

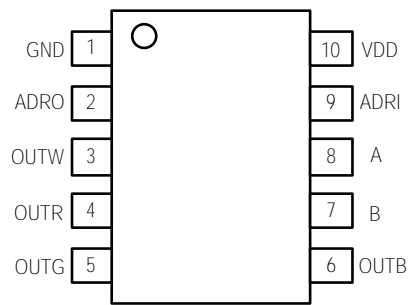
SM17512PS

- ◆ 5V-24V
- ◆ DMX512(1990)
- ◆ 250kbps~750kbps
- ◆ 4096
- ◆ OUT R/G/B/W
- ◆ 2
- ◆ SPWM 256
- ◆ 1/2/3/4
- ◆ OUTR/G/B/W 18mA
- ◆ OUT R/G/B/W 4bits
- ◆ OUT R/G/B/W 30V
- ◆ SSOP10

- ◆ LED
- ◆ LED /
- ◆
- ◆

SM17512PS
LED DMX512
1990

SM17512PS
PWM
OUT R/G/B/W 16 OUT 3.5KHz
PWM



SSOP10

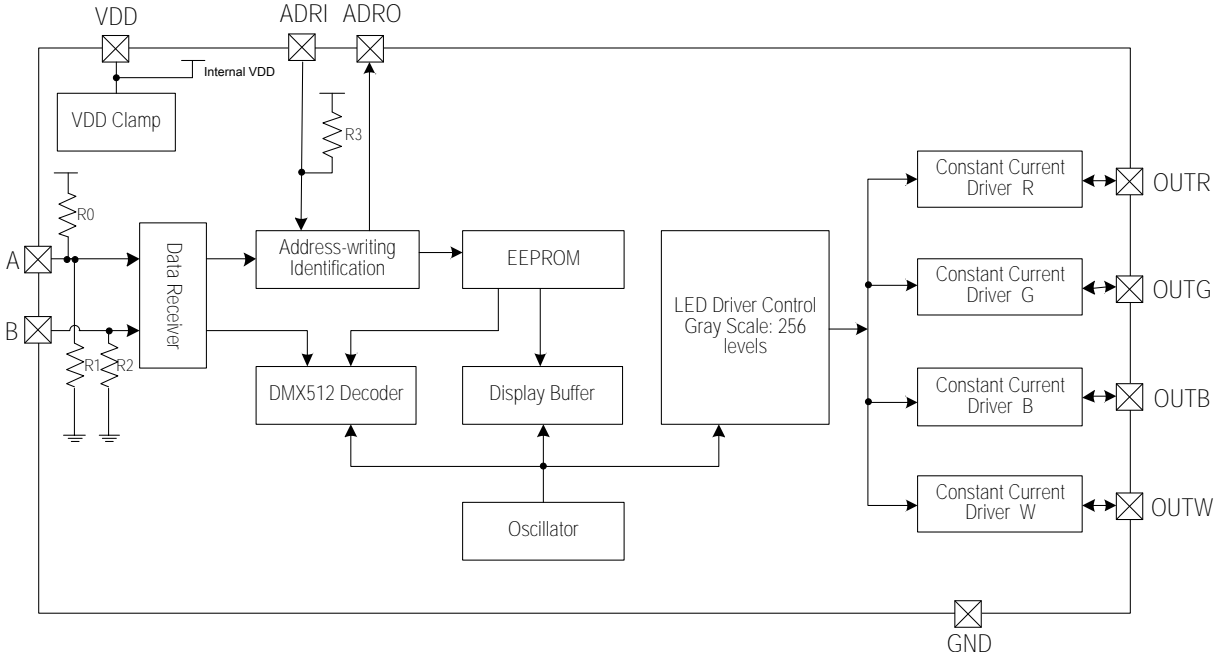
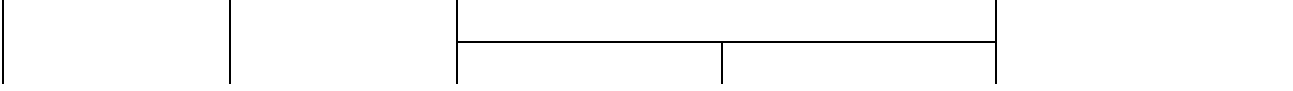


Fig.SM17512PS

1	GND	
2	ADRO	
3-6	OUTW/R/G/B	
7	B	-
8	A	+
9	ADRI	
10	VDD	5V



SM17512PS

SSOP10

1

T_A=25° C

VDD		-0.4-5.4	V
V _I		-0.4~VDD+0.4	V
BV _{OUT}	OUTR/G/BW	30	V
I _{OUT}	OUTR/G/BW	18	mA
I _{damp}	VDD	20	mA
	PN 2	130	°CW
T _J		-40~150	°C
T _{STG}		-55~150	°C
V _{ESD}	HBM	2	KV

1

2

T_A=25° C

JEDEC JESD51

4 5

VDD=5V TA = 25°C

VDD		VCC VDD R _{IN}	4.8	5.2	5.4	V
		-	3.0	-	5.0	V
I _{DD}		VDD = 4.5V R _{EXT} I _{OUT}	-	2.4	-	mA
I _{OUT_RGBW}	OUT R/G/B/W	R _{EXT} D4:D3:D2:D1=1111	-	18	-	mA
R _{down_AB}	A/B	-	-	180	-	
R _{UP_A}	A	VDD=4.5V	-	1	-	
V _{CM}		-	-	-	12	V
I _{AB}		-	-	-	28	uA
V _{TH}		VDD = 5V B=2.5V A	-200	-	200	mV

VDD=5V TA = 25°C

f_{PWM}	OUT R/G/B/W PWM	$I_{OUT}=18mA$ OUT R/G/B/W	VDD	-	3.5K	-	Hz
t_{PLH}	6	DAO	30pF	-	150	-	ns
t_{PHL}		DAI	DAO	-	140	-	ns
t_{TLH}	7	DAO	30pF	-	10	-	ns
t_{THL}		DAO	30pF	-	10	-	ns
t_r	8	$I_{OUT}=18mA$ OUT R/G/B/W		-	120	-	ns
t_f		VDD	15pF	-	240	-	ns

6 7 8

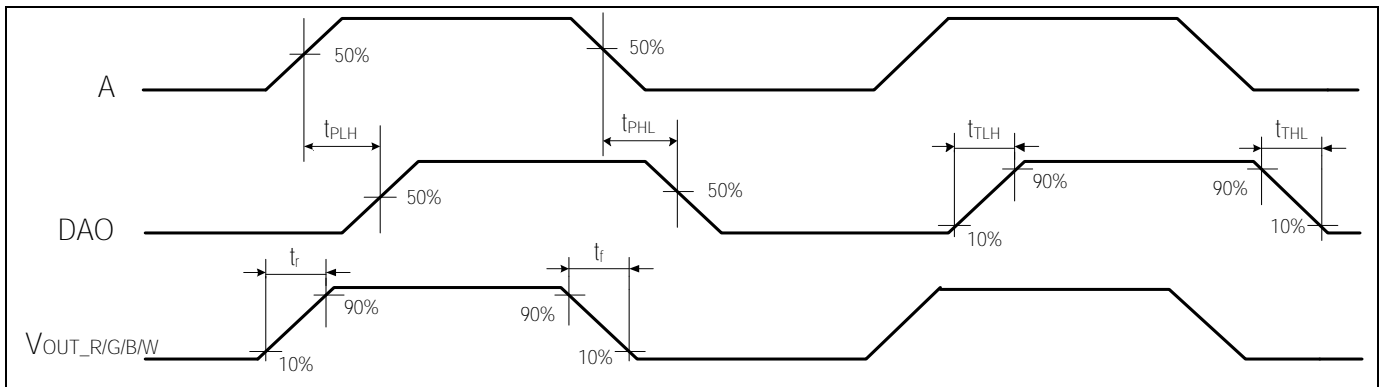


Fig. SM17512PS

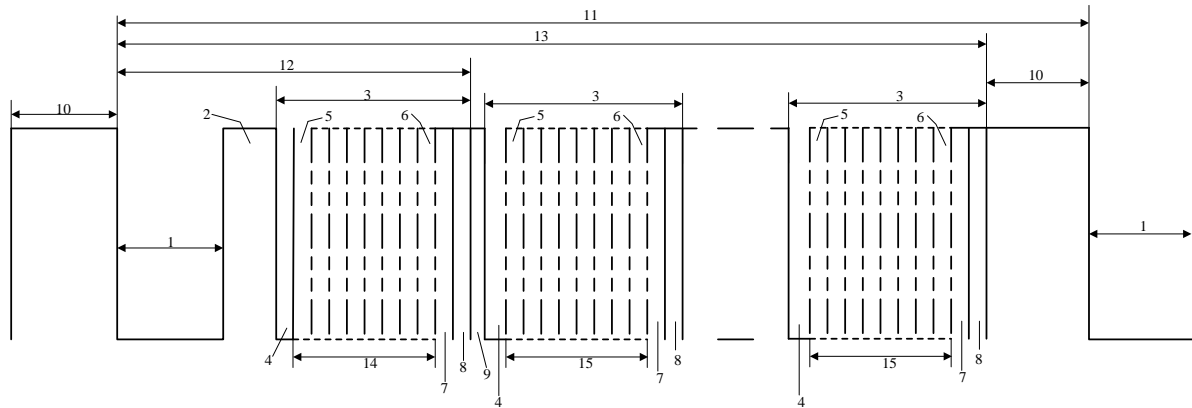


Fig. DMX512(1990)

Figuer Key

- 1-
- 2-
- 3- Slot Time
- 4- START Bit
- 5- LEAST SIGNIFICANT Data BIT
- 6- MOST SIGNIFICANT Data BIT
- 7- STOP Bit
- 8- STOP Bit
- 9-
- 10-
- 11- BREAK to BREAK Time
- 12- RESET Sequence (BREAK,MAB,START Code)
- 13- DMX512 Packet
- 14- START CODE (Slot 0 Data)
- 15- SLOT 1 DATA
- 16- SLOT nnn DATA (Maximun 512)

Designation	Description	Min	Typical	Max	Unit
-	Bit Rate	245	250	255	kbit/s
-	Bit Time	3.92	4	4.08	us
-	Minimum Update Time for 513 slots	-	22.7	-	ms
-	Maximum Update Rate for 513 slots	-	44	-	/s
1		88	-	-	us
2	After BREAK (MAB)	8	-	-	us
9		0	-	<1.00	s
10		0	-	<1.00	s
11	BREAK to BREAK Time	1196	-	-	us
13	DMX512 Packet	1196	-	-	us

DMX512 1990

SM17512PS OUT

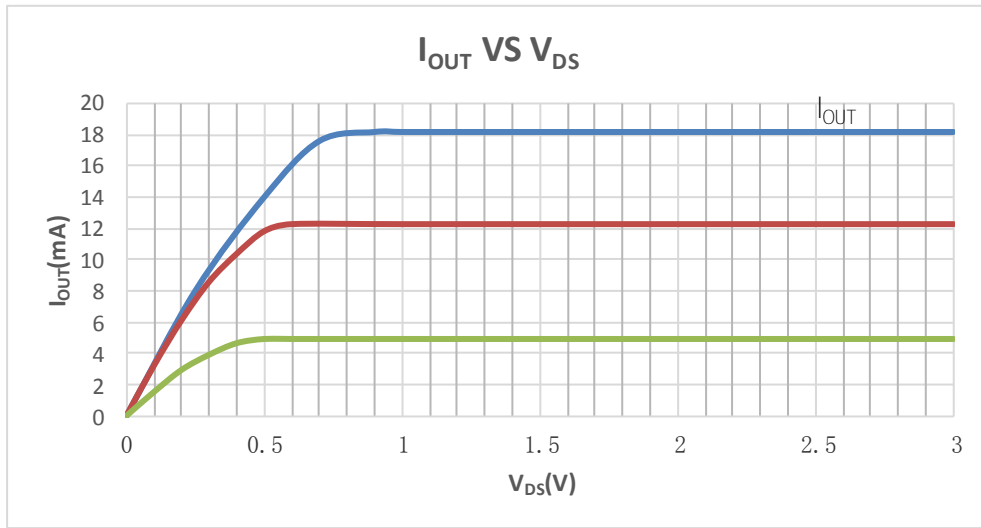
I_{OUT}

OUT

V_{DS}

I_{OUT}

V_{DS}



14	1	1	0	1	15.6
15	1	1	1	0	16.8
16	1	1	1	1	18.0

SM17512PS

1

2S

2

ADRI

3

SM17512PS

SM17512PS

DMX512 1990

1024

A/B

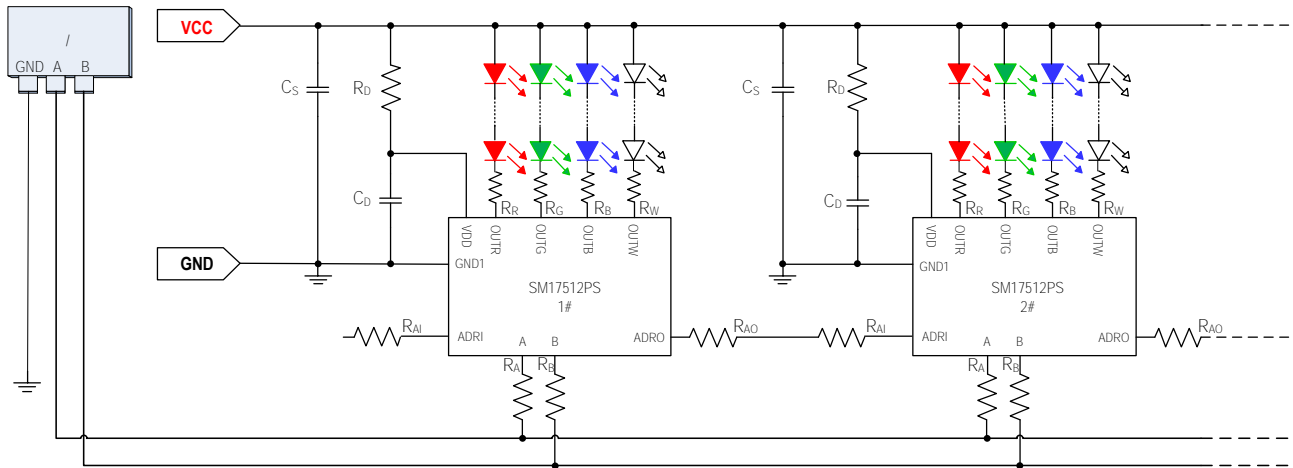


Fig. SM17512PS

SM17512PS VCC R_D C_S R/G/B/W LED
 R_R R_G R_B R_W R_{Ai} R_{AO} A/B R_A R_B
 1 VCC R_D
 $V_{DD} = V_{CC} - (I_{DD} + I_{IN}) * R_D$
 I_{IN} I_{DD} R_D V_{DD} > 3V

R _D	R _D	VCC	R _D
VCC	5V	6V	9V
R _D	33	100	470
			1K
			1.5K
			2K
			3K

2 C_S 0.1uF-10uF

3 C_D VDD C_D 100nF

4 R_A R_B A/B A B

5 R_{Ai}

6 R_{AO}

7 R_R R_G R_B R_W OUTR/G/B/W OUTR/G/B/W

$$R_R/R_G/R_B/R_W = \frac{V_{CC} - N * V_{LED} - V_{DS}}{I_{LED}}$$

VCC V_{LED} LED I_{LED}

V_{DS} OUTR/G/B/W 1V OUTR/G/B/W

OUTR/G/B/W OUTR/G/B/W V_{DS} 3.0V

V_{LED}

2.2V

3.2V

3.2V

3.2V

REXT

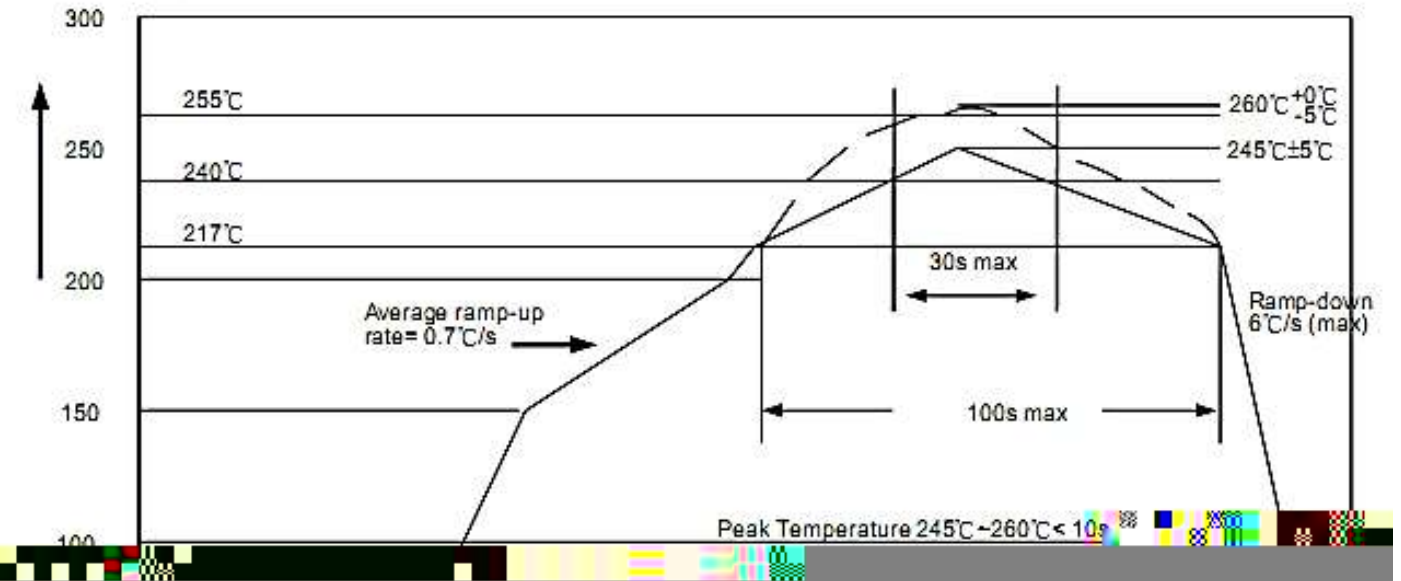
VCC	OUTR/G/B/W LED	R_D	C_D nF	R_A	R_B	R_{AI}	R_{AO}	R_R	R_G	R_B	R_W
12V	3	1K	100	10K	10K	510	510	150			
24V	6	3K	100	10K	10K	510	510	510	150	150	150

钲铭科

RoHS

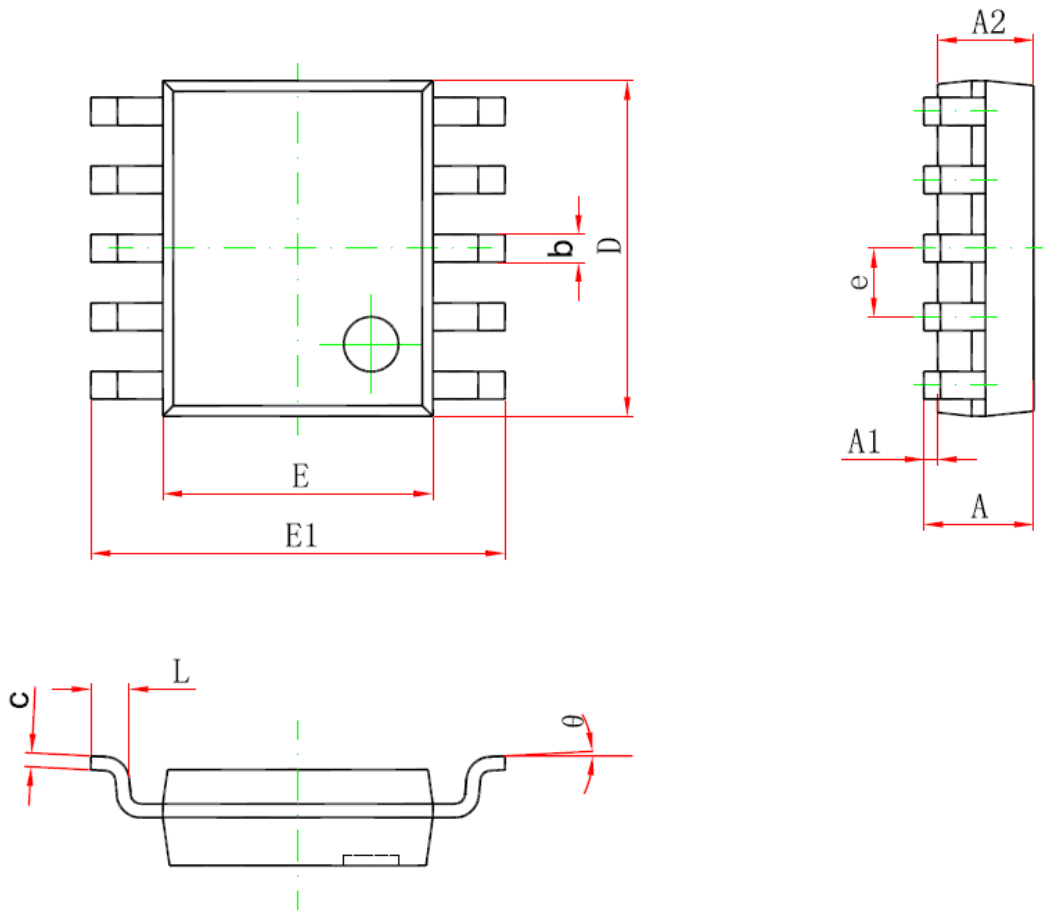
J-STD-020

Temperature (°C)



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

SSOP10



Symbol	Millimeters		Inchs	
	Min	Max	Min	Max
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.300	0.450	0.012	0.018
c	0.170	0.250	0.007	0.010
D	4.700	5.100	0.185	0.201
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.000(BSC)		0.039(BSC)	
L	0.400	1.270	0.016	0.050
	0°	8°	1°	8°