- 2 -

ADRO

Data Receiver → Address-writing Identification

DMX512 Decoder

Fig.SM17500P

1	GND	
2	ADRO	
3	DAO	
4	TEST	严
5	ADRI	
6	A	
7	B	
8	VDD	5V

SM17500P	SOP8	100000 /	4000 /	13

1 2 3

T_A=25 ℃

VDD		-0.4~5.4	V
V_I		-0.4~VDD+0.4	V
Idamp	VDD	20	mA
RθJA	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   可   址

严

2 RθJA 址 T_A=25°C   JEDEC JESD51   址

3   T_{JMAX} RθJA T_A P_D = (T_{JMAX}-T_A)/ RθJA

业务电话：400-033-6518

4　5

VDD=5V T_A = 25°C

			最小	典型	最大	单位
VDD		VCC=12V　VCC　VDD R_{IN} =1KΩ	4.8	5.2	5.4	V
		VCC≤5V	3.0	-	-	V
I_{DD}		VDD = 4.5V	0.9	1.0	1.15	mA
I_{OH}	DAO	DAO　　　　GND	-	-34	-	mA
I_{OL}		DAO　　　　VDD	-	35	-	mA
R_{down_AB}	A/B	VDD=4.5V	-	215	-	KΩ
R_{up_ADRI}	ADRI		9.5	10.5	11.5	KΩ
I_{OH}	ADRO	ADRO　　　　GND	-	-34	-	mA
I_{OL}		ADRO　　　　VDD	-	35	-	mA
R_{UP_A}	A	VDD=4.5V	-	1.2	-	MΩ
V_{CM}		-	-	-	12	V
I_{AB}		-	-	-	28	uA
VTH		VDD = 5V　B=2.5V　A	-200	-	300	mV
△VTH		VDD = 5V　B=2.5V　A	-	80	-	mV

4　　　　　　　　　　址　　　　址

严

5

VDD=5V   T$_A$ = 25 ℃

					235K	250K	265K	bps
f$_{DMX512}$	DMX512		DMX512	250Kbps	235K	250K	265K	bps
f$_{RZ}$					750K	800K	850K	bps
t$_{TLH}$	DAO	6	B 2.5V A 0 5V PWM		-	20	-	ns
t$_{THL}$			DAO	30pF	-	16	-	ns

6
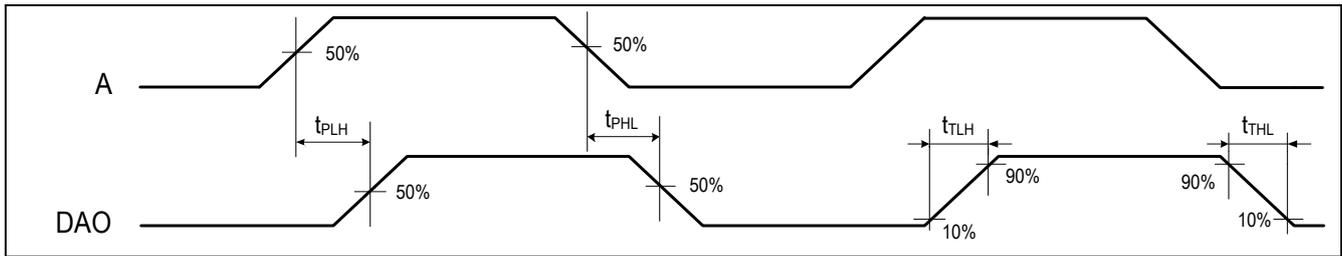
Fig. SM17500P

SM17500P

0bit	DMX512	-	DMX512AW DMX512AW-B DMX512P DMX512P-W SM16809P SM16812P SM16909P SM16912P
0bit		-	SM16703P SM16703PB SM16704PB SM16709P SM16712P SM16712TS SM16723P
4bit		3	SM16813
4bit		3	SM16803P
4bit		4	SM16804P
5bit		4	SM16714P

SM17500P 否   SM16803P   SM16804P   "   " "2

否   "

"　　　　　"

SM17500P "　　　　"

1		SM17500P　　DIN　　　　　　　　　　　　　　"2S 否 　　　" "　　　否　　　　　　" 否	否　　严
2			
3		RGB　RBGW　256	"　　否 　"
4		" " "DMX512　　　　　"	
5		0bits/4bits/5bits/6bits	DMX512
6	SM16813	SM17500P　　　　3　　4bit 1　　SM16813 2	严
7	否	否	压

"　　　　　"

"　　　" " 　　SM17500P

否 否 压 "

" 255

"　" 址

128 严 128 否 侵 "0

"　　　　"

SM17500P "　" 厚 SM17500P

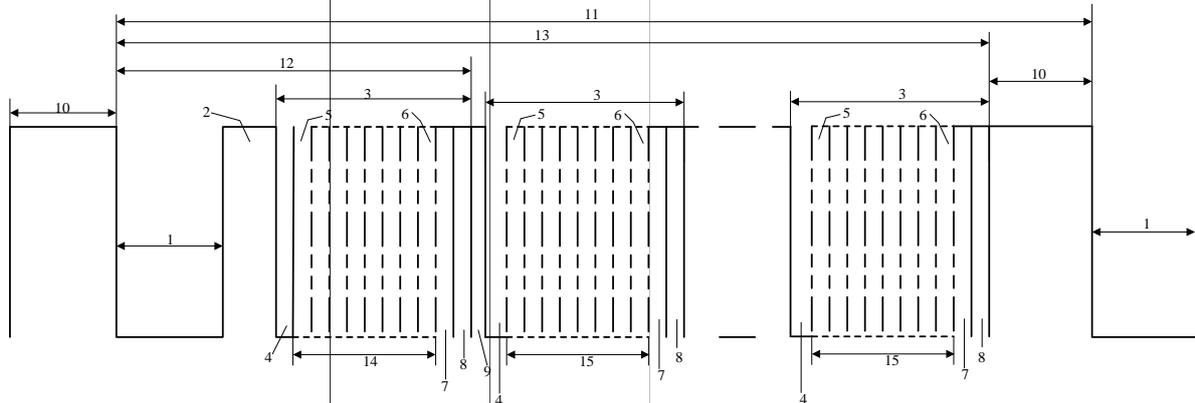"　" 侵 严 境

严 严

"　　　" 否

1. 份

2.

DMX512

SM17500P A/B DAO DMX512 DMX512(1990)

Fig. DMX512(1990)

Figuer Key   9

1- "SPACE" for BREAK
2- "MARK" After BREAK (MAB)
3- Slot Time
4- START Bit
5- LE███████T Data BIT
6- MO███████ Data BIT
7- ST██████
8- ST██████
9- "MARK" Time Between slots
10- "MARK" Before BREAK (MBB)
11- BREAK to BREAK Time
12- RESET Sequence (BREAK, MAB, START Code)
13- DMX512 Packet

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	"SPACE" for BREAK	88	-	-	us
2	"MARK" After BREAK (MAB)	8	-	-	us
9	"MARK" Time Between slots				

DMX512

250Kbps

Designation	Description	Min	Typical	Max	Unit
-	Bit Rate	237	250	262	kbit/s
-	Bit Time	3.8	4	4.2	us
1	"SPACE" for BREAK	88	-	-	us
2	"MARK" After BREAK (MAB)	8	-	-	us
9	"MARK" Time Between slots	0	-	<1.00	s
10	"MARK" Before BREAK (MBB)	0	-	<1.00	s
11	BREAK to BREAK Time	1196	-	-	us
13	DMX512 Packet	1196	-	-	us

512　　　STOP Bit　　　3bit

500Kbps

Designation	Description	Min	Typical	Max	Unit
-	Bit Rate	475	500	525	kbit/s
-	Bit Time	1.9	2	2.1	us
1	"SPACE" for BREAK	88	-	-	us
2	"MARK" After BREAK (MAB)	8	-	-	us
9	"MARK" Time Between slots	0	-	<1.00	s
10	"MARK" Before BREAK (MBB)	0	-	<1.00	s
11	BREAK to BREAK Time	1196	-	-	us
13	DMX512 Packet	1196	-	-	us

512　　　STOP Bit　　　3bit

128　　　　　　　严　128　否　　　侵

SM17500P　　　　　　　　　800Kbps　"1"　　　900ns　　　300ns　"0"

300ns　　　　　900ns

Fig. SM17500P

SM17500P

128   严 128 否   侵

"0   址

bit7~bit0	bit7~bit0	bit7~bit0	— · — · —	bit7~bit0	4	
1	2	3		128		Reset

1 128

Fig. SM17500P

24bits   份   址 4/5/6bits   侵   8/4/0bits   "0"

A/B/C/D   严   严

A   D   "0"

	0/4/8bits	A: /4~6bits	B:4~6bits	C:4~6bits	D:4~6bits /	
					/	Reset
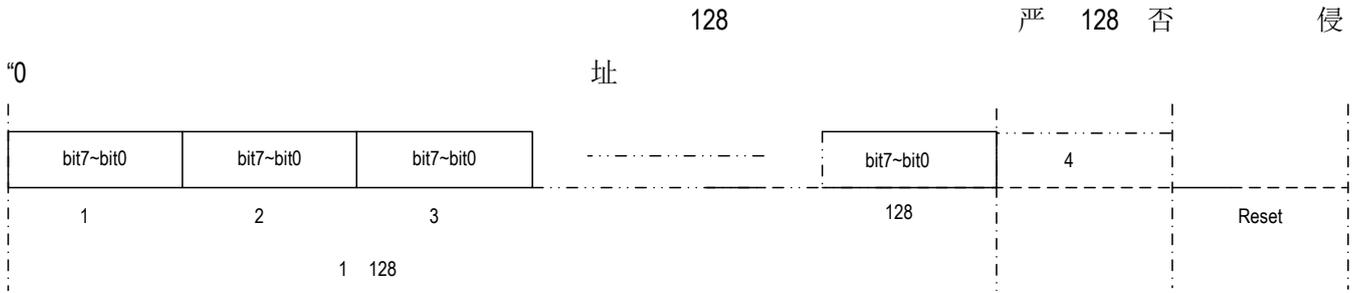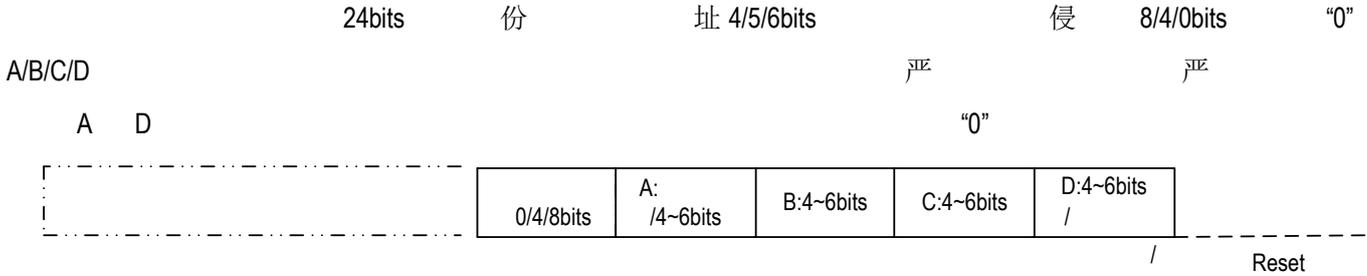
Fig. SM17500P

24bit

A/B/C/D		( )		A/B/C/D		RGBW	
				A	B	C	D
0bit	-	-					
4bit	SM16813	3	8bit	R	G	B	
4bit		3	8bit		R	G	B
5bit	-	3	4bit		R	G	B
6bit		3	0bit		R	G	B
4bit	-	4	8bit	R	G	B	W
5bit	-	4	4bit	R	G	B	W
6bit	-	4	0bit	R	G	B	W

1. 份   3   3

    4 任 4

2.   "-"任

3. SM16714P   侵   WBGR 侵   SM17500P   ABCD

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SHENZHEN SUNMOON MICROELECTRONICS CO.,LTD.

3 SM17500P+SM16X12 图
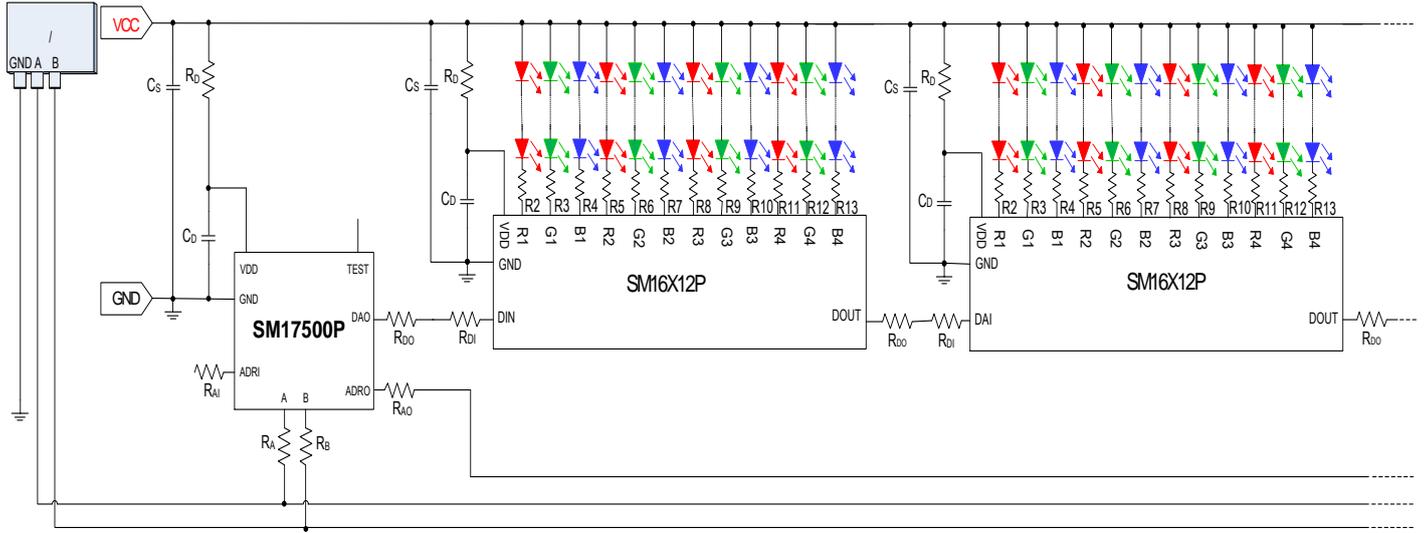
Fig. SM17500P+ SM16X12

SM17500P VCC R$_D$ C$_S$,

R$_{AI}$ 份 R$_{AO}$ A/B R$_A$ R$_B$

1 VCC R$_D$

V$_{DD}$ V$_{DD}$=VCC-(I$_{DD}$+I$_{IN}$)*R$_D$;

I$_{IN}$ I$_{DD}$ R$_D$ V$_{DD}$ >3V

R$_D$ R$_D$

R$_D$		严		VCC R$_D$, R$_{AI}$ R$_{AO}$	
VCC V	5V	12V	15V	24V	36V
R$_D$ Ω	33	1K	1.5K	3.0K	6.2 K
R$_{AI}$ R$_{AO}$ Ω	33	220	220	510	510

2 C$_S$ 0.1uF-10uF

3 C$_D$ VDD C$_D$ 100nF

4 R$_A$ R$_B$ A/B A B R$_A$ R$_B$
5.1K~10K

5 R$_{AI}$

6 R$_{AO}$

RoHs   J-STD-020
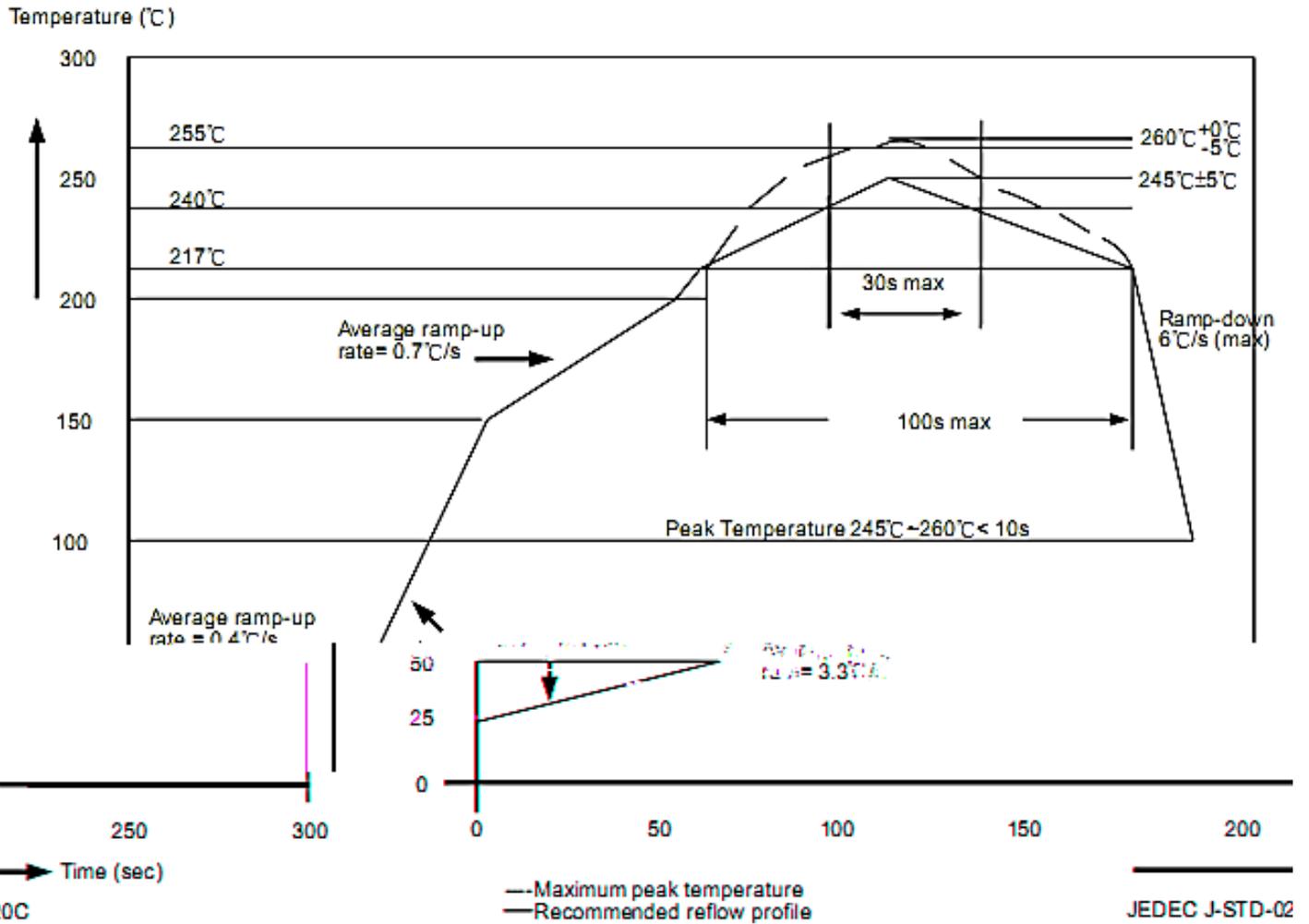
	mm³ < 350	mm³ 350~2000	mm³ ≥ 2000
<1.6mm	260+0°C	260+0°C	260+0°C
1.6mm~2.5mm	260+0°C	250+0°C	245+0°C
≥2.5mm	250+0°C	245+0°C	245+0°C

SOP8
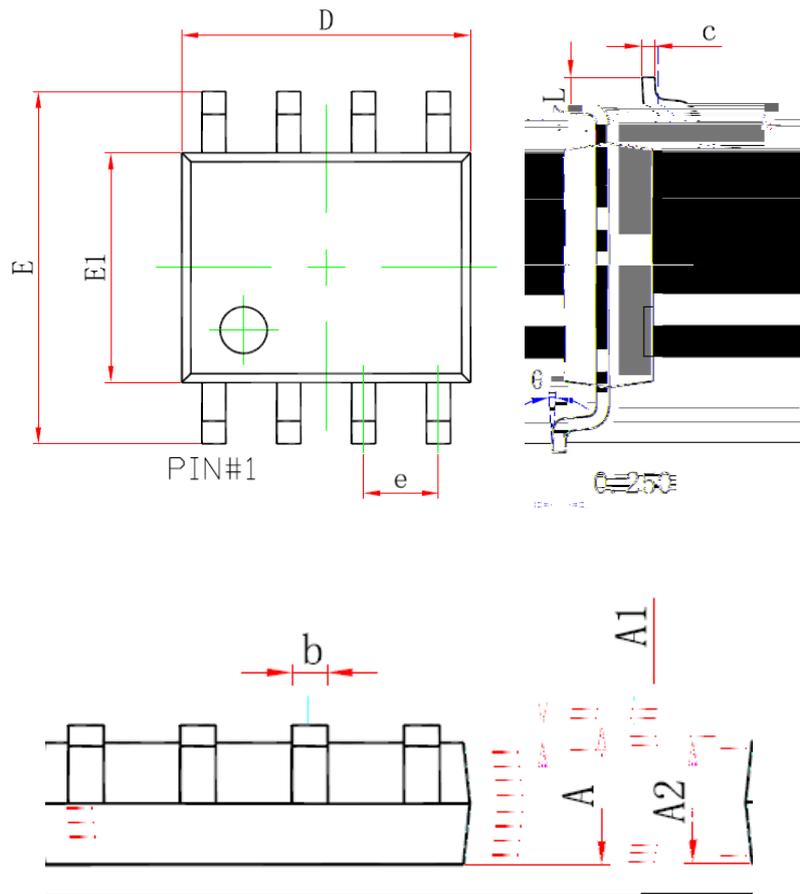
Symbol	Min(mm)	Max(mm)
A	1.25	1.95
A1	-	0.25
A2	1.25	1.75
b	0.25	0.7
c	0.1	0.35
D	4.6	5.3
e	1.27(BSC)	
E	5.7	6.4
E1	3.7	4.2
L	0.2	1.5
θ	0°	10°

份   址

予   串 任   份

严   决

严

串

串   压