05	us
T1H	1	-	0.9	-	± 0.05	us
T1L	1	-	0.3	-	± 0.05	us
Trst	Reset	200	-	-	-	us

Trst+ 32bits + 32bits +.....+ N 32bits +16bits +Trst

32bits RGBW



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4bits				16bits				4bits				4bits				S3-S0			
4bits				4bits				4bits				S3				S0			
R				G				B				W							
S3	S2	S1	S0	S3	S2	S1	S0	S3	S2	S1	S0	S3	S2	S1	S0				

1~16

	S3	S2	S1	S0
1	0	0	0	0
2	0	0	0	1
3	0	0	1	0
4	0	0	1	1
5	0	1	0	0
6	0	1	0	1
7	0	1	1	0
8	0	1	1	1
9	1	0	0	0
10	1	0	0	1
11	1	0	1	0
12	1	0	1	1
13	1	1	0	0
14	1	1	0	1
15	1	1	1	0
16	1	1	1	1

SM16824E OUT VDS

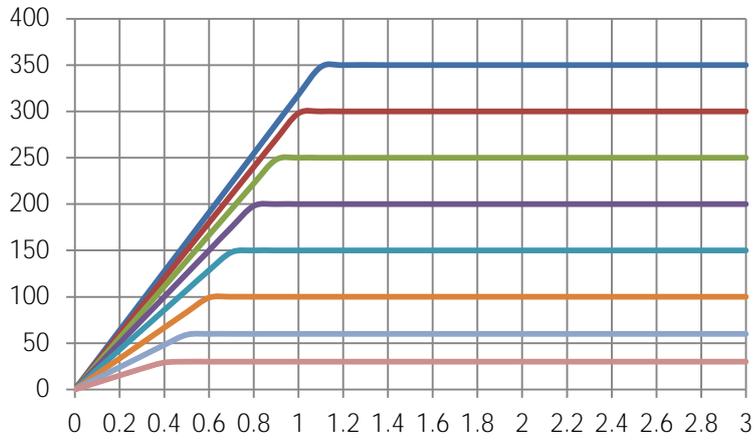


Fig. SM16824E I_{OUT} OUT V_{DS}

SM16824E

R_{EXT}

G

16

I_{OUT} R_{EXT}

$$I_{OUT} \text{ mA} = \frac{1100}{R_{EXT}} \times 720$$

1~15

I_{OUT} R_{EXT}

$$I_{OUT} \text{ mA} = \frac{1100}{R_{EXT}} \times (208 + (G - 1) \times 32)$$

R_{EXT}

R_{EXT}

G

G=1 $R_{EXT}=2200$

120mA

I_{OUT} R_{EXT}

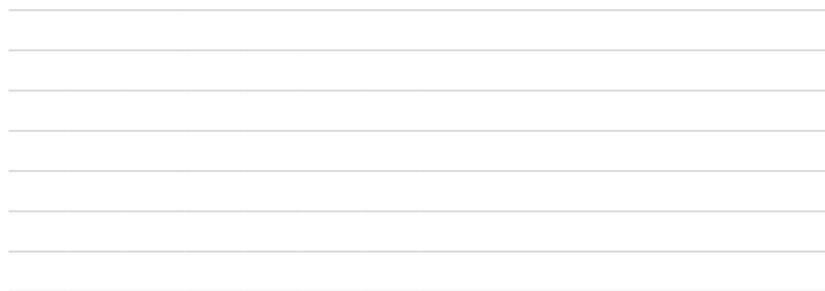


Fig. SM16824E I_{OUT} R_{EXT}

VDD=5.0V

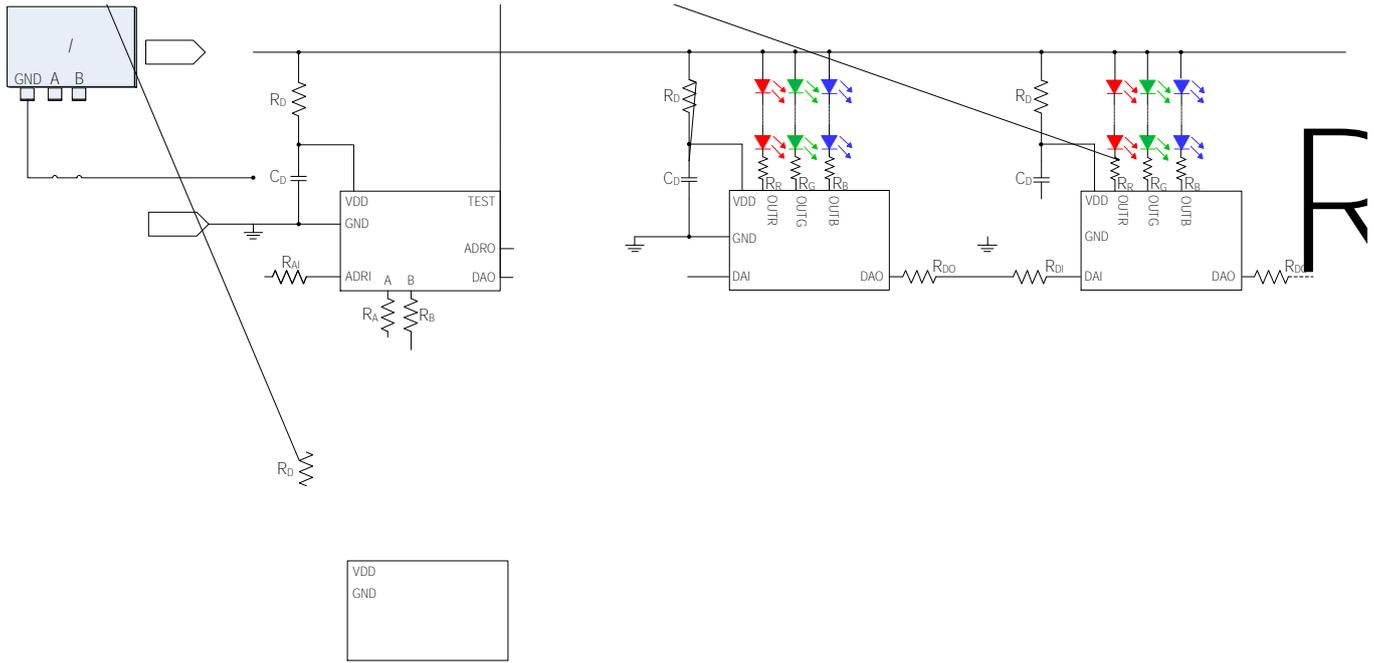
LED

LED

LED

SM16824E

140°



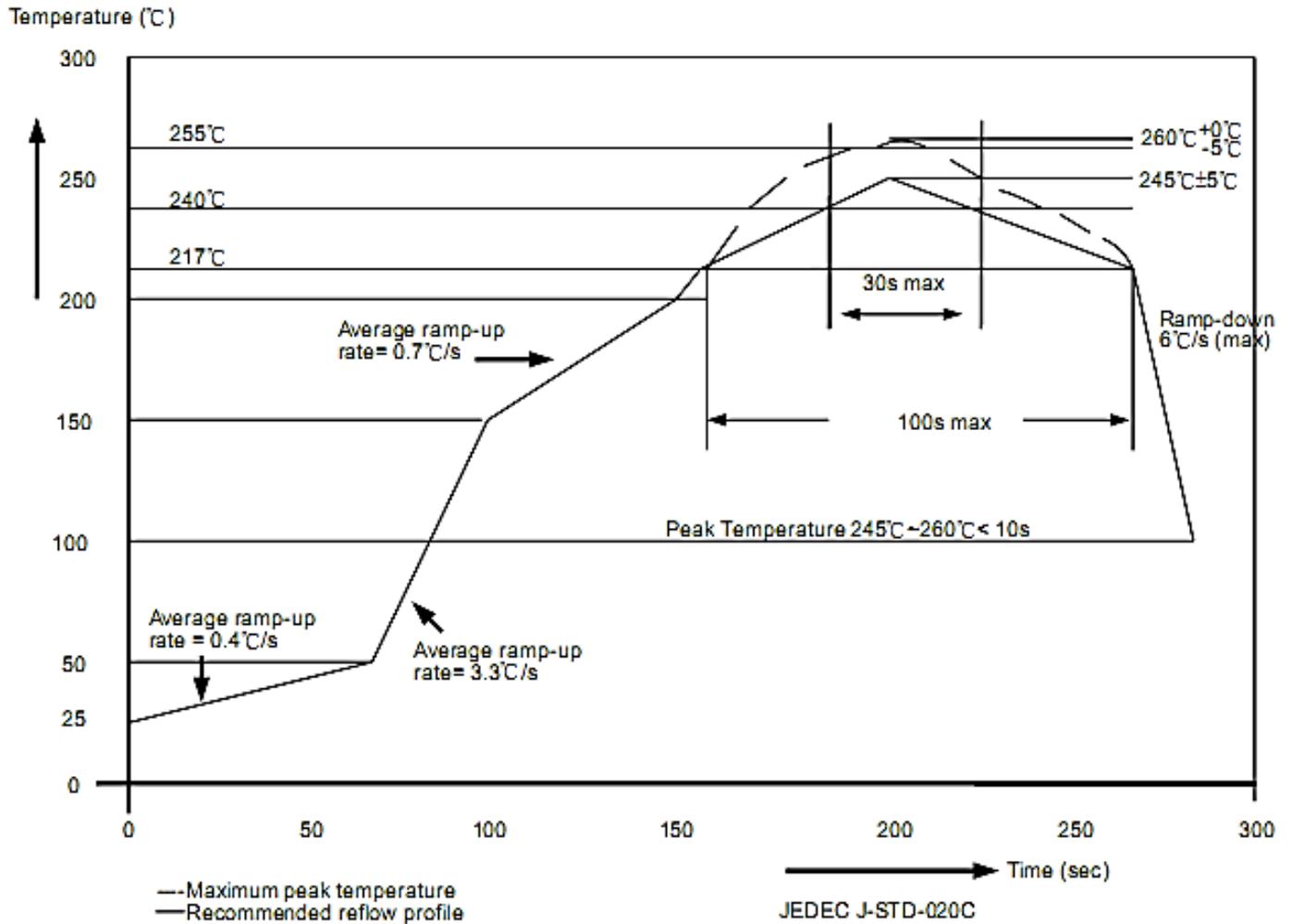
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RoHs

J-STD-020

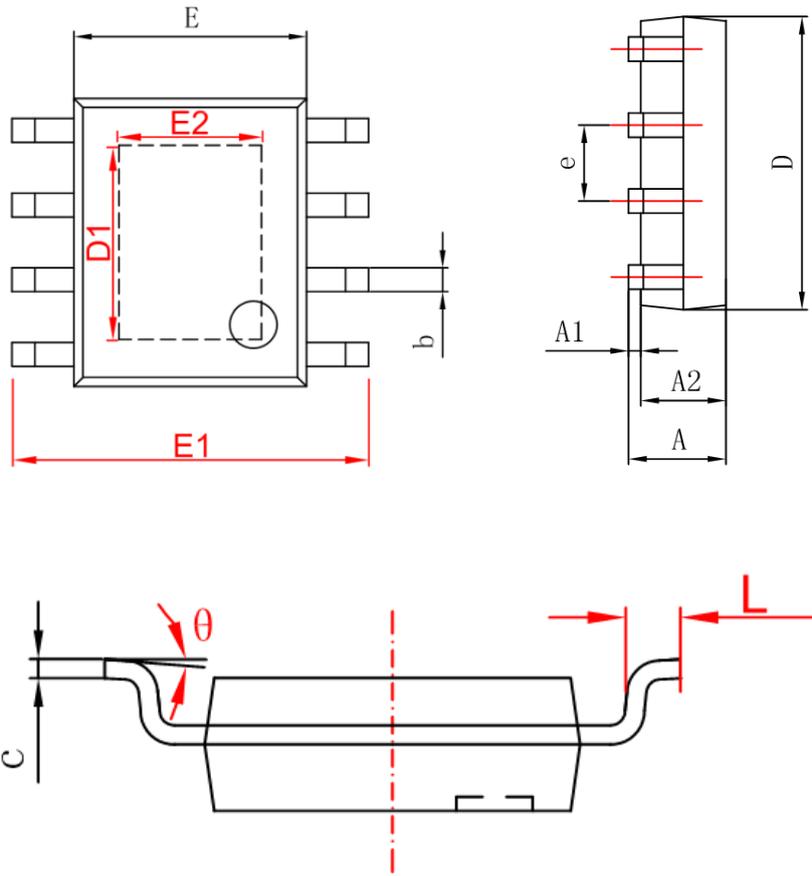


<1.6mm	260+0	260+0	260+0
1.6mm~2.5mm	260+0	250+0	245+0
2.5mm	250+0	245+0	245+0

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ESOP8



Symbol	Min(mm)	Max(mm)
A	1.25	1.95
A1	-	0.1
A2	1.25	1.75
b	0.25	0.7
c	0.1	0.35
D	4.6	5.3
D1	3.12(REF)	
E	3.7	4.2
E1	5.7	6.4
E2	2.34(REF)	
e	1.270(BSC)	
L	0.2	1.5
	0°	10°

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