高通®字库
GENITOP®

GT30L16U2W
标准点阵汉字库芯片

— 产品规格书 —

V 1.0_E
2019-08

版本修订记录

版本号	修改内容	日期	备注
V 1.0	规格书制定	2013-04	
V1.0_A	规格书格式修改	2015-05	
V1.0_B	更新字库 AC/DC 参数	2017-03	
V1.0_C	添加上电时序、删除 sop8 系列封装	2019-06	
V1.0_D	时钟频率由 50MHZ 更新为 45MHZ	2019-07	
V1.0_E	删除 ASCII 码 6X12 点阵	2019-08	

目　　　　录

1 概述

    GT30L16U2W是一款内含12x12点阵和16x16点阵的汉字库芯片，支持Unicode V3.0汉字（含有国家信标委GB13000合法授权）、ASCII字符及150国文字。排列格式为横置横排。用户通过字符内码，利用我司所提供库文件内的函数接口可直接读取该内码的点阵信息。

1.1 芯片特点

- 数据总线：SPI 串行总线接口
- 点阵排列方式：字节横置横排
- 时钟频率：45MHz(max.)@3.3V
- 工作电压：2.7V~3.6V
- 电流：
  - 工作电流：5 -15mA
  - 睡眠电流：1-5uA

- 工作温度：-40℃~85℃
- 封装： DFN2X3
- 字符集：
 - Unicode V3.0

- 字号： 12x12、16x16 点阵
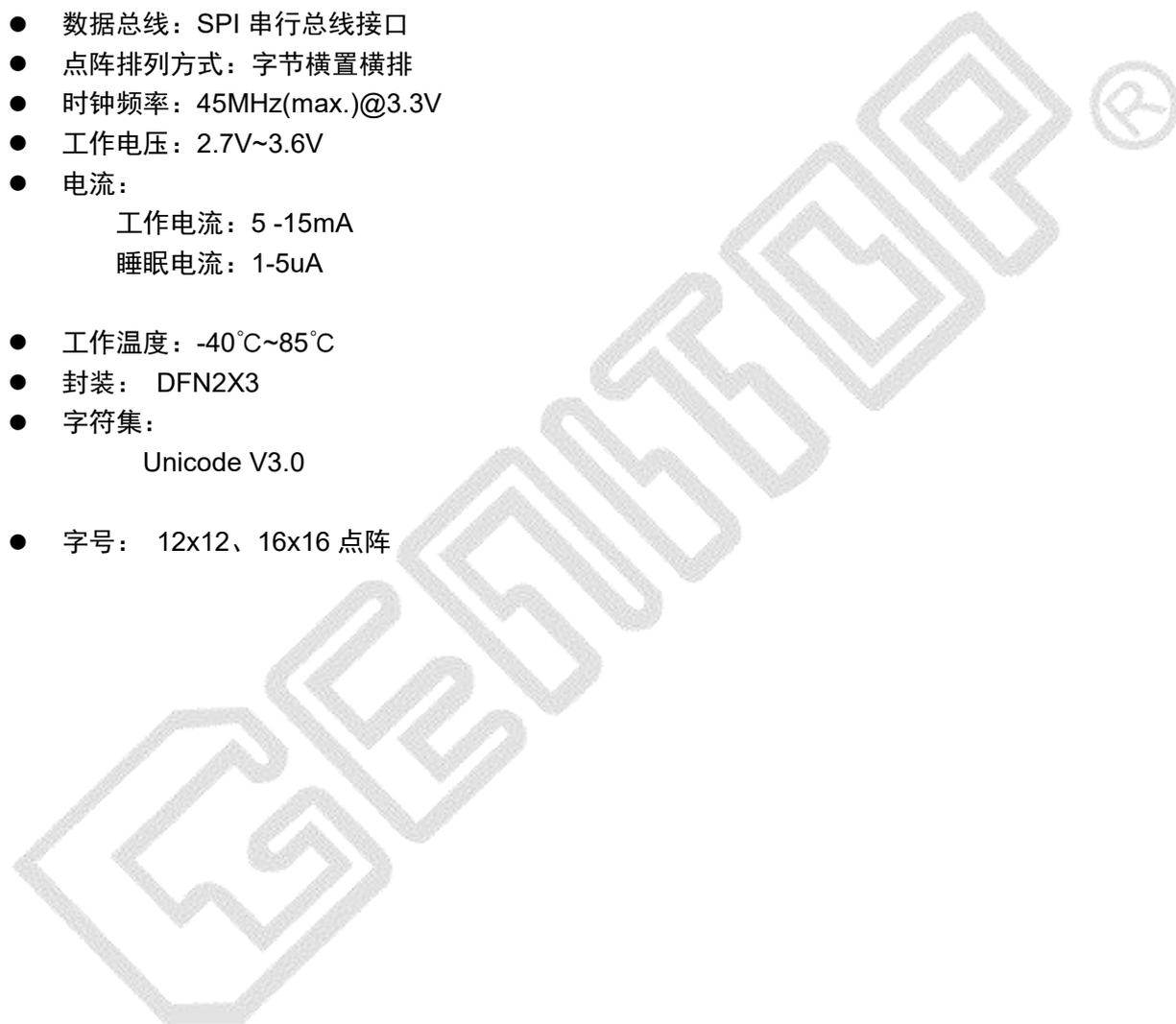
1.2 芯片内容

字符集	字库	字号	字符数	字体	排列方式
ASCII 字符集	ASCII	5x7	96	标准	W-横置横排
	ASCII	7x8	96	标准	W-横置横排
	ASCII	8x16	96	标准	W-横置横排
	ASCII	12 点阵不等宽	96	圆角字体	W-横置横排
	ASCII	12 点阵不等宽	96	线型字体	W-横置横排
	ASCII	16 点阵不等宽	96	圆角字体	W-横置横排
	ASCII	16 点阵不等宽	96	线型字体	W-横置横排
UNICODE 汉字字符集	UNICODE 汉字	12x12	20902+985	宋体	W-横置横排
		16x16	20902+985	宋体	W-横置横排
UNICODE 多国字符	拉丁文系	8x16	376	标准	W-横置横排
	希腊文系	8x16	96	标准	W-横置横排
	西里尔文系	8x16	250	标准	W-横置横排
	拉丁文系	12 点阵不等宽	555	标准	W-横置横排
	希腊文系	12 点阵不等宽	555	标准	W-横置横排
	西里尔文系	12 点阵不等宽	555	标准	W-横置横排
	拉丁文系	16 点阵不等宽	555	标准	W-横置横排
	希腊文系	16 点阵不等宽	555	标准	W-横置横排
	西里尔文系	16 点阵不等宽	555	标准	W-横置横排
	阿拉伯文系	12 点阵不等宽	840	标准	W-横置横排
	阿拉伯文系	16 点阵不等宽	840	标准	W-横置横排
	阿拉伯文系变体字符	12 点阵不等宽	498	标准	W-横置横排
	阿拉伯文系变体字符	16 点阵不等宽	498	标准	W-横置横排

1.3 字型样张

1.3.1 汉字字符

12x12 点阵 Unicode 汉字
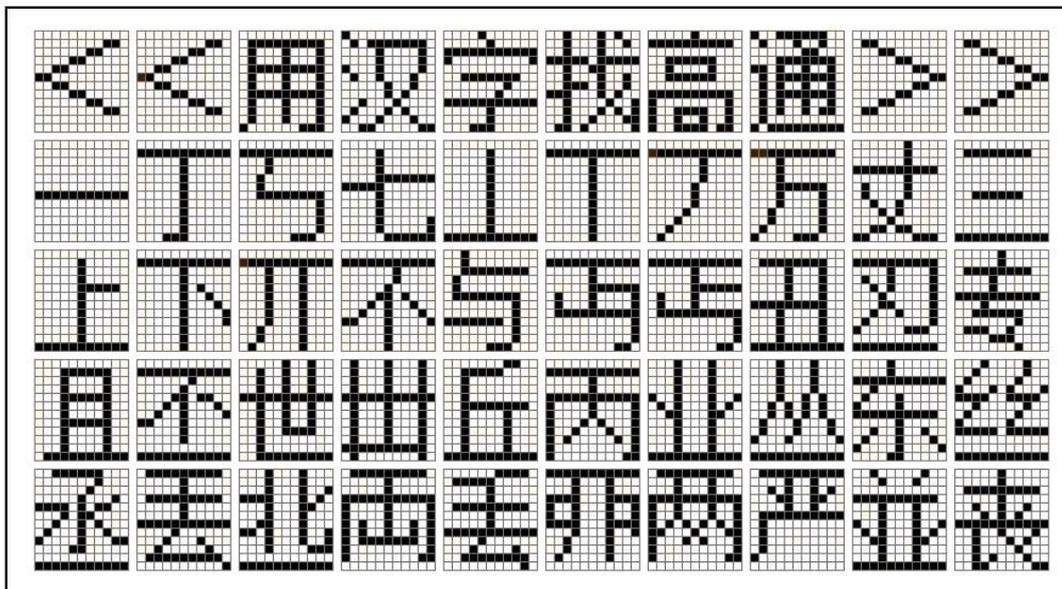
16x16 点阵 Unicode 汉字
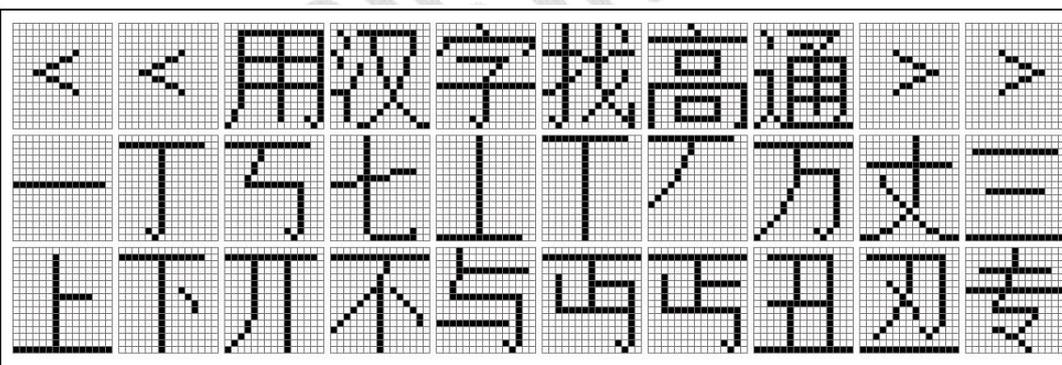
1.3.2　其它点阵字符

5x7 点阵 ASCII 标准字符

7x8 点阵 ASCII 标准字符

8x16 点阵 ASCII 标准字符

High 4bit ＼ Low 4bit	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
2		!	"	#	$	%	&	'	(	)	*	+	,	-	.	/
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
6	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7	p	q	r	s	t	u	v	w	x	y	z	{			}	~

12 点阵不等宽 ASCII 线型字体

!"#$%&'()*+,-./01234567
89:;<=>?@ABCDEFGHI
JKLMNOPQRSTUVWX

12 点阵不等宽 ASCII 圆角字体

!"#$%&'()*+,-./0123456
789:;<=>?@ABCDEFGH
IJKLMNOPQRSTUVW
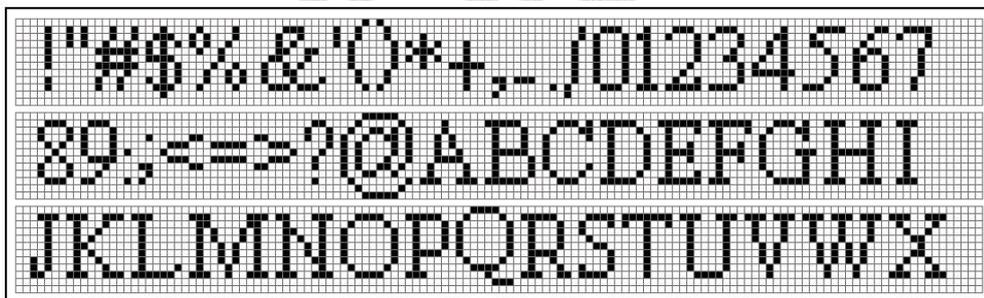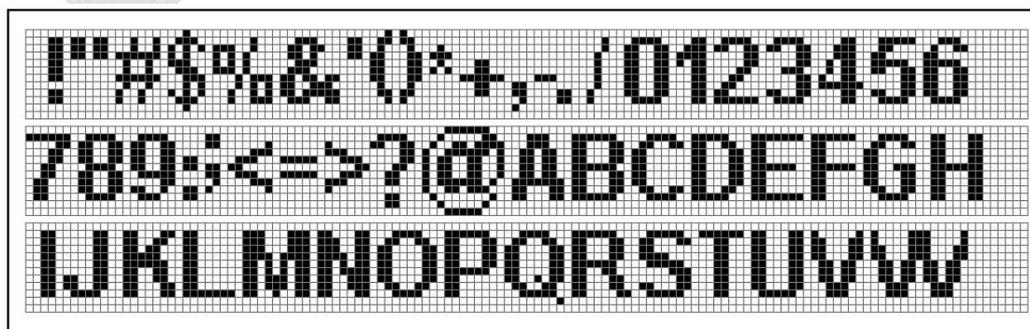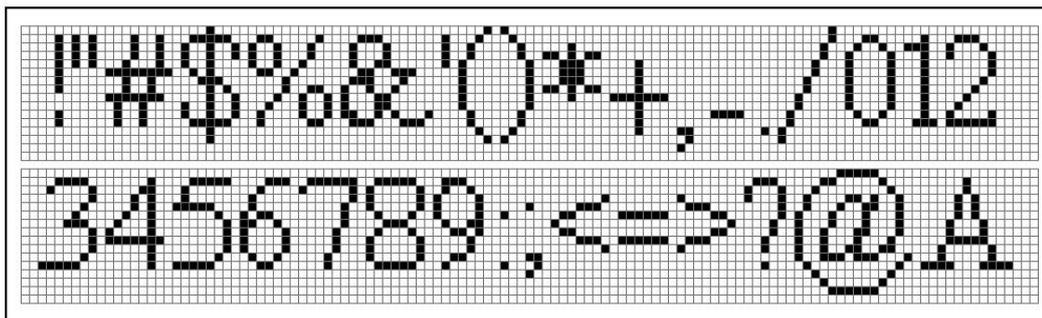
16 点阵不等宽 ASCII 线型字体

16 点阵不等宽 ASCII 圆角字体
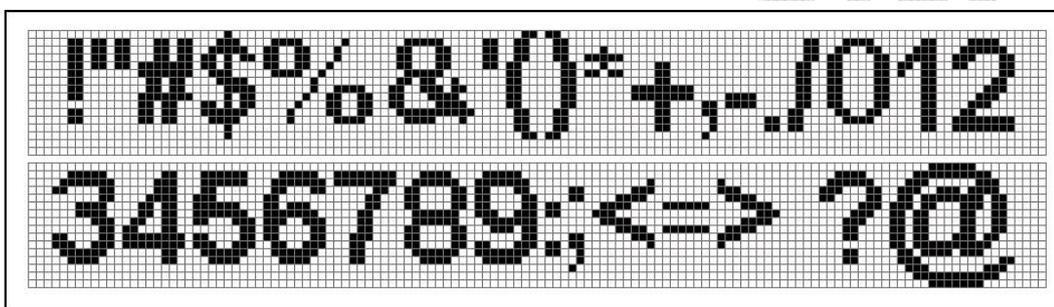
8x16 点阵拉丁文
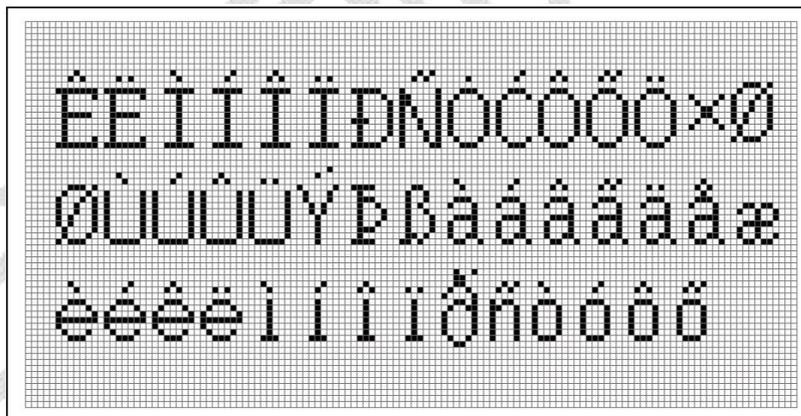
8x16 点阵希腊文
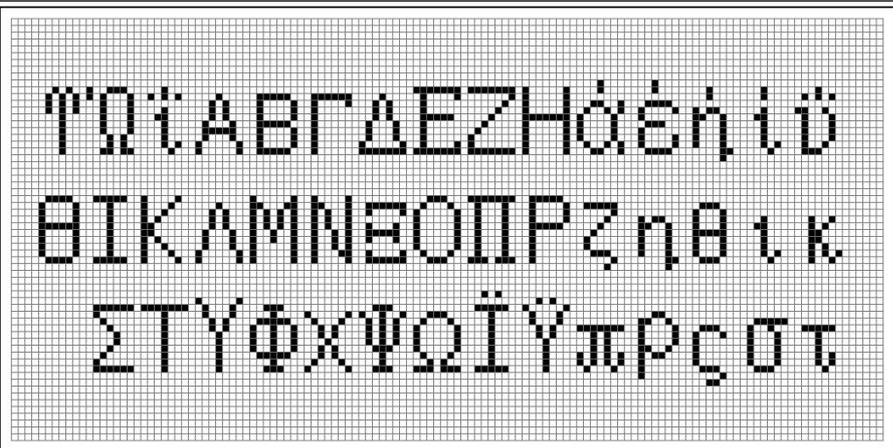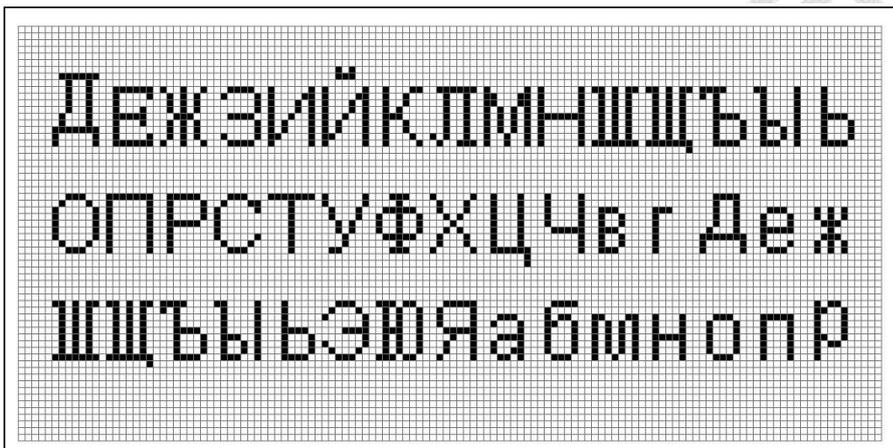
8x16 点阵西里尔文

16 点阵不等宽阿拉伯文
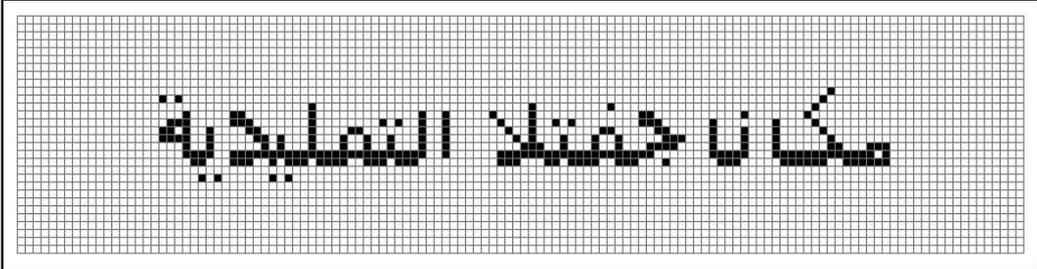
2 操作指令

2.1 Instruction Parameter(指令参数)

Instruction	Description	Instruction Code(One-Byte)		Address Bytes	Dummy Bytes	Data Bytes
READ	Read Data Bytes	0000 0011	03 h	3	—	1 to ∞
FAST_READ	Read Data Bytes at Higher Speed	0000 1011	0B h	3	1	1 to ∞

   所有对本芯片 SPI 接口的操作只有 2 个，那就是 Read Data Bytes (READ "一般读取")和 Read Data Bytes at Higher Speed (FAST_READ "快速读取点阵数据")。.

2.2 Read Data Bytes（一般读取）

   Read Data Bytes 需要用指令码来执行每一次操作。READ 指令的时序如下(图)：

■ 首先把片选信号（CS#）变为低，紧跟着的是 1 个字节的命令字（03 h）和 3 个字节的地址和通过串行数据输入引脚（SI）移位输入，每一位在串行时钟（SCLK）上升沿被锁存。

■ 然后该地址的字节数据通过串行数据输出引脚（SO）移位输出，每一位在串行时钟（SCLK）下降沿被移出。

■ 读取字节数据后，则把片选信号（CS#）变为高，结束本次操作。
   如果片选信号（CS#）继续保持为底，则下一个地址的字节数据继续通过串行数据输出引脚（SO）移位输出。

   图：Read Data Bytes (READ) Instruction Sequence and Data-out sequence:
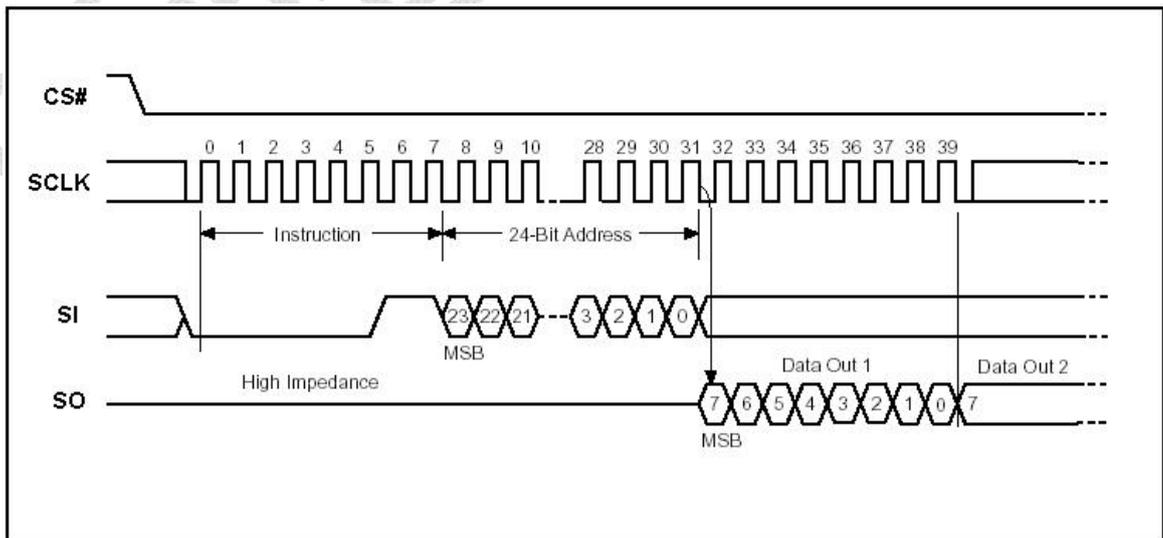
2.3 **Read Data Bytes at Higher Speed（快速读取点阵数据）**

Read Data Bytes at Higher Speed 需要用指令码来执行操作。READ_FAST 指令的时序如下(图)：

■ 首先把片选信号（CS#）变为低，紧跟着的是 1 个字节的命令字（0B h）和 3 个字节的地址以及一个字节 Dummy Byte 通过串行数据输入引脚（SI）移位输入，每一位在串行时钟（SCLK）上升沿被锁存。

■ 然后该地址的字节数据通过串行数据输出引脚（SO）移位输出，每一位在串行时钟（SCLK）下降沿被移出。

■ 如果片选信号（CS#）继续保持为底，则下一个地址的字节数据继续通过串行数据输出引脚（SO）移位输出。例：读取一个 15x16 点阵汉字需要 32Byte，则连续 32 个字节读取后结束一个汉字的点阵数据读取操作。

如果不需要继续读取数据，则把片选信号（CS#）变为高，结束本次操作。

图：Read Data Bytes at Higher Speed (READ_FAST) Instruction Sequence and Data-out sequence:
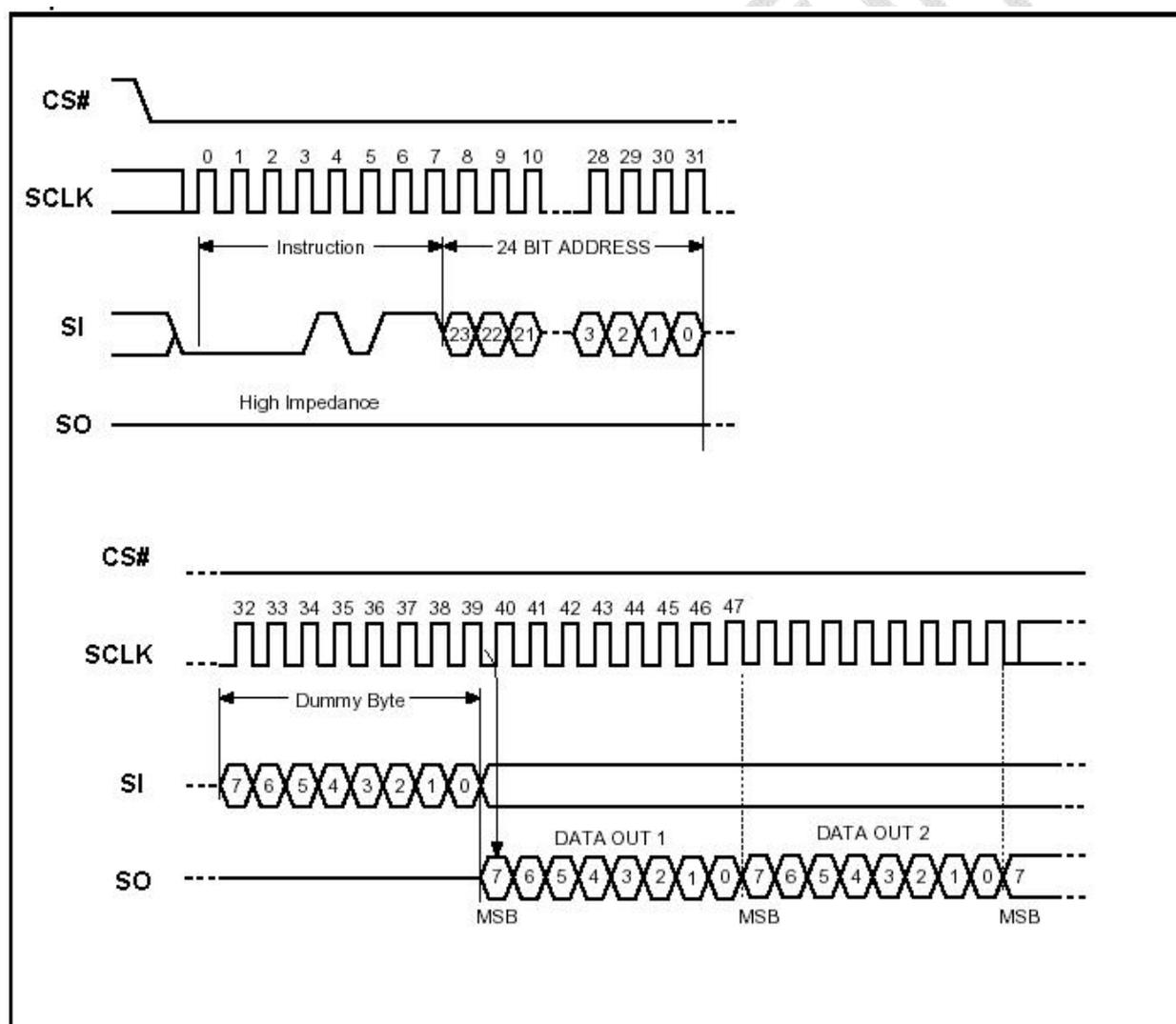
2.4 深度睡眠模式指令（B9H）

一旦字库芯片进入深度睡眠模式，所有的命令将被忽略，除了唤醒深度睡眠模式指令，首先
首先 CS#为低电平，输入 B9H 命令，然后然后 CS#变为高电平并持续 TDP 的时间(TDP=25us)，
在 TDP 的持续时间内，字库芯片进入深层关机模式。

深度睡眠模式指令的时序波形图
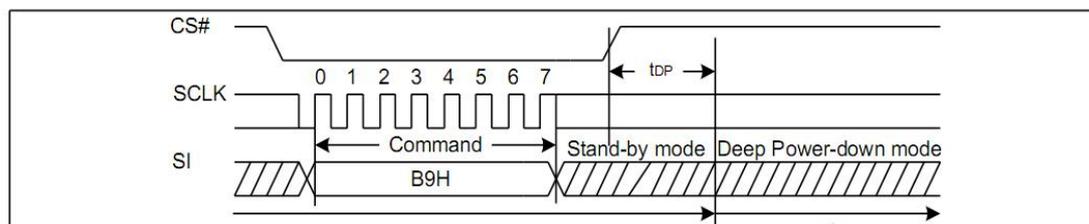
2.5 唤醒深度睡眠模式指令（ABH）

首先 CS#为低电平，向字库芯片发送 ABH 指令，然后 CS#变为高电平并持续 Tres1 的时间
(Tres1=25us)，字库芯片将恢复正常运行，CS#引脚必须在 Tres1 时间内保持高电平。

唤醒深度睡眠模式指令的时序波形图
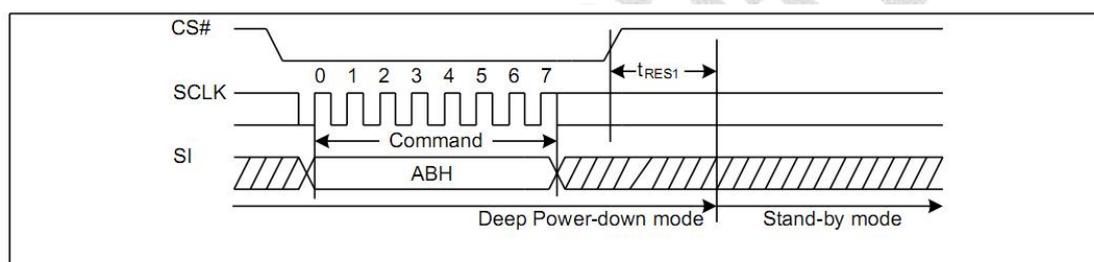
3 引脚描述与电路连接

3.1 引脚配置

DFN8 2X3
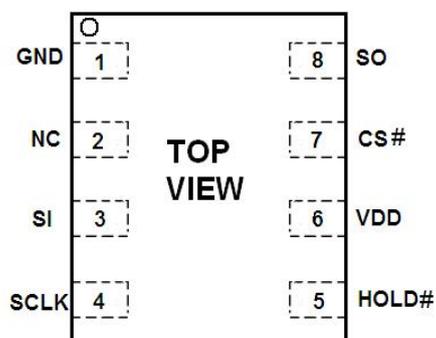
3.2 引脚描述

DFN8 2X3

NO.	名称	I/O	描述
1	GND		地(Ground)
2	NC		悬空
3	SI	I	串行数据输入（Serial data input）
4	SCLK	I	串行时钟输入（Serial clock input）
5	HOLD#	I	总线挂起（Hold, to pause the device without）
6	VDD		电源(+ 3.3V Power Supply)
7	CS#	I	片选输入（Chip enable input）
8	SO	O	串行数据输出（Serial data output）

串行数据输出（SO）：该信号用来把数据从芯片串行输出，数据在时钟的下降沿移出。
串行数据输入（SI）：该信号用来把数据从串行输入芯片，数据在时钟的上升沿移入。
串行时钟输入（SCLK）：数据在时钟上升沿移入，在下降沿移出。
片选输入（CS#）：所有串行数据传输开始于CS#下降沿，CS#在传输期间必须保持为低电平，
　　　　　　　　　　在两条指令之间保持为高电平。

14
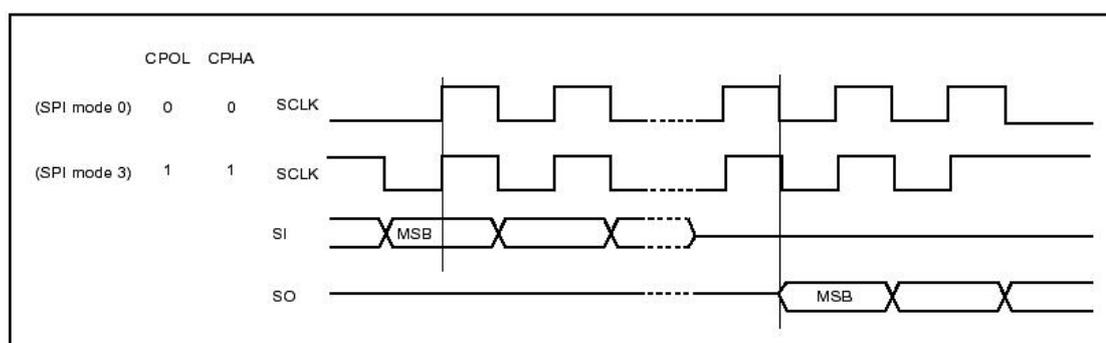
总线挂起输入（HOLD#）：

该信号用于片选信号有效期间暂停数据传输，在总线挂起期间，串行数据输出信号处于高阻态，

芯片不对串行数据输入信号和串行时钟信号进行响应。

当HOLD#信号变为低并且串行时钟信号（SCLK）处于低电平时，进入总线挂起状态。

当HOLD#信号变为高并时串行时钟信号（SCLK）处于低电平时，结束总线挂起状态。

HOLD CONDITION ACTIVATION:

CE#

SCLK   0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

HOLD#   parameter

HOLD CONDITION   HOLD CONDITION

15
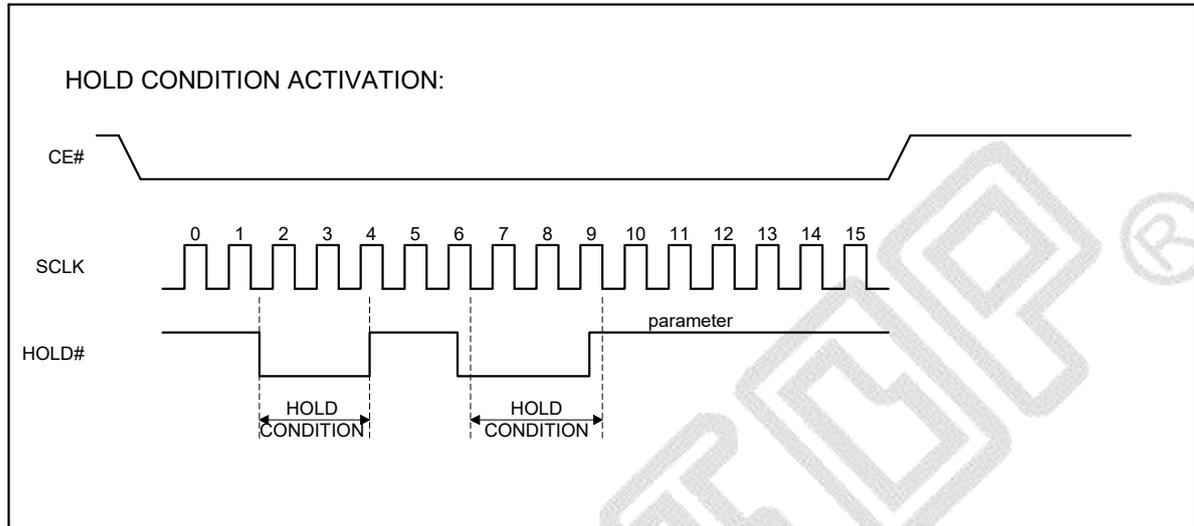
3.3 HOST CPU 主机接口与 SPI 接口电路示意图

SPI 与主机接口电路连接可以参考下图（#HOLD 管脚建议接 2K 电阻 3.3V 拉高）。
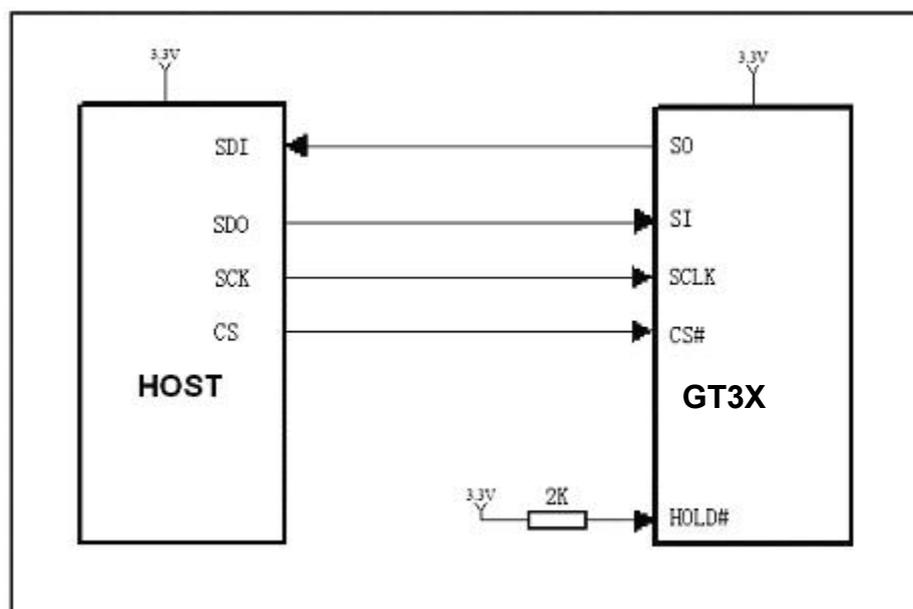
HOST CPU 主机 SPI 接口电路示意图

4 电气特性

4.1 绝对最大额定值

Symbol	Parameter	Min.	Max.	Unit	Condition
T_{OP}	Operating Temperature	-40	85	℃	SPI mode
T_{STG}	Storage Temperature	-65	150	℃	
VDD	Supply Voltage	-0.3	3.6	V	
V_{IN}	Input Voltage	-0.3	VDD+0.3	V	
GND	Power Ground	-0.3	0.3	V	

4.2 DC 特性

Condition：T_{OP} =-40℃ to 85℃，GND=0V in SPI mode

Symbol	Parameter	Min.	Max.	Unit	Condition
I_{DD}	VDD Supply Current(active)	5	15	mA	
I_{SB}	VDD Standby Current	5	15	uA	/CS=VDD,VIN= VDD or VSS
I_{cc2}	Deep Power-Down Current	1	5	uA	/CS=VDD,VIN= VDD or VSS
V_{IL}	Input LOW Voltage	-0.5	0.2VDD	V	VDD=2.7~3.6V
V_{IH}	Input HIGH Voltage	0.7VDD	VDD+0.4	V	
V_{OL}	Output LOW Voltage		0.4 (I_{OL}=1.6mA)	V	
V_{OH}	Output HIGH Voltage	VDD-0.2 (I_{OH}=-100uA)		V	
I_{LI}	Input Leakage Current	0	±2	uA	
I_{LO}	Output Leakage Current	0	±2	uA	

Note：I_{IL}：Input LOW Current，I_{IH}：Input HIGH Current，

I_{OL}：Output LOW Current，I_{OH}：Output HIGH Current，

4.3 AC 特性

Symbol	Alt.	Parameter	Min.	Max.	Unit
Fc	Fc	Clock Frequency	D.C.	50	MHz
tCH	tCLH	Clock High Time	4		ns
tCL	tCLL	Clock Low Time	4		ns
tCLCH		Clock Rise Time(peak to peak)	0.2		V/ns
tCHCL		Clock Fall Time (peak to peak)	0.2		V/ns
tSLCH	tCSS	CS# Active Setup Time (relative to SCLK)	5		ns
tCHSL		CS# Not Active Hold Time (relative to SCLK)	5		ns
tDVCH	tDSU	Data In Setup Time	2		ns
tCHDX	tDH	Data In Hold Time	5		ns
t CHSH		CS# Active Hold Time (relative to SCLK)	5		ns
t SHCH		CS# Not Active Setup Time (relative to SCLK)	5		ns

17

t SHSL	tCSH	CS# Deselect Time	20	130	ns
t SHQZ	tDIS	Output Disable Time		7	ns
t CLQV	tV	Clock Low to Output Valid		6	ns
t CLQX	tHO	Output Hold Time	1	5	ns
t HLCH		HOLD# Setup Time (relative to SCLK)	5		ns
t CHHH		HOLD# Hold Time (relative to SCLK)	5		ns
t HHCH		HOLD Setup Time (relative to SCLK)	5		ns
t CHHL		HOLD Hold Time (relative to SCLK)	5		ns
t HHQX	tLZ	HOLD to Output Low-Z		6	ns
t HLQZ	tHZ	HOLD# to Output High-Z		6	ns

Serial Input Timing
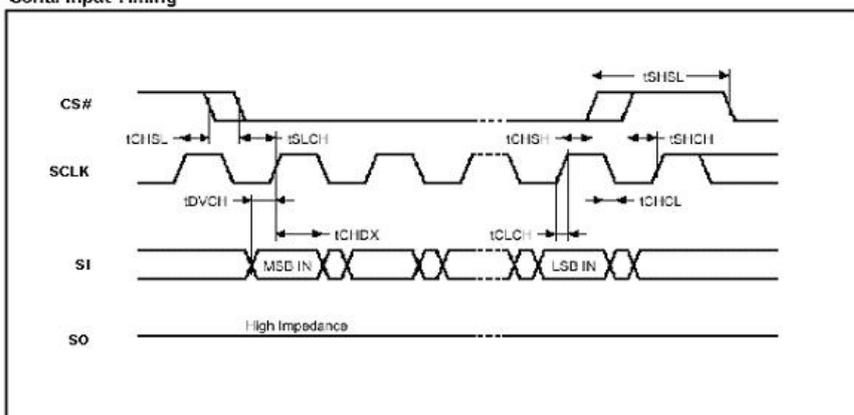
Hold Timing
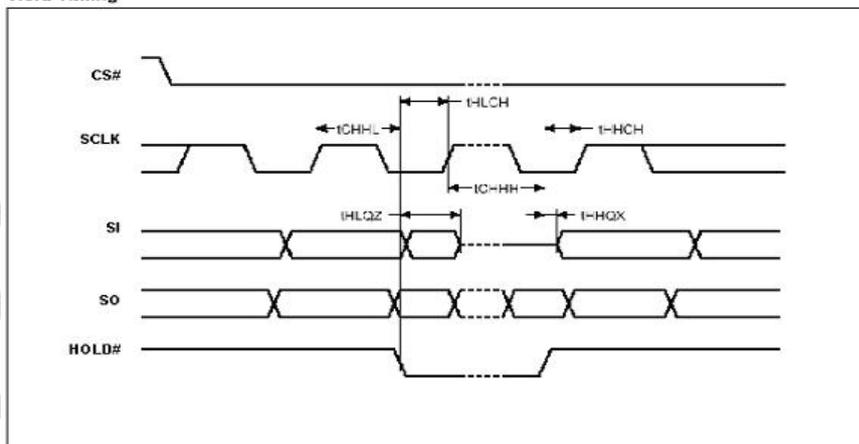
Output Timing
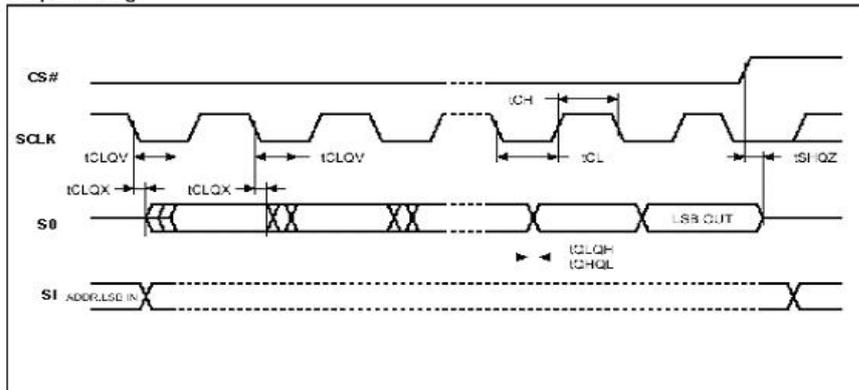
4.4 上电时序

Symbol	Parameter	Min	Max	unit
T VSL	VCC(min)To/CS Low	10		us
T PUW	Time Delay From VCC(min)To Write Instruction	1	10	ms
VWI	Trite Inhibit Voltage VCC(min)	1	2.5	v
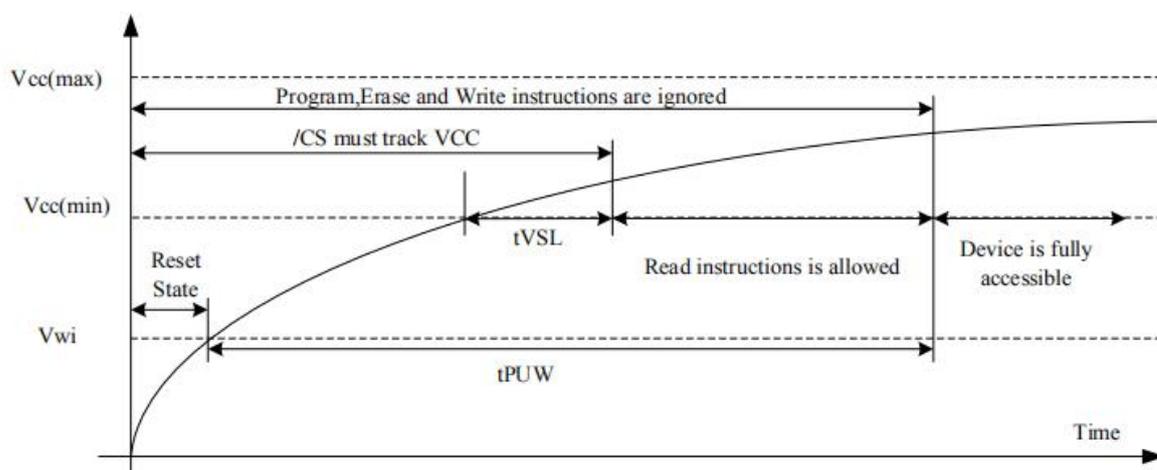
5 封装尺寸

封 装 类 型	封装尺寸
DFN8 2X3	2.0mmx 3.0mm (79milX118mil)

DFN8-2X3
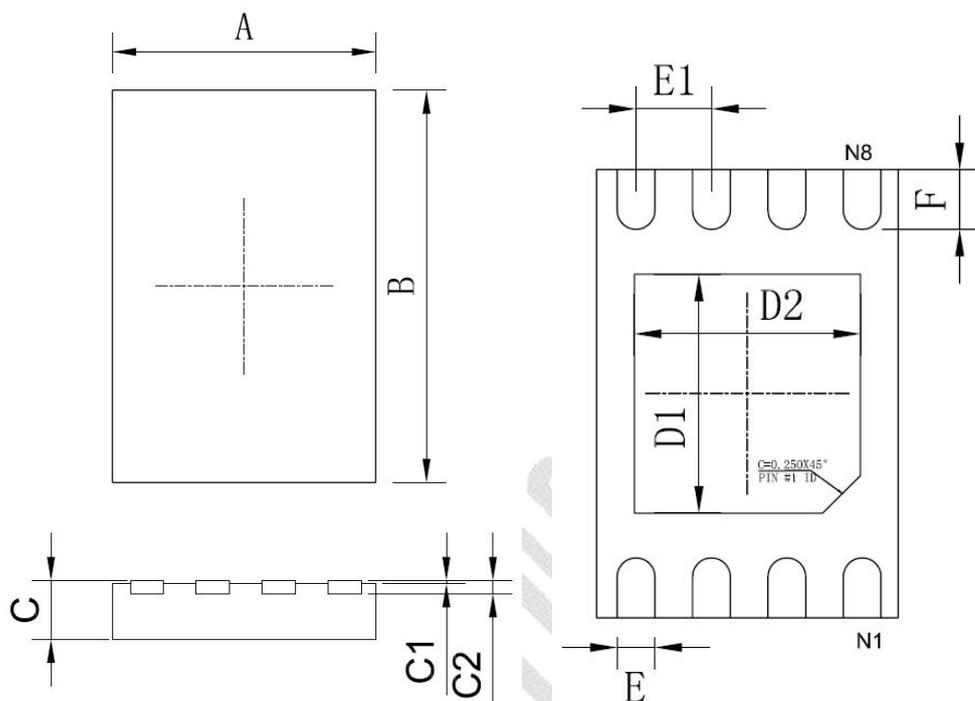
DIMENSION LABEL 尺寸 标注	MIN（mm）最 小（mm）	MAX（mm）最 大（mm）	DIMENSION LABEL 尺寸 标注	MIN（mm）最 小（mm）	MAX（mm）最 大（mm）
A	2.0±0.1		D1	1.60TYP	
B	3.0±0.1		D2	1.50TYP	
C	0.70	0.80	E	0.250TYP	
C1	0~0.050		E1	0.500TYP	
C2	0.203TYP		F	0.400TYP	

6 字库排置（横置横排）

6.1 点阵排列格式

　　每个汉字在芯片中是以汉字点阵字模的形式存储的，每个点用一个二进制位表示，存 1 的点，当显示时可以在屏幕上显示亮点，存 0 的点，则在屏幕上不显示。点阵排列格式为横置横排：即一个字节的高位表示左面的点，低位表示右面的点，排满一行的点后再排下一行。这样把点阵信息用来直接在显示器上按上述规则显示，则将出现对应的汉字。

6.2 15X16 点汉字排列格式

　　15X16 点汉字的信息需要 32 个字节（BYTE 0 – BYTE 31）来表示。该 15X16 点汉字的点阵数据是横置横排的，其具体排列结构如下图：

6.3 16 点阵不等宽 ASCII 圆角字体字符排列格式

16 点阵不等宽字符的信息需要 34 个字节（BYTE 0 – BYTE33）来表示。

■　存储格式

　　由于字符是不等宽的，因此在存储格式中 BYTE0~ BYTE1 存放点阵宽度数据，BYTE2-33 存放横置横排点阵数据。具体格式见下图：

■　存储结构

　　不等宽字符的点阵存储宽度是以 BYTE 为单位取整的，根据不同字符宽度会出现相应的空白区。根 BYTE0~ BYTE1 所存放点阵的实际宽度数据，可以对还原下一个字的显示或排版留作参考。

例如：ASCII 圆角字符 B

0-33BYTE 的点阵数据是：　00 0C 00 00 00 00 00 00 7F 80 7F C0 60 C0 60 C0 60 C0 7F 80
　　　　　　　　　　　　7F C0 60 E0 60 60 60 60 7F C0 7F 80 00 00

其中：

BYTE0~ BYTE1：　　　　00 0C　　　为 ASCII 圆角字符 B 的点阵宽度数据，即：12 位宽度。
字符后面有 4 位空白区，可以在排版下一个字时考虑到这一点，将下一个字的起始位置前移。（见
下图）

BYTE2-33：　　00 00 00 00 00 00 7F 80 7F C0 60 C0 60 C0 60 C0 7F 80 7F C0 60 E0 60 60 60
　　　　　　　60 7F C0 7F 80 00 00　　　　　为 ASCII 圆角字符 B 的点阵数据。
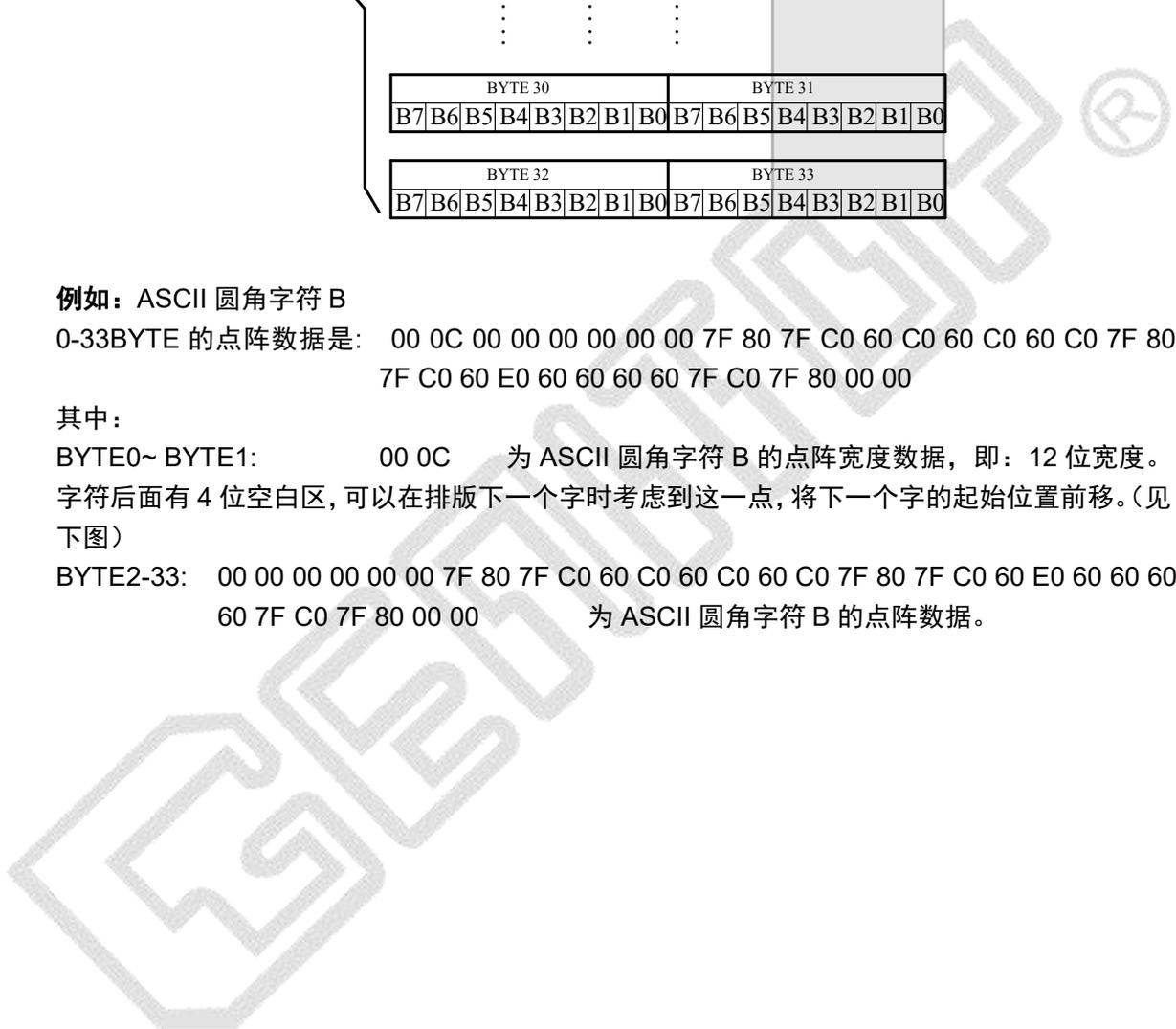
7 点阵数据验证（客户参考用）

客户将芯片内"A"的数据调出与以下进行对比。若一致，表示 SPI 驱动正常工作；若不一致，请重新编写驱动。

排置：Y（竖置横排）点阵大小 8X16
字母"A"
点阵数据：00 80 70 08 70 80 00 3C 03 02 02 02 03 3C 00

排置：W（横置横排）点阵大小 8X16
字母"A"
点阵数据：00 10 28 28 28 44 44 7C 82 82 82 82 00 00 00 00
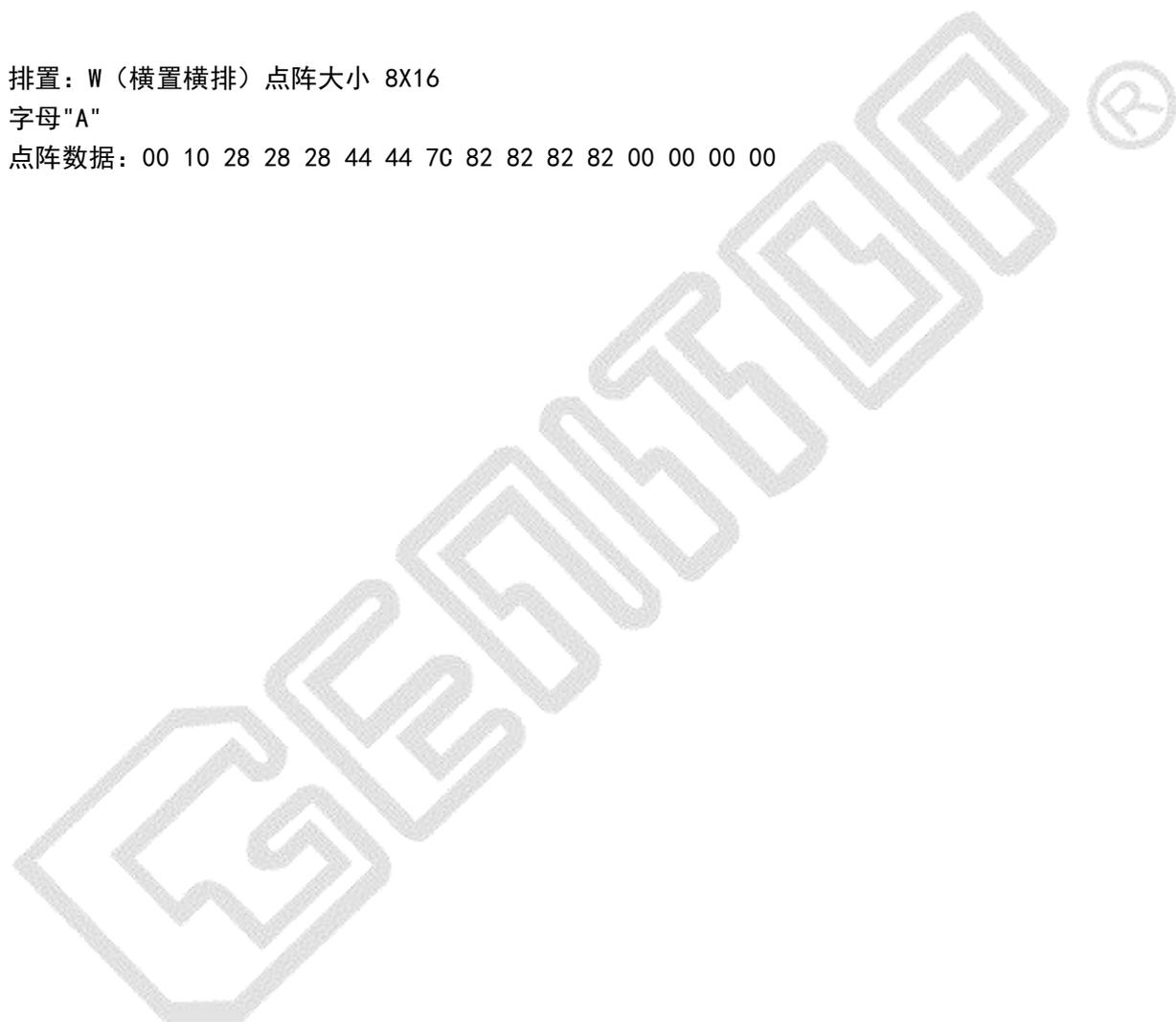
8 附录

8.1 UNICODE3.0（GB13000）字符区

UNICODE 字符区码位由 00A1~33D5、E76C~FFE5 离散分布。共计 1088 个字符；

UNICODE3.0 字符区

¡	±	Á	Ñ	á	ñ	ē	ŭ	Γ	Τ	λ	Б	С	б	с
A1	B1	C1	D1	E1	F1	113	1D4	393	3A4	3BB	411	421	431	441
¢	²	Â	Ò	â	ò	ĕ	Ǔ	Δ	Υ	μ	В	Т	в	т
A2	B2	C2	D2	E2	F2	11B	1D6	394	3A5	3BC	412	422	432	442
£	³	Ã	Ó	ã	ó	ī	Ǘ	Ε	Φ	ν	Г	У	г	у
A3	B3	C3	D3	E3	F3	12B	1D8	395	3A6	3BD	413	423	433	443
¤	´	Ä	Ô	ä	ô	ń	Ǚ	Ζ	Χ	ξ	Д	Ф	д	ф
A4	B4	C4	D4	E4	F4	144	1DA	396	3A7	3BE	414	424	434	444
¥	µ	Å	Õ	å	õ	ǹ	Ǜ	Η	Ψ	ο	Е	Х	е	х
A5	B5	C5	D5	E5	F5	148	1DC	397	3A8	3BF	415	425	435	445
¦	¶	Æ	Ö	æ	ö	ō	ɑ	Θ	Ω	π	Ж	Ц	ж	ц
A6	B6	C6	D6	E6	F6	14D	251	398	3A9	3C0	416	426	436	446
§	·	Ç	×	ç	÷	Œ	ɡ	Ι	α	ρ	З	Ч	з	ч
A7	B7	C7	D7	E7	F7	152	261	399	3B1	3C1	417	427	437	447
¨	¸	È	Ø	è	ø	œ	ˆ	Κ	β	σ	И	Ш	и	ш
A8	B8	C8	D8	E8	F8	153	2C6	39A	3B2	3C3	418	428	438	448
©	¹	É	Ù	é	ù	Š	ˇ	Λ	γ	τ	Й	Щ	й	щ
A9	B9	C9	D9	E9	F9	160	2C7	39B	3B3	3C4	419	429	439	449
ª	º	Ê	Ú	ê	ú	š	ˉ	Μ	δ	υ	К	Ъ	к	ъ
AA	BA	CA	DA	EA	FA	161	2C9	39C	3B4	3C5	41A	42A	43A	44A
«	»	Ë	Û	ë	û	ū	ˊ	Ν	ε	φ	Л	Ы	л	ы
AB	BB	CB	DB	EB	FB	16B	2CA	39D	3B5	3C6	41B	42B	43B	44B
¬	¼	Ì	Ü	ì	ü	Ÿ	ˋ	Ξ	ζ	χ	М	Ь	м	ь
AC	BC	CC	DC	EC	FC	178	2CB	39E	3B6	3C7	41C	42C	43C	44C
	½	Í	Ý	í	ý	ƒ	˙	Ο	η	ψ	Н	Э	н	э
AD	BD	CD	DD	ED	FD	192	2D9	39F	3B7	3C8	41D	42D	43D	44D
®	¾	Î	Þ	î	þ	ǎ	˜	Π	θ	ω	О	Ю	о	ю
AE	BE	CE	DE	EE	FE	1CE	2DC	3A0	3B8	3C9	41E	42E	43E	44E
¯	¿	Ï	ß	ï	ÿ	ǐ	Α	Ρ	ι	Ё	Я	п	я	
AF	BF	CF	DF	EF	FF	1D0	391	3A1	3B9	401	41F	42F	43F	44F
°	À	Ð	à	ǒ	ō	ǒ	Β	Σ	κ	Α	а	р	ё	
B0	C0	D0	E0	F0	101	1D2	392	3A3	3BA	410	420	430	451	

UNICODE3.0 字符区

2010	2030	2162	2176	221A	2237	22BF	2478	2488	2498	250C	251C	252C	253C	2550
2013	2032	2163	2177	221D	223D	2312	2479	2489	2499	250D	251D	252D	253D	2551
2014	2033	2164	2178	221E	2248	2460	247A	248A	249A	250E	251E	252E	253E	2552
2015	2035	2165	2179	221F	224C	2461	247B	248B	249B	250F	251F	252F	253F	2553
2016	2039	2166	2190	2220	2252	2462	247C	248C	2500	2510	2520	2530	2540	2554
2018	203A	2167	2191	2223	2260	2463	247D	248D	2501	2511	2521	2531	2541	2555
2019	203B	2168	2192	2225	2261	2464	247E	248E	2502	2512	2522	2532	2542	2556
201A	20AC	2169	2193	2227	2264	2465	247F	248F	2503	2513	2523	2533	2543	2557
201C	2103	216A	2196	2228	2265	2466	2480	2490	2504	2514	2524	2534	2544	2558
201D	2105	216B	2197	2229	2266	2467	2481	2491	2505	2515	2525	2535	2545	2559
201E	2109	2170	2198	222A	2267	2468	2482	2492	2506	2516	2526	2536	2546	255A
2020	2116	2171	2199	222B	226E	2469	2483	2493	2507	2517	2527	2537	2547	255B
2021	2121	2172	2208	222E	226F	2474	2484	2494	2508	2518	2528	2538	2548	255C
2022	2122	2173	220F	2234	2295	2475	2485	2495	2509	2519	2529	2539	2549	255D
2025	2160	2174	2211	2235	2299	2476	2486	2496	250A	251A	252A	253A	254A	255E
2026	2161	2175	2215	2236	22A5	2477	2487	2497	250B	251B	252B	253B	254B	255F

25

UNICODE3.0 字符区

┠ 2560	ヽ 2570	▐ 258D	● 25CF	○ 3007	〗 3017	い 3044	ご 3054	つ 3064	ぴ 3074	や 3084	゛ 309B	キ 30AD	ソ 30BD	ネ 30CD
╡ 2561	／ 2571	▌ 258E	◢ 25E2	〈 3008	〝 301D	う 3045	さ 3055	づ 3065	ふ 3075	ゆ 3085	゜ 309C	ギ 30AE	ゾ 30BE	ノ 30CE
╢ 2562	＼ 2572	▏ 258F	◣ 25E3	〉 3009	〞 301E	う 3046	ざ 3056	て 3066	ぶ 3076	ゆ 3086	ゝ 309D	ク 30AF	タ 30BF	ハ 30CF
╣ 2563	╳ 2573	▓ 2593	◤ 25E4	《 300A	｜ 3021	え 3047	し 3057	で 3067	ぷ 3077	よ 3087	ゞ 309E	グ 30B0	ダ 30C0	バ 30D0
╤ 2564	▁ 2581	▔ 2594	◥ 25E5	》 300B	‖ 3022	え 3048	じ 3058	と 3068	へ 3078	よ 3088	ァ 30A1	ケ 30B1	チ 30C1	パ 30D1
╥ 2565	▂ 2582	▕ 2595	★ 2605	「 300C	Ⅲ 3023	お 3049	す 3059	ど 3069	べ 3079	ら 3089	ア 30A2	ゲ 30B2	ヂ 30C2	ヒ 30D2
╦ 2566	▃ 2583	■ 25A0	☆ 2606	」 300D	× 3024	お 304A	ず 305A	な 306A	ぺ 307A	り 308A	ィ 30A3	コ 30B3	ッ 30C3	ビ 30D3
╧ 2567	▄ 2584	□ 25A1	⊙ 2609	『 300E	か 3025	か 304B	せ 305B	に 306B	ほ 307B	る 308B	イ 30A4	ゴ 30B4	ツ 30C4	ピ 30D4
╨ 2568	▅ 2585	▲ 25B2	♀ 2640	』 300F	か 3026	が 304C	ぜ 305C	ぬ 306C	ぼ 307C	れ 308C	ゥ 30A5	サ 30B5	ヅ 30C5	フ 30D5
╩ 2569	▆ 2586	△ 25B3	♂ 2642	【 3010	⊥ 3027	き 304D	そ 305D	ね 306D	ぽ 307D	ろ 308D	ウ 30A6	ザ 30B6	テ 30C6	ブ 30D6
╪ 256A	▇ 2587	▼ 25BC	3000	】 3011	≒ 3028	ぎ 304E	ぞ 305E	の 306E	ま 307E	わ 308E	エ 30A7	シ 30B7	デ 30C7	プ 30D7
╫ 256B	█ 2588	▽ 25BD	、 3001	〒 3012	く 3029	た 304F	は 305F	み 306F	わ 307F	エ 308F	エ 30A8	ジ 30B8	ト 30C8	ヘ 30D8
╬ 256C	▉ 2589	◆ 25C6	。 3002	〓 3013	〾 303E	ぐ 3050	だ 3060	ば 3070	む 3080	ゐ 3090	オ 30A9	ス 30B9	ド 30C9	ベ 30D9
╭ 256D	▊ 258A	◇ 25C7	〃 3003	〔 3014	あ 3041	け 3051	ち 3061	ぱ 3071	め 3081	ゑ 3091	オ 30AA	ズ 30BA	ナ 30CA	ペ 30DA
╮ 256E	▋ 258B	○ 25CB	々 3005	〕 3015	あ 3042	げ 3052	ぢ 3062	ひ 3072	も 3082	を 3092	カ 30AB	セ 30BB	ニ 30CB	ホ 30DB
╯ 256F	▌ 258C	◎ 25CE	〆 3006	〖 3016	い 3043	こ 3053	っ 3063	び 3073	ゃ 3083	ん 3093	ガ 30AC	ゼ 30BC	ヌ 30CC	ボ 30DC

UNICODE3.0 字符区

ポ 30DD	ロ 30ED	巳 3108	ㄊ 3118	ㄨ 3128	mm 339C	? E793	□ E7F1	半 E822	半 E832	禕 E842	閩 E852	鷉 E862	蘆 FA1F	一 FE39
マ 30DE	ワ 30EE	力 3109	ㄙ 3119	ㄩ 3129	cm 339D	□ E794	□ E7F2	小 E823	正 E833	关 E843	閘 E853	龚 E863	蘰 FA20	冖 FE3A
ミ 30DF	ヮ 30EF	士 310A	ㄚ 311A	㈠ 3220	km 339E	□ E795	□ E7F3	憀 E824	暌 E834	诉 E844	卓 E854	繺 E864	姓 FA21	□ FE3B
ム 30E0	ヰ 30F0	孑 310B	ㄛ 311B	㈡ 3221	m² 33A1	□ E796	厂 E815	怡 E825	穋 E835	讅 E845	燮 E855	郎 E92C	赵 FA23	□ FE3C
乄 30E1	ヱ 30F1	力 310C	ㄜ 311C	㈢ 3222	cc 33C4	ḿ E7C7	广 E816	怎 E826	稦 E836	晴 E846	歔 E856	凉 E979	迓 FA24	〜 FE3D
モ 30E2	ヲ 30F2	巜 310D	ㄝ 311D	㈣ 3223	KM 33CE	ǹ E7C8	厂 E817	抆 E827	绅 E837	賭 E847	卿 E857	季 E995	鋕 FA27	〜 FE3E
ャ 30E3	ン 30F3	丂 310E	万 311E	㈤ 3224	ln 33D1	□ E7E7	冂 E818	扤 E828	羗 E838	足 E848	鰆 E858	裏 E9E7	鋕 FA28	︿ FE3F
ヤ 30E4	ヴ 30F4	厂 310F	乁 311F	㈥ 3225	log 33D2	□ E7E8	乁 E819	攫 E829	羍 E839	鎬 E849	鰭 E859	隣 E9F1	鵰 FA29	﹀ FE40
ユ 30E5	ヵ 30F5	丩 3110	幺 3120	㈦ 3226	mil 33D5	□ E7E9	傻 E81A	掫 E82A	羊 E83A	钘 E84A	歔 E85A	兀 FA0C	∶ FE30	﹁ FE41
ユ 30E6	ヶ 30F6	く 3111	ㄡ 3121	㈧ 3227	€ E76C	□ E7EA	侴 E81B	丰 E82B	戈 E83B	钹 E84B	艦 E85B	設 FA0D	︱ FE31	﹂ FE42
ヨ 30E7	ー 30FC	丁 3112	马 3122	㈨ 3228	, E78D	□ E7EB	亇 E81C	共 E82C	糯 E83C	鎬 E84C	鴟 E85C	雙 FA0E	︳ FE33	﹃ FE43
ヨ 30E8	ヽ 30FD	屮 3113	ㄣ 3123	㈩ 3229	° E78E	□ E7EC	卪 E81D	枫 E82D	糪 E83D	鐯 E84D	鸡 E85D	塔 FA0F	︴ FE34	﹄ FE44
ラ 30E9	ヾ 30FE	彳 3114	尢 3124	㈱ 3231	ヽ E78F	□ E7ED	マ E81E	殯 E82E	聿 E83E	鐯 E84E	鸳 E85E	崎 FA11	︵ FE35	﹍ FE49
リ 30EA	ㄅ 3105	尸 3115	乚 3125	㊣ 32A3	∶ E790	□ E7EE	呙 E81F	迖 E82F	脵 E83F	钁 E84F	鶺 E85F	栭 FA13	︶ FE36	﹎ FE4A
ル 30EB	ㄆ 3106	彐 3116	儿 3126	mg 338E	; E791	□ E7EF	嚼 E820	生 E830	劳 E840	閩 E850	鸆 E860	樫 FA14	︷ FE37	﹏ FE4B
レ 30EC	ㄇ 3107	卩 3117	丨 3127	kg 338F	! E792	□ E7F0	嚹 E821	夫 E831	禕 E841	閘 E851	鸥 E861	氶 FA18	︸ FE38	﹌ FE4C

UNICODE3.0 字符区

‥‥ FE4D	# FE5F	% FF05	5 FF15	E FF25	U FF35	e FF45	u FF55						
‥‥ FE4E	& FE60	& FF06	6 FF16	F FF26	V FF36	f FF46	v FF56						
～ FE4F	※ FE61	' FF07	7 FF17	G FF27	W FF37	g FF47	w FF57						
， FE50	+ FE62	(FF08	8 FF18	H FF28	X FF38	h FF48	x FF58						
、 FE51	- FE63	) FF09	9 FF19	I FF29	Y FF39	i FF49	y FF59						
. FE52	< FE64	＊ FF0A	: FF1A	J FF2A	Z FF3A	j FF4A	z FF5A						
; FE54	> FE65	+ FF0B	; FF1B	K FF2B	[FF3B	k FF4B	{ FF5B						
: FE55	= FE66	, FF0C	< FF1C	L FF2C	＼ FF3C	l FF4C	| FF5C						
? FE56	＼ FE68	- FF0D	= FF1D	M FF2D	] FF3D	m FF4D	} FF5D						
! FE57	$ FE69	. FF0E	> FF1E	N FF2E	^ FF3E	n FF4E	～ FF5E						
(FE59	% FE6A	/ FF0F	? FF1F	O FF2F	_ FF3F	o FF4F	¢ FFE0						
) FE5A	@ FE6B	0 FF10	@ FF20	P FF30	` FF40	p FF50	£ FFE1						
{ FE5B	! FF01	1 FF11	A FF21	Q FF31	a FF41	q FF51	￣ FFE2						
} FE5C	" FF02	2 FF12	B FF22	R FF32	b FF42	r FF52	─ FFE3						
(FE5D	# FF03	3 FF13	C FF23	S FF33	c FF43	s FF53	¦ FFE4						
) FE5E	$ FF04	4 FF14	D FF24	T FF34	d FF44	t FF54	¥ FFE5						

28

8.2 Unicode 字符区字符

Unicode 字符区共收录 拉丁文系（LATIN）、希腊文系（GREEK）、西里尔文系（CYRILLIC），共计收录字符 456 个。阿拉伯文系（ARABIC），共计收录字符 250 个。

8.2.1 8×16 点拉丁文系（376 字符）

Unicode 字符区-拉丁文系的内码范围为 00A0~0217 共计收录 376 个字符。

*说明：由于拉丁文系（BASIC LATIN）的内码范围 0020~007E 与基本 ASCII 编码一致（可以共用），因此未列入 Unicode 字符区-拉丁文系中。

Unicode 字符区-拉丁文系

8.2.2 8x16 点西里尔文系（250 字符）

Unicode 字符区-希腊文系的内码范围为 0400~04F9 共计收录 250 个字符。

Unicode 字符区-西里尔文系

8.2.3 8×16 点希腊文系（96 字符）

Unicode 字符区-希腊文系的内码范围为 0370~03CF 共计收录 96 个字符。

Unicode 字符区-希腊文系

8.3 8×16 点特殊字符（64 字符）

内码组成为 ACA1~ACDF 共计 64 个字符

8.4 UNICODE3.0 字符区对照表

该表描述了字符区离散字符所对应的码位，根据该表进行查询，可以得到该码位在字符区中的字序位置，从而计算出相应地址。

按照 WORD 方式进行排列的字符对应表：

unsigned int ZFTABLE[1088]={

```
                    0xa1,0xa2,0xa3,0xa4,0xa5,0xa6,0xa7,0xa8,
                    0xa9,0xaa,0xab,0xac,0xad,0xae,0xaf,0xb0,
                    0xb1,0xb2,0xb3,0xb4,0xb5,0xb6,0xb7,0xb8,
                    0xb9,0xba,0xbb,0xbc,0xbd,0xbe,0xbf,0xc0,
                    0xc1,0xc2,0xc3,0xc4,0xc5,0xc6,0xc7,0xc8,
                    0xc9,0xca,0xcb,0xcc,0xcd,0xce,0xcf,0xd0,
                    0xd1,0xd2,0xd3,0xd4,0xd5,0xd6,0xd7,0xd8,
                    0xd9,0xda,0xdb,0xdc,0xdd,0xde,0xdf,0xe0,
                    0xe1,0xe2,0xe3,0xe4,0xe5,0xe6,0xe7,0xe8,
                    0xe9,0xea,0xeb,0xec,0xed,0xee,0xef,0xf0,
                    0xf1,0xf2,0xf3,0xf4,0xf5,0xf6,0xf7,0xf8,
                    0xf9,0xfa,0xfb,0xfc,0xfd,0xfe,0xff,0x101,
                    0x113,0x11b,0x12b,0x144,0x148,0x14d,0x152,0x153,
                    0x160,0x161,0x16b,0x178,0x192,0x1ce,0x1d0,0x1d2,
                    0x1d4,0x1d6,0x1d8,0x1da,0x1dc,0x251,0x261,0x2c6,
                    0x2c7,0x2c9,0x2ca,0x2cb,0x2d9,0x2dc,0x391,0x392,
                    0x393,0x394,0x395,0x396,0x397,0x398,0x399,0x39a,
                    0x39b,0x39c,0x39d,0x39e,0x39f,0x3a0,0x3a1,0x3a3,
                    0x3a4,0x3a5,0x3a6,0x3a7,0x3a8,0x3a9,0x3b1,0x3b2,
                    0x3b3,0x3b4,0x3b5,0x3b6,0x3b7,0x3b8,0x3b9,0x3ba,
                    0x3bb,0x3bc,0x3bd,0x3be,0x3bf,0x3c0,0x3c1,0x3c3,
                    0x3c4,0x3c5,0x3c6,0x3c7,0x3c8,0x3c9,0x401,0x410,
                    0x411,0x412,0x413,0x414,0x415,0x416,0x417,0x418,
                    0x419,0x41a,0x41b,0x41c,0x41d,0x41e,0x41f,0x420,
                    0x421,0x422,0x423,0x424,0x425,0x426,0x427,0x428,
                    0x429,0x42a,0x42b,0x42c,0x42d,0x42e,0x42f,0x430,
                    0x431,0x432,0x433,0x434,0x435,0x436,0x437,0x438,
                    0x439,0x43a,0x43b,0x43c,0x43d,0x43e,0x43f,0x440,
                    0x441,0x442,0x443,0x444,0x445,0x446,0x447,0x448,
                    0x449,0x44a,0x44b,0x44c,0x44d,0x44e,0x44f,0x451,
                    0x2010,0x2013,0x2014,0x2015,0x2016,0x2018,0x2019,0x201a,
                    0x201c,0x201d,0x201e,0x2020,0x2021,0x2022,0x2025,0x2026,
                    0x2030,0x2032,0x2033,0x2035,0x2039,0x203a,0x203b,0x20ac,
                    0x2103,0x2105,0x2109,0x2116,0x2121,0x2122,0x2160,0x2161,
                    0x2162,0x2163,0x2164,0x2165,0x2166,0x2167,0x2168,0x2169,
                    0x216a,0x216b,0x2170,0x2171,0x2172,0x2173,0x2174,0x2175,
                    0x2176,0x2177,0x2178,0x2179,0x2190,0x2191,0x2192,0x2193,
                    0x2196,0x2197,0x2198,0x2199,0x2208,0x220f,0x2211,0x2215,
                    0x221a,0x221d,0x221e,0x221f,0x2220,0x2223,0x2225,0x2227,
```

0x2228,0x2229,0x222a,0x222b,0x222e,0x2234,0x2235,0x2236,

0x2237,0x223d,0x2248,0x224c,0x2252,0x2260,0x2261,0x2264,
0x2265,0x2266,0x2267,0x226e,0x226f,0x2295,0x2299,0x22a5,
0x22bf,0x2312,0x2460,0x2461,0x2462,0x2463,0x2464,0x2465,
0x2466,0x2467,0x2468,0x2469,0x2474,0x2475,0x2476,0x2477,
0x2478,0x2479,0x247a,0x247b,0x247c,0x247d,0x247e,0x247f,
0x2480,0x2481,0x2482,0x2483,0x2484,0x2485,0x2486,0x2487,
0x2488,0x2489,0x248a,0x248b,0x248c,0x248d,0x248e,0x248f,
0x2490,0x2491,0x2492,0x2493,0x2494,0x2495,0x2496,0x2497,
0x2498,0x2499,0x249a,0x249b,0x2500,0x2501,0x2502,0x2503,
0x2504,0x2505,0x2506,0x2507,0x2508,0x2509,0x250a,0x250b,
0x250c,0x250d,0x250e,0x250f,0x2510,0x2511,0x2512,0x2513,
0x2514,0x2515,0x2516,0x2517,0x2518,0x2519,0x251a,0x251b,
0x251c,0x251d,0x251e,0x251f,0x2520,0x2521,0x2522,0x2523,
0x2524,0x2525,0x2526,0x2527,0x2528,0x2529,0x252a,0x252b,
0x252c,0x252d,0x252e,0x252f,0x2530,0x2531,0x2532,0x2533,
0x2534,0x2535,0x2536,0x2537,0x2538,0x2539,0x253a,0x253b,
0x253c,0x253d,0x253e,0x253f,0x2540,0x2541,0x2542,0x2543,
0x2544,0x2545,0x2546,0x2547,0x2548,0x2549,0x254a,0x254b,
0x2550,0x2551,0x2552,0x2553,0x2554,0x2555,0x2556,0x2557,
0x2558,0x2559,0x255a,0x255b,0x255c,0x255d,0x255e,0x255f,
0x2560,0x2561,0x2562,0x2563,0x2564,0x2565,0x2566,0x2567,
0x2568,0x2569,0x256a,0x256b,0x256c,0x256d,0x256e,0x256f,
0x2570,0x2571,0x2572,0x2573,0x2581,0x2582,0x2583,0x2584,
0x2585,0x2586,0x2587,0x2588,0x2589,0x258a,0x258b,0x258c,
0x258d,0x258e,0x258f,0x2593,0x2594,0x2595,0x25a0,0x25a1,
0x25b2,0x25b3,0x25bc,0x25bd,0x25c6,0x25c7,0x25cb,0x25ce,
0x25cf,0x25e2,0x25e3,0x25e4,0x25e5,0x2605,0x2606,0x2609,
0x2640,0x2642,0x3000,0x3001,0x3002,0x3003,0x3005,0x3006,
0x3007,0x3008,0x3009,0x300a,0x300b,0x300c,0x300d,0x300e,
0x300f,0x3010,0x3011,0x3012,0x3013,0x3014,0x3015,0x3016,
0x3017,0x301d,0x301e,0x3021,0x3022,0x3023,0x3024,0x3025,
0x3026,0x3027,0x3028,0x3029,0x303e,0x3041,0x3042,0x3043,
0x3044,0x3045,0x3046,0x3047,0x3048,0x3049,0x304a,0x304b,
0x304c,0x304d,0x304e,0x304f,0x3050,0x3051,0x3052,0x3053,
0x3054,0x3055,0x3056,0x3057,0x3058,0x3059,0x305a,0x305b,
0x305c,0x305d,0x305e,0x305f,0x3060,0x3061,0x3062,0x3063,
0x3064,0x3065,0x3066,0x3067,0x3068,0x3069,0x306a,0x306b,
0x306c,0x306d,0x306e,0x306f,0x3070,0x3071,0x3072,0x3073,
0x3074,0x3075,0x3076,0x3077,0x3078,0x3079,0x307a,0x307b,
0x307c,0x307d,0x307e,0x307f,0x3080,0x3081,0x3082,0x3083,
0x3084,0x3085,0x3086,0x3087,0x3088,0x3089,0x308a,0x308b,
0x308c,0x308d,0x308e,0x308f,0x3090,0x3091,0x3092,0x3093,

0x309b,0x309c,0x309d,0x309e,0x30a1,0x30a2,0x30a3,0x30a4,
0x30a5,0x30a6,0x30a7,0x30a8,0x30a9,0x30aa,0x30ab,0x30ac,

0x30ad,0x30ae,0x30af,0x30b0,0x30b1,0x30b2,0x30b3,0x30b4,
0x30b5,0x30b6,0x30b7,0x30b8,0x30b9,0x30ba,0x30bb,0x30bc,
0x30bd,0x30be,0x30bf,0x30c0,0x30c1,0x30c2,0x30c3,0x30c4,
0x30c5,0x30c6,0x30c7,0x30c8,0x30c9,0x30ca,0x30cb,0x30cc,
0x30cd,0x30ce,0x30cf,0x30d0,0x30d1,0x30d2,0x30d3,0x30d4,
0x30d5,0x30d6,0x30d7,0x30d8,0x30d9,0x30da,0x30db,0x30dc,
0x30dd,0x30de,0x30df,0x30e0,0x30e1,0x30e2,0x30e3,0x30e4,
0x30e5,0x30e6,0x30e7,0x30e8,0x30e9,0x30ea,0x30eb,0x30ec,
0x30ed,0x30ee,0x30ef,0x30f0,0x30f1,0x30f2,0x30f3,0x30f4,
0x30f5,0x30f6,0x30fc,0x30fd,0x30fe,0x3105,0x3106,0x3107,
0x3108,0x3109,0x310a,0x310b,0x310c,0x310d,0x310e,0x310f,
0x3110,0x3111,0x3112,0x3113,0x3114,0x3115,0x3116,0x3117,
0x3118,0x3119,0x311a,0x311b,0x311c,0x311d,0x311e,0x311f,
0x3120,0x3121,0x3122,0x3123,0x3124,0x3125,0x3126,0x3127,
0x3128,0x3129,0x3220,0x3221,0x3222,0x3223,0x3224,0x3225,
0x3226,0x3227,0x3228,0x3229,0x3231,0x32a3,0x338e,0x338f,
0x339c,0x339d,0x339e,0x33a1,0x33c4,0x33ce,0x33d1,0x33d2,
0x33d5,0xe76c,0xe78d,0xe78e,0xe78f,0xe790,0xe791,0xe792,
0xe793,0xe794,0xe795,0xe796,0xe7c7,0xe7c8,0xe7e7,0xe7e8,
0xe7e9,0xe7ea,0xe7eb,0xe7ec,0xe7ed,0xe7ee,0xe7ef,0xe7f0,
0xe7f1,0xe7f2,0xe7f3,0xe815,0xe816,0xe817,0xe818,0xe819,
0xe81a,0xe81b,0xe81c,0xe81d,0xe81e,0xe81f,0xe820,0xe821,
0xe822,0xe823,0xe824,0xe825,0xe826,0xe827,0xe828,0xe829,
0xe82a,0xe82b,0xe82c,0xe82d,0xe82e,0xe82f,0xe830,0xe831,
0xe832,0xe833,0xe834,0xe835,0xe836,0xe837,0xe838,0xe839,
0xe83a,0xe83b,0xe83c,0xe83d,0xe83e,0xe83f,0xe840,0xe841,
0xe842,0xe843,0xe844,0xe845,0xe846,0xe847,0xe848,0xe849,
0xe84a,0xe84b,0xe84c,0xe84d,0xe84e,0xe84f,0xe850,0xe851,
0xe852,0xe853,0xe854,0xe855,0xe856,0xe857,0xe858,0xe859,
0xe85a,0xe85b,0xe85c,0xe85d,0xe85e,0xe85f,0xe860,0xe861,
0xe862,0xe863,0xe864,0xf92c,0xf979,0xf995,0xf9e7,0xf9f1,
0xfa0c,0xfa0d,0xfa0e,0xfa0f,0xfa11,0xfa13,0xfa14,0xfa18,
0xfa1f,0xfa20,0xfa21,0xfa23,0xfa24,0xfa27,0xfa28,0xfa29,
0xfe30,0xfe31,0xfe33,0xfe34,0xfe35,0xfe36,0xfe37,0xfe38,
0xfe39,0xfe3a,0xfe3b,0xfe3c,0xfe3d,0xfe3e,0xfe3f,0xfe40,
0xfe41,0xfe42,0xfe43,0xfe44,0xfe49,0xfe4a,0xfe4b,0xfe4c,
0xfe4d,0xfe4e,0xfe4f,0xfe50,0xfe51,0xfe52,0xfe54,0xfe55,
0xfe56,0xfe57,0xfe59,0xfe5a,0xfe5b,0xfe5c,0xfe5d,0xfe5e,
0xfe5f,0xfe60,0xfe61,0xfe62,0xfe63,0xfe64,0xfe65,0xfe66,
0xfe68,0xfe69,0xfe6a,0xfe6b,0xff01,0xff02,0xff03,0xff04,
0xff05,0xff06,0xff07,0xff08,0xff09,0xff0a,0xff0b,0xff0c,

```
                    0xff0d,0xff0e,0xff0f,0xff10,0xff11,0xff12,0xff13,0xff14,
                    0xff15,0xff16,0xff17,0xff18,0xff19,0xff1a,0xff1b,0xff1c,
                    0xff1d,0xff1e,0xff1f,0xff20,0xff21,0xff22,0xff23,0xff24,


                    0xff25,0xff26,0xff27,0xff28,0xff29,0xff2a,0xff2b,0xff2c,
                    0xff2d,0xff2e,0xff2f,0xff30,0xff31,0xff32,0xff33,0xff34,
                    0xff35,0xff36,0xff37,0xff38,0xff39,0xff3a,0xff3b,0xff3c,
                    0xff3d,0xff3e,0xff3f,0xff40,0xff41,0xff42,0xff43,0xff44,
                    0xff45,0xff46,0xff47,0xff48,0xff49,0xff4a,0xff4b,0xff4c,
                    0xff4d,0xff4e,0xff4f,0xff50,0xff51,0xff52,0xff53,0xff54,
                    0xff55,0xff56,0xff57,0xff58,0xff59,0xff5a,0xff5b,0xff5c,
                    0xff5d,0xff5e,0xffe0,0xffe1,0xffe2,0xffe3,0xffe4,0xffe5
        };
```

按照 BYTE 方式进行排列的字符对应表：

```
unsigned char ZFTABLE[2176]={
0x00,0xa1,0x00,0xa2,0x00,0xa3,0x00,0xa4,0x00,0xa5,0x00,0xa6,0x00,0xa7,0x00,0xa8,
0x00,0xa9,0x00,0xaa,0x00,0xab,0x00,0xac,0x00,0xad,0x00,0xae,0x00,0xaf,0x00,0xb0,
0x00,0xb1,0x00,0xb2,0x00,0xb3,0x00,0xb4,0x00,0xb5,0x00,0xb6,0x00,0xb7,0x00,0xb8,
0x00,0xb9,0x00,0xba,0x00,0xbb,0x00,0xbc,0x00,0xbd,0x00,0xbe,0x00,0xbf,0x00,0xc0,
0x00,0xc1,0x00,0xc2,0x00,0xc3,0x00,0xc4,0x00,0xc5,0x00,0xc6,0x00,0xc7,0x00,0xc8,
0x00,0xc9,0x00,0xca,0x00,0xcb,0x00,0xcc,0x00,0xcd,0x00,0xce,0x00,0xcf,0x00,0xd0,
0x00,0xd1,0x00,0xd2,0x00,0xd3,0x00,0xd4,0x00,0xd5,0x00,0xd6,0x00,0xd7,0x00,0xd8,
0x00,0xd9,0x00,0xda,0x00,0xdb,0x00,0xdc,0x00,0xdd,0x00,0xde,0x00,0xdf,0x00,0xe0,
0x00,0xe1,0x00,0xe2,0x00,0xe3,0x00,0xe4,0x00,0xe5,0x00,0xe6,0x00,0xe7,0x00,0xe8,
0x00,0xe9,0x00,0xea,0x00,0xeb,0x00,0xec,0x00,0xed,0x00,0xee,0x00,0xef,0x00,0xf0,
0x00,0xf1,0x00,0xf2,0x00,0xf3,0x00,0xf4,0x00,0xf5,0x00,0xf6,0x00,0xf7,0x00,0xf8,
0x00,0xf9,0x00,0xfa,0x00,0xfb,0x00,0xfc,0x00,0xfd,0x00,0xfe,0x00,0xff,0x01,0x01,
0x01,0x13,0x01,0x1b,0x01,0x2b,0x01,0x44,0x01,0x48,0x01,0x4d,0x01,0x52,0x01,0x53,
0x01,0x60,0x01,0x61,0x01,0x6b,0x01,0x78,0x01,0x92,0x01,0xce,0x01,0xd0,0x01,0xd2,
0x01,0xd4,0x01,0xd6,0x01,0xd8,0x01,0xda,0x01,0xdc,0x02,0x51,0x02,0x61,0x02,0xc6,
0x02,0xc7,0x02,0xc9,0x02,0xca,0x02,0xcb,0x02,0xd9,0x02,0xdc,0x03,0x91,0x03,0x92,
0x03,0x93,0x03,0x94,0x03,0x95,0x03,0x96,0x03,0x97,0x03,0x98,0x03,0x99,0x03,0x9a,
0x03,0x9b,0x03,0x9c,0x03,0x9d,0x03,0x9e,0x03,0x9f,0x03,0xa0,0x03,0xa1,0x03,0xa3,
0x03,0xa4,0x03,0xa5,0x03,0xa6,0x03,0xa7,0x03,0xa8,0x03,0xa9,0x03,0xb1,0x03,0xb2,
0x03,0xb3,0x03,0xb4,0x03,0xb5,0x03,0xb6,0x03,0xb7,0x03,0xb8,0x03,0xb9,0x03,0xba,
0x03,0xbb,0x03,0xbc,0x03,0xbd,0x03,0xbe,0x03,0xbf,0x03,0xc0,0x03,0xc1,0x03,0xc3,
0x03,0xc4,0x03,0xc5,0x03,0xc6,0x03,0xc7,0x03,0xc8,0x03,0xc9,0x04,0x01,0x04,0x10,
0x04,0x11,0x04,0x12,0x04,0x13,0x04,0x14,0x04,0x15,0x04,0x16,0x04,0x17,0x04,0x18,
0x04,0x19,0x04,0x1a,0x04,0x1b,0x04,0x1c,0x04,0x1d,0x04,0x1e,0x04,0x1f,0x04,0x20,
```

```
0x04,0x21,0x04,0x22,0x04,0x23,0x04,0x24,0x04,0x25,0x04,0x26,0x04,0x27,0x04,0x28,
0x04,0x29,0x04,0x2a,0x04,0x2b,0x04,0x2c,0x04,0x2d,0x04,0x2e,0x04,0x2f,0x04,0x30,
0x04,0x31,0x04,0x32,0x04,0x33,0x04,0x34,0x04,0x35,0x04,0x36,0x04,0x37,0x04,0x38,
0x04,0x39,0x04,0x3a,0x04,0x3b,0x04,0x3c,0x04,0x3d,0x04,0x3e,0x04,0x3f,0x04,0x40,
0x04,0x41,0x04,0x42,0x04,0x43,0x04,0x44,0x04,0x45,0x04,0x46,0x04,0x47,0x04,0x48,
0x04,0x49,0x04,0x4a,0x04,0x4b,0x04,0x4c,0x04,0x4d,0x04,0x4e,0x04,0x4f,0x04,0x51,
0x20,0x10,0x20,0x13,0x20,0x14,0x20,0x15,0x20,0x16,0x20,0x18,0x20,0x19,0x20,0x1a,
0x20,0x1c,0x20,0x1d,0x20,0x1e,0x20,0x20,0x20,0x21,0x20,0x22,0x20,0x25,0x20,0x26,
0x20,0x30,0x20,0x32,0x20,0x33,0x20,0x35,0x20,0x39,0x20,0x3a,0x20,0x3b,0x20,0xac,
0x21,0x03,0x21,0x05,0x21,0x09,0x21,0x16,0x21,0x21,0x21,0x22,0x21,0x60,0x21,0x61,
0x21,0x62,0x21,0x63,0x21,0x64,0x21,0x65,0x21,0x66,0x21,0x67,0x21,0x68,0x21,0x69,
0x21,0x6a,0x21,0x6b,0x21,0x70,0x21,0x71,0x21,0x72,0x21,0x73,0x21,0x74,0x21,0x75,
0x21,0x76,0x21,0x77,0x21,0x78,0x21,0x79,0x21,0x90,0x21,0x91,0x21,0x92,0x21,0x93,
0x21,0x96,0x21,0x97,0x21,0x98,0x21,0x99,0x22,0x08,0x22,0x0f,0x22,0x11,0x22,0x15,
0x22,0x1a,0x22,0x1d,0x22,0x1e,0x22,0x1f,0x22,0x20,0x22,0x23,0x22,0x25,0x22,0x27,
0x22,0x28,0x22,0x29,0x22,0x2a,0x22,0x2b,0x22,0x2e,0x22,0x34,0x22,0x35,0x22,0x36,
0x22,0x37,0x22,0x3d,0x22,0x48,0x22,0x4c,0x22,0x52,0x22,0x60,0x22,0x61,0x22,0x64,
0x22,0x65,0x22,0x66,0x22,0x67,0x22,0x6e,0x22,0x6f,0x22,0x95,0x22,0x99,0x22,0xa5,
0x22,0xbf,0x23,0x12,0x24,0x60,0x24,0x61,0x24,0x62,0x24,0x63,0x24,0x64,0x24,0x65,
0x24,0x66,0x24,0x67,0x24,0x68,0x24,0x69,0x24,0x74,0x24,0x75,0x24,0x76,0x24,0x77,
0x24,0x78,0x24,0x79,0x24,0x7a,0x24,0x7b,0x24,0x7c,0x24,0x7d,0x24,0x7e,0x24,0x7f,
0x24,0x80,0x24,0x81,0x24,0x82,0x24,0x83,0x24,0x84,0x24,0x85,0x24,0x86,0x24,0x87,
0x24,0x88,0x24,0x89,0x24,0x8a,0x24,0x8b,0x24,0x8c,0x24,0x8d,0x24,0x8e,0x24,0x8f,
0x24,0x90,0x24,0x91,0x24,0x92,0x24,0x93,0x24,0x94,0x24,0x95,0x24,0x96,0x24,0x97,
0x24,0x98,0x24,0x99,0x24,0x9a,0x24,0x9b,0x25,0x00,0x25,0x01,0x25,0x02,0x25,0x03,
0x25,0x04,0x25,0x05,0x25,0x06,0x25,0x07,0x25,0x08,0x25,0x09,0x25,0x0a,0x25,0x0b,
0x25,0x0c,0x25,0x0d,0x25,0x0e,0x25,0x0f,0x25,0x10,0x25,0x11,0x25,0x12,0x25,0x13,
0x25,0x14,0x25,0x15,0x25,0x16,0x25,0x17,0x25,0x18,0x25,0x19,0x25,0x1a,0x25,0x1b,
0x25,0x1c,0x25,0x1d,0x25,0x1e,0x25,0x1f,0x25,0x20,0x25,0x21,0x25,0x22,0x25,0x23,
0x25,0x24,0x25,0x25,0x25,0x26,0x25,0x27,0x25,0x28,0x25,0x29,0x25,0x2a,0x25,0x2b,
0x25,0x2c,0x25,0x2d,0x25,0x2e,0x25,0x2f,0x25,0x30,0x25,0x31,0x25,0x32,0x25,0x33,
0x25,0x34,0x25,0x35,0x25,0x36,0x25,0x37,0x25,0x38,0x25,0x39,0x25,0x3a,0x25,0x3b,
0x25,0x3c,0x25,0x3d,0x25,0x3e,0x25,0x3f,0x25,0x40,0x25,0x41,0x25,0x42,0x25,0x43,
0x25,0x44,0x25,0x45,0x25,0x46,0x25,0x47,0x25,0x48,0x25,0x49,0x25,0x4a,0x25,0x4b,
0x25,0x50,0x25,0x51,0x25,0x52,0x25,0x53,0x25,0x54,0x25,0x55,0x25,0x56,0x25,0x57,
0x25,0x58,0x25,0x59,0x25,0x5a,0x25,0x5b,0x25,0x5c,0x25,0x5d,0x25,0x5e,0x25,0x5f,
0x25,0x60,0x25,0x61,0x25,0x62,0x25,0x63,0x25,0x64,0x25,0x65,0x25,0x66,0x25,0x67,
0x25,0x68,0x25,0x69,0x25,0x6a,0x25,0x6b,0x25,0x6c,0x25,0x6d,0x25,0x6e,0x25,0x6f,
0x25,0x70,0x25,0x71,0x25,0x72,0x25,0x73,0x25,0x81,0x25,0x82,0x25,0x83,0x25,0x84,
0x25,0x85,0x25,0x86,0x25,0x87,0x25,0x88,0x25,0x89,0x25,0x8a,0x25,0x8b,0x25,0x8c,
0x25,0x8d,0x25,0x8e,0x25,0x8f,0x25,0x93,0x25,0x94,0x25,0x95,0x25,0xa0,0x25,0xa1,
0x25,0xb2,0x25,0xb3,0x25,0xbc,0x25,0xbd,0x25,0xc6,0x25,0xc7,0x25,0xcb,0x25,0xce,
0x25,0xcf,0x25,0xe2,0x25,0xe3,0x25,0xe4,0x25,0xe5,0x26,0x05,0x26,0x06,0x26,0x09,
0x26,0x40,0x26,0x42,0x30,0x00,0x30,0x01,0x30,0x02,0x30,0x03,0x30,0x05,0x30,0x06,
0x30,0x07,0x30,0x08,0x30,0x09,0x30,0x0a,0x30,0x0b,0x30,0x0c,0x30,0x0d,0x30,0x0e,
```

0x30,0x0f,0x30,0x10,0x30,0x11,0x30,0x12,0x30,0x13,0x30,0x14,0x30,0x15,0x30,0x16,
0x30,0x17,0x30,0x1d,0x30,0x1e,0x30,0x21,0x30,0x22,0x30,0x23,0x30,0x24,0x30,0x25,
0x30,0x26,0x30,0x27,0x30,0x28,0x30,0x29,0x30,0x3e,0x30,0x41,0x30,0x42,0x30,0x43,
0x30,0x44,0x30,0x45,0x30,0x46,0x30,0x47,0x30,0x48,0x30,0x49,0x30,0x4a,0x30,0x4b,
0x30,0x4c,0x30,0x4d,0x30,0x4e,0x30,0x4f,0x30,0x50,0x30,0x51,0x30,0x52,0x30,0x53,
0x30,0x54,0x30,0x55,0x30,0x56,0x30,0x57,0x30,0x58,0x30,0x59,0x30,0x5a,0x30,0x5b,
0x30,0x5c,0x30,0x5d,0x30,0x5e,0x30,0x5f,0x30,0x60,0x30,0x61,0x30,0x62,0x30,0x63,
0x30,0x64,0x30,0x65,0x30,0x66,0x30,0x67,0x30,0x68,0x30,0x69,0x30,0x6a,0x30,0x6b,
0x30,0x6c,0x30,0x6d,0x30,0x6e,0x30,0x6f,0x30,0x70,0x30,0x71,0x30,0x72,0x30,0x73,
0x30,0x74,0x30,0x75,0x30,0x76,0x30,0x77,0x30,0x78,0x30,0x79,0x30,0x7a,0x30,0x7b,
0x30,0x7c,0x30,0x7d,0x30,0x7e,0x30,0x7f,0x30,0x80,0x30,0x81,0x30,0x82,0x30,0x83,
0x30,0x84,0x30,0x85,0x30,0x86,0x30,0x87,0x30,0x88,0x30,0x89,0x30,0x8a,0x30,0x8b,
0x30,0x8c,0x30,0x8d,0x30,0x8e,0x30,0x8f,0x30,0x90,0x30,0x91,0x30,0x92,0x30,0x93,
0x30,0x9b,0x30,0x9c,0x30,0x9d,0x30,0x9e,0x30,0xa1,0x30,0xa2,0x30,0xa3,0x30,0xa4,
0x30,0xa5,0x30,0xa6,0x30,0xa7,0x30,0xa8,0x30,0xa9,0x30,0xaa,0x30,0xab,0x30,0xac,
0x30,0xad,0x30,0xae,0x30,0xaf,0x30,0xb0,0x30,0xb1,0x30,0xb2,0x30,0xb3,0x30,0xb4,
0x30,0xb5,0x30,0xb6,0x30,0xb7,0x30,0xb8,0x30,0xb9,0x30,0xba,0x30,0xbb,0x30,0xbc,
0x30,0xbd,0x30,0xbe,0x30,0xbf,0x30,0xc0,0x30,0xc1,0x30,0xc2,0x30,0xc3,0x30,0xc4,
0x30,0xc5,0x30,0xc6,0x30,0xc7,0x30,0xc8,0x30,0xc9,0x30,0xca,0x30,0xcb,0x30,0xcc,
0x30,0xcd,0x30,0xce,0x30,0xcf,0x30,0xd0,0x30,0xd1,0x30,0xd2,0x30,0xd3,0x30,0xd4,
0x30,0xd5,0x30,0xd6,0x30,0xd7,0x30,0xd8,0x30,0xd9,0x30,0xda,0x30,0xdb,0x30,0xdc,
0x30,0xdd,0x30,0xde,0x30,0xdf,0x30,0xe0,0x30,0xe1,0x30,0xe2,0x30,0xe3,0x30,0xe4,
0x30,0xe5,0x30,0xe6,0x30,0xe7,0x30,0xe8,0x30,0xe9,0x30,0xea,0x30,0xeb,0x30,0xec,
0x30,0xed,0x30,0xee,0x30,0xef,0x30,0xf0,0x30,0xf1,0x30,0xf2,0x30,0xf3,0x30,0xf4,
0x30,0xf5,0x30,0xf6,0x30,0xfc,0x30,0xfd,0x30,0xfe,0x31,0x05,0x31,0x06,0x31,0x07,
0x31,0x08,0x31,0x09,0x31,0x0a,0x31,0x0b,0x31,0x0c,0x31,0x0d,0x31,0x0e,0x31,0x0f,
0x31,0x10,0x31,0x11,0x31,0x12,0x31,0x13,0x31,0x14,0x31,0x15,0x31,0x16,0x31,0x17,
0x31,0x18,0x31,0x19,0x31,0x1a,0x31,0x1b,0x31,0x1c,0x31,0x1d,0x31,0x1e,0x31,0x1f,
0x31,0x20,0x31,0x21,0x31,0x22,0x31,0x23,0x31,0x24,0x31,0x25,0x31,0x26,0x31,0x27,
0x31,0x28,0x31,0x29,0x32,0x20,0x32,0x21,0x32,0x22,0x32,0x23,0x32,0x24,0x32,0x25,
0x32,0x26,0x32,0x27,0x32,0x28,0x32,0x29,0x32,0x31,0x32,0xa3,0x33,0x8e,0x33,0x8f,
0x33,0x9c,0x33,0x9d,0x33,0x9e,0x33,0xa1,0x33,0xc4,0x33,0xce,0x33,0xd1,0x33,0xd2,
0x33,0xd5,0xe7,0x6c,0xe7,0x8d,0xe7,0x8e,0xe7,0x8f,0xe7,0x90,0xe7,0x91,0xe7,0x92,
0xe7,0x93,0xe7,0x94,0xe7,0x95,0xe7,0x96,0xe7,0xc7,0xe7,0xc8,0xe7,0xe7,0xe7,0xe8,
0xe7,0xe9,0xe7,0xea,0xe7,0xeb,0xe7,0xec,0xe7,0xed,0xe7,0xee,0xe7,0xef,0xe7,0xf0,
0xe7,0xf1,0xe7,0xf2,0xe7,0xf3,0xe8,0x15,0xe8,0x16,0xe8,0x17,0xe8,0x18,0xe8,0x19,
0xe8,0x1a,0xe8,0x1b,0xe8,0x1c,0xe8,0x1d,0xe8,0x1e,0xe8,0x1f,0xe8,0x20,0xe8,0x21,
0xe8,0x22,0xe8,0x23,0xe8,0x24,0xe8,0x25,0xe8,0x26,0xe8,0x27,0xe8,0x28,0xe8,0x29,
0xe8,0x2a,0xe8,0x2b,0xe8,0x2c,0xe8,0x2d,0xe8,0x2e,0xe8,0x2f,0xe8,0x30,0xe8,0x31,
0xe8,0x32,0xe8,0x33,0xe8,0x34,0xe8,0x35,0xe8,0x36,0xe8,0x37,0xe8,0x38,0xe8,0x39,
0xe8,0x3a,0xe8,0x3b,0xe8,0x3c,0xe8,0x3d,0xe8,0x3e,0xe8,0x3f,0xe8,0x40,0xe8,0x41,
0xe8,0x42,0xe8,0x43,0xe8,0x44,0xe8,0x45,0xe8,0x46,0xe8,0x47,0xe8,0x48,0xe8,0x49,
0xe8,0x4a,0xe8,0x4b,0xe8,0x4c,0xe8,0x4d,0xe8,0x4e,0xe8,0x4f,0xe8,0x50,0xe8,0x51,
0xe8,0x52,0xe8,0x53,0xe8,0x54,0xe8,0x55,0xe8,0x56,0xe8,0x57,0xe8,0x58,0xe8,0x59,
0xe8,0x5a,0xe8,0x5b,0xe8,0x5c,0xe8,0x5d,0xe8,0x5e,0xe8,0x5f,0xe8,0x60,0xe8,0x61,

0xe8,0x62,0xe8,0x63,0xe8,0x64,0xf9,0x2c,0xf9,0x79,0xf9,0x95,0xf9,0xe7,0xf9,0xf1,
0xfa,0x0c,0xfa,0x0d,0xfa,0x0e,0xfa,0x0f,0xfa,0x11,0xfa,0x13,0xfa,0x14,0xfa,0x18,
0xfa,0x1f,0xfa,0x20,0xfa,0x21,0xfa,0x23,0xfa,0x24,0xfa,0x27,0xfa,0x28,0xfa,0x29,
0xfe,0x30,0xfe,0x31,0xfe,0x33,0xfe,0x34,0xfe,0x35,0xfe,0x36,0xfe,0x37,0xfe,0x38,
0xfe,0x39,0xfe,0x3a,0xfe,0x3b,0xfe,0x3c,0xfe,0x3d,0xfe,0x3e,0xfe,0x3f,0xfe,0x40,
0xfe,0x41,0xfe,0x42,0xfe,0x43,0xfe,0x44,0xfe,0x49,0xfe,0x4a,0xfe,0x4b,0xfe,0x4c,
0xfe,0x4d,0xfe,0x4e,0xfe,0x4f,0xfe,0x50,0xfe,0x51,0xfe,0x52,0xfe,0x54,0xfe,0x55,
0xfe,0x56,0xfe,0x57,0xfe,0x59,0xfe,0x5a,0xfe,0x5b,0xfe,0x5c,0xfe,0x5d,0xfe,0x5e,
0xfe,0x5f,0xfe,0x60,0xfe,0x61,0xfe,0x62,0xfe,0x63,0xfe,0x64,0xfe,0x65,0xfe,0x66,
0xfe,0x68,0xfe,0x69,0xfe,0x6a,0xfe,0x6b,0xff,0x01,0xff,0x02,0xff,0x03,0xff,0x04,
0xff,0x05,0xff,0x06,0xff,0x07,0xff,0x08,0xff,0x09,0xff,0x0a,0xff,0x0b,0xff,0x0c,
0xff,0x0d,0xff,0x0e,0xff,0x0f,0xff,0x10,0xff,0x11,0xff,0x12,0xff,0x13,0xff,0x14,
0xff,0x15,0xff,0x16,0xff,0x17,0xff,0x18,0xff,0x19,0xff,0x1a,0xff,0x1b,0xff,0x1c,
0xff,0x1d,0xff,0x1e,0xff,0x1f,0xff,0x20,0xff,0x21,0xff,0x22,0xff,0x23,0xff,0x24,
0xff,0x25,0xff,0x26,0xff,0x27,0xff,0x28,0xff,0x29,0xff,0x2a,0xff,0x2b,0xff,0x2c,
0xff,0x2d,0xff,0x2e,0xff,0x2f,0xff,0x30,0xff,0x31,0xff,0x32,0xff,0x33,0xff,0x34,
0xff,0x35,0xff,0x36,0xff,0x37,0xff,0x38,0xff,0x39,0xff,0x3a,0xff,0x3b,0xff,0x3c,
0xff,0x3d,0xff,0x3e,0xff,0x3f,0xff,0x40,0xff,0x41,0xff,0x42,0xff,0x43,0xff,0x44,
0xff,0x45,0xff,0x46,0xff,0x47,0xff,0x48,0xff,0x49,0xff,0x4a,0xff,0x4b,0xff,0x4c,
0xff,0x4d,0xff,0x4e,0xff,0x4f,0xff,0x50,0xff,0x51,0xff,0x52,0xff,0x53,0xff,0x54,
0xff,0x55,0xff,0x56,0xff,0x57,0xff,0x58,0xff,0x59,0xff,0x5a,0xff,0x5b,0xff,0x5c,
0xff,0x5d,0xff,0x5e,0xff,0xe0,0xff,0xe1,0xff,0xe2,0xff,0xe3,0xff,0xe4,0xff,0xe5   };

GOTOP®

高 通

创 造 文 明 智 能

深圳 OFFICE
地址： 深圳市福田区车公庙泰然工贸园 210 栋西座 4G03
电话： 0755-83453881　　83453855
传真： 0755-83453855-8004

上海 OFFICE
地址： 上海徐汇区宜山路 1388 号民润大厦 2 号楼 2 层
电话： 021-54451588　54451000　54452288
传真： 021-54451589-810
E-mail： Sales@genitop.com