

SM16512PS

OUTR/G/B/W 17mA

50%

100% 50%

A/B

OUTR/G/B/W 26V

5V~24V

256

DMX512(1990)

250kbps~750kbps

EEPROM 4096

485

3/4

SSOP10

LED

LED /

SM16512PS LED

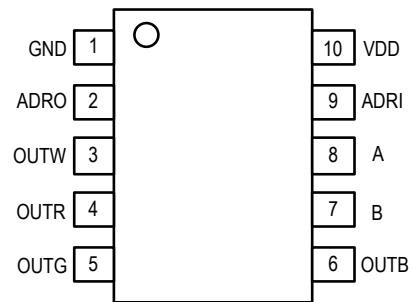
DMX512 1990

485

17mA

(256)

EEPROM 8



SM16512PS(SSOP10)

7	B	-	DMX512 -
8	A	+	DMX512 +
10	VDD		5V
9	ADRI		
2	ADRO		
4~6,3	OUTR/G/B/W		LED
1	GND		

SM16512PS	SSOP10	10000 /	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

Ta = 25

VDD		-0.5—+5.5	V
V _{OUT}	OUTR/G/B/W	26	V
V _{I1}		-0.5—VDD+0.5	V
I _{OL1}	LED	17	mA
T _{OPT}		-40—+125	
T _{STG}		-65—+150	
V _{ESD}	ESD	>2K	V

Ta = 25

VDD		—	5	—	24	V
I _{OUT}	OUTR/G/B/W	VDD = 5.0V	—	17	—	mA
F _{PWM}	LED	VDD=5.0V OUT 120Ω 5V	—	3.3K	—	HZ
V _{OUT}	V _{OUT}	I _{OUT} = 17mA	—	0.7	—	V
R _{IN}		—	—	200	—	KΩ
V _{CM}		—	—	—	12	V
I _{AB}			—	—	28	uA
			-200	—	200	mV
		VDD=5V B=2.5V	—	80	—	mV
I _{OH}	ADRO	ADRO	-50	—	-65	mA
I _{OL}		ADRO	50	—	55	mA
I _{DD}		VDD = 5.0V	—	3.6	—	mA
I _{leak}	OUTR/G/B/W	VDD = 5.0V, VDS=30V	—	—	1	uA

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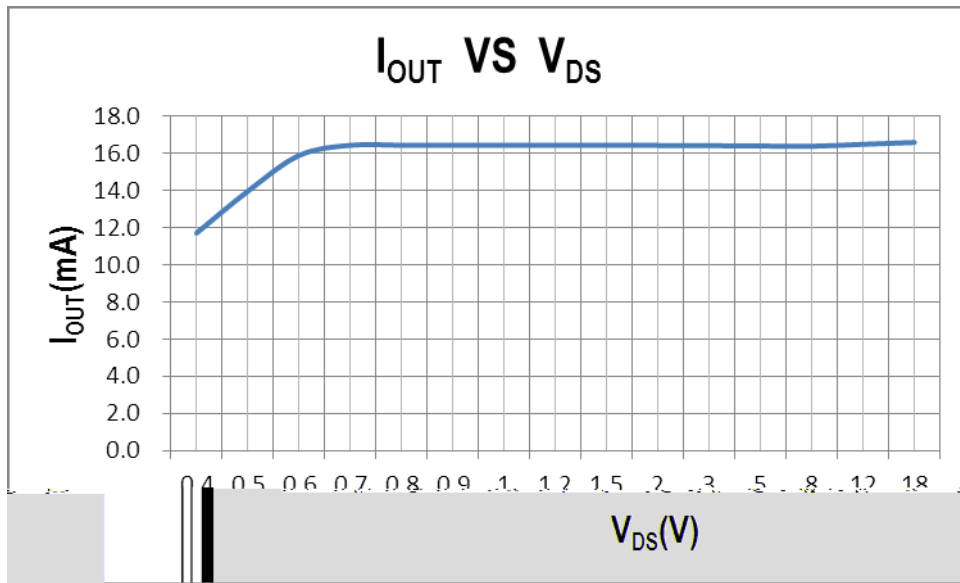
OUTR/G/B/W

17mA

I_{OUT}

OUTR/G/B/W

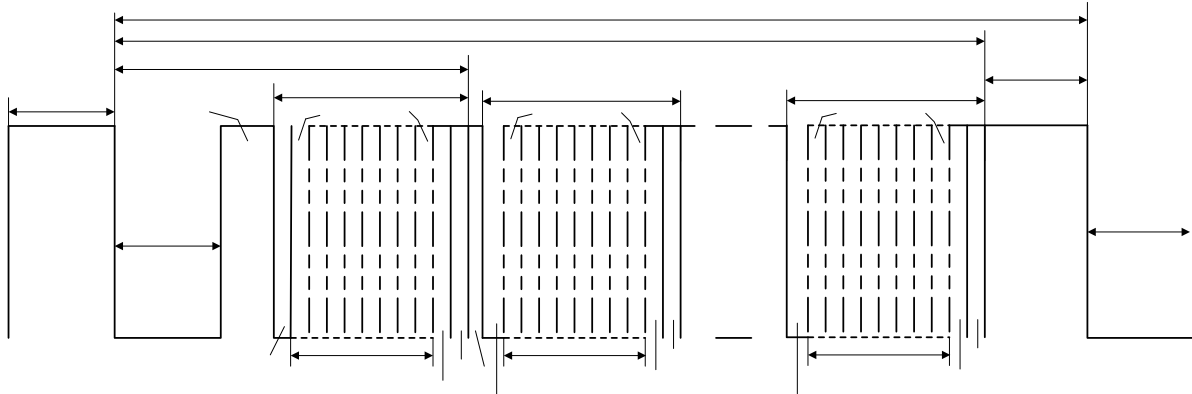
V_{DS}



1 SM16512P

I_{OUT}

V_{DS}



3 DMX512(1990)

Figuer Key

- 1- "SPACE" for BREAK
- 2- "MARK" After BREAK (MAB)
- 3- Slot Time
- 4- START Bit
- 5- LEAST SIGNIFICANT Data BIT
- 6- MOST SIGNIFICANT Data BIT
- 7- STOP Bit
- 8- STOP Bit
- 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
- 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	"SPACE" for BREAK	88	-	-	us
2	"MARK" After BREAK (MAB)	8	-	<1.00	us s
9	"MARK" Time Between slots	0	-	<1.00	s
10	"MARK" Before BREAK (MBB)	0	-	<1.00	s
11	BREAK to BREAK Time	1196	-	1.00	us s
13	DMX512 Packet	1196	-	1.00	us s

DMX512 1990

MAB

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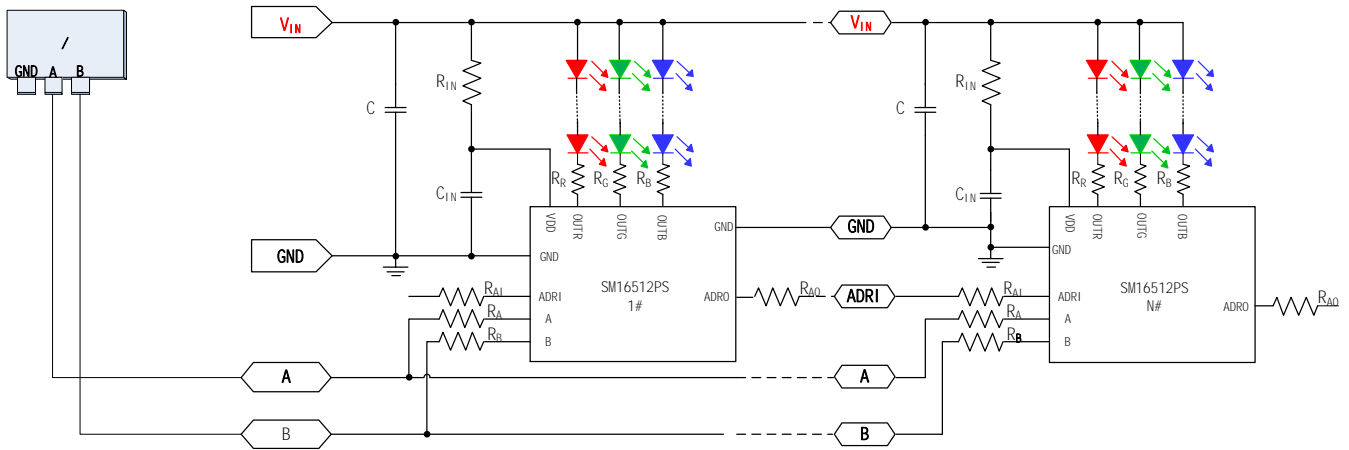
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DMX512 1990

1024

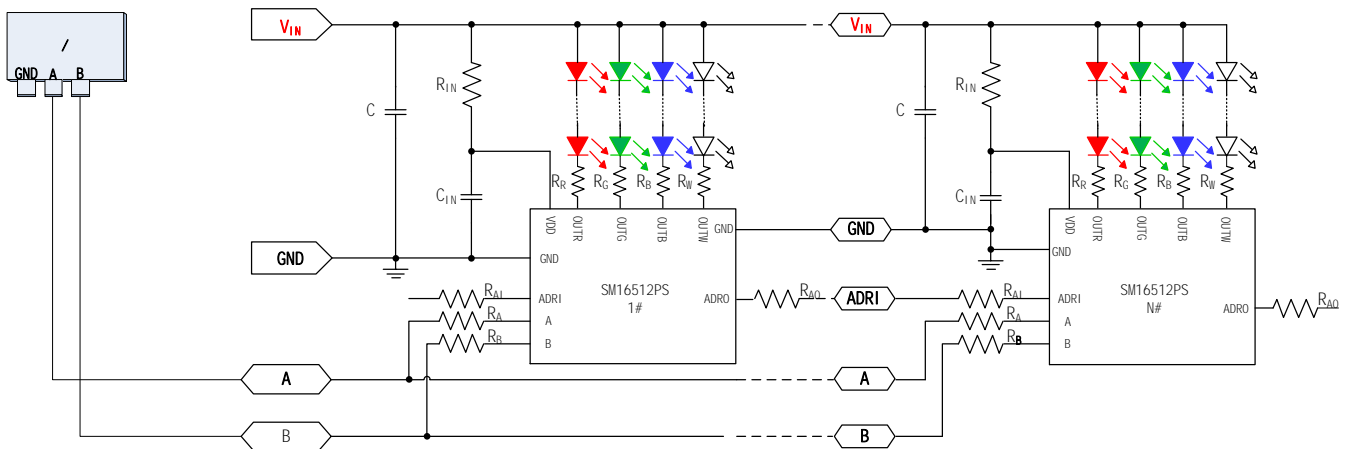
A/B

1 SM16512PS RGB



2 SM16512PS RGB

2 SM16512PS RGBW



3 SM16512PS RGBW

SM16512PS

V_{IN}

R_{IN}

V_{DD}

C_{IN} R/G/B/W LED

R_R R_G R_B R_W

R_{AI}

R_{AO} A/B

R_A R_B

1 V_{IN}

R_{IN}

$$V_{DD} = V_{IN} - (I_{DD} + I_{IN}) * R_{IN}$$

I_{IN}

I_{DD}

R_{IN}

V_{DD} > 3V R_{IN}

R_{IN}

R_{IN}

V_{IN}

R_{IN}

V _{IN} V	5V	6V	9V	12V	15V	18V	24V
R _{IN} Ω	33	100R	470				

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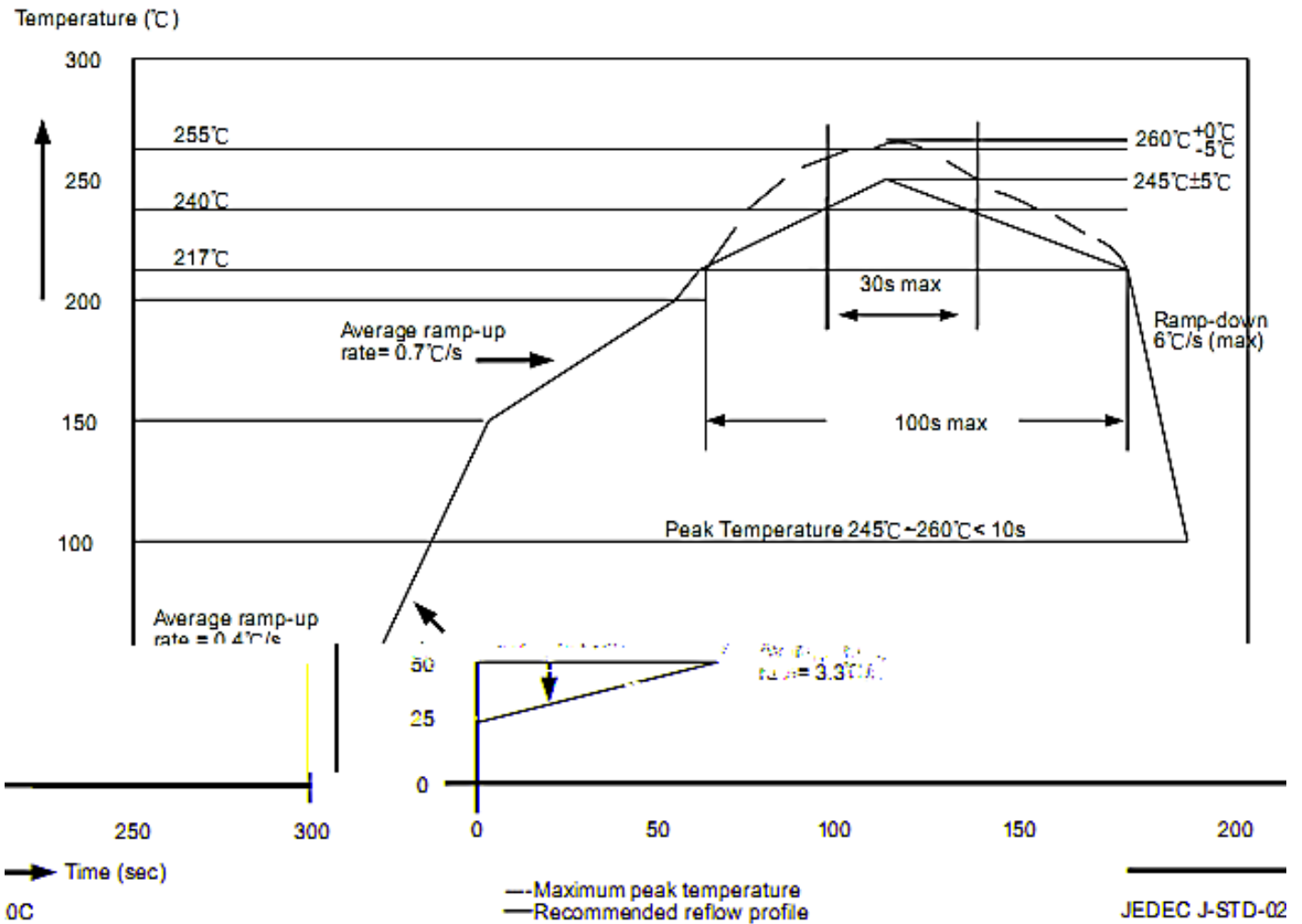
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2	C											0.1uF-10uF
3	C _{IN}		VDD				C _{IN}					100nF
4	R _A	R _B	A/B			A	B					
5	R _{AI}											
6	R _{AO}											
7	R _R	R _G	R _B	R _W		OUTR/G/B/W				OUTR/G/B/W		
						$R_R/R_G/R_B/R_W = \frac{V_{IN} - N * V_{LED} - V_{DS}}{I_{LED}}$	V _{IN}	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}			2.0-2.2V				3.0-3.2V		
3.0-3.2V			3.0-3.2V									

V _{IN}	OUTR/G/B/W LED	R _{IN} (Ω)	C _{IN} nF	R _A (Ω)	R _B (Ω)	R _{AI} (Ω)	R _{AO} (Ω)	R _R (Ω)	R _G (Ω)	R _B (Ω)	R _W (Ω)
12V	3	1K	100	10K	10K	510	510	150			
24V	6	3K	100	10K	10K	510	510	510	150	150	150

RoHs

J-STD-020

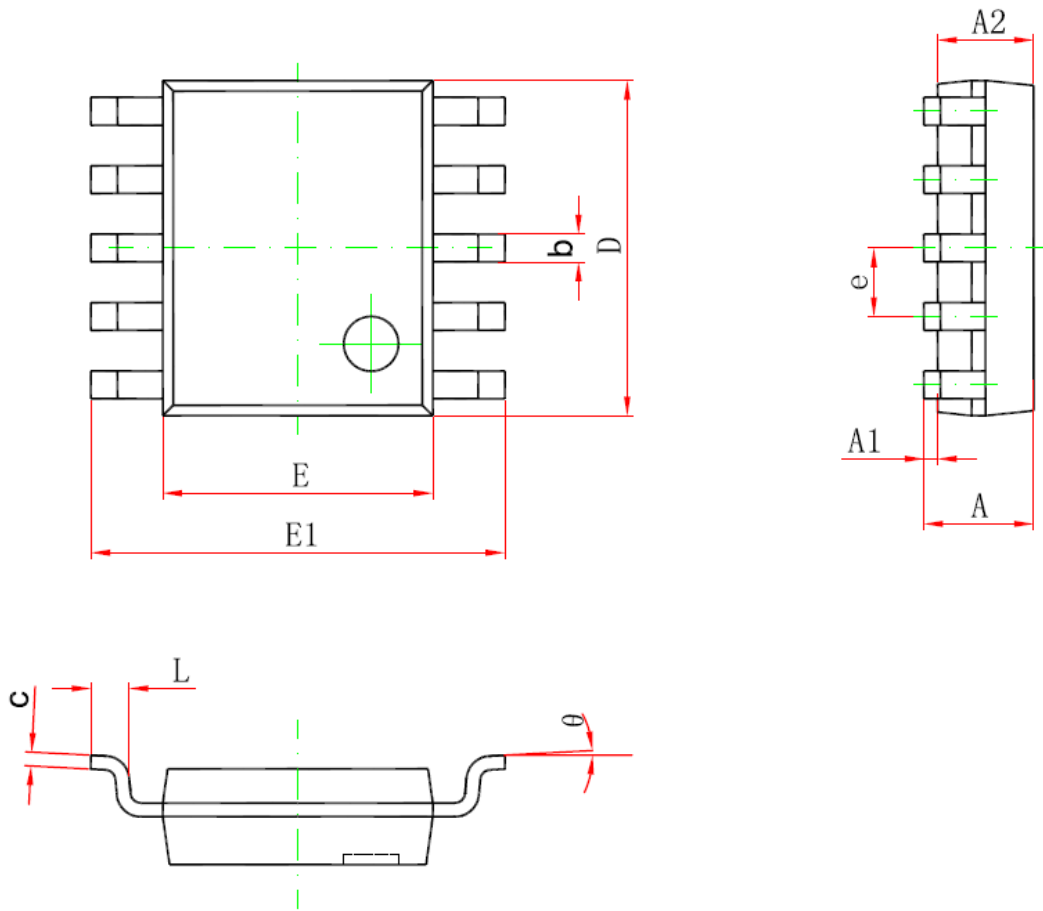


	mm ³ < 350	mm ³ 350~2000	mm ³ ≥ 2000
<1.6mm	260+0°C	260+0°C	260+0°C
1.6mm~2.5mm	260+0°C	250+0°C	245+0°C
≥2.5mm	250+0°C	245+0°C	245+0°C

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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
θ	0°	8°	1°	8°

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