

## PRODUCT SPECIFICATION

Customer (客户名称) : \_\_\_\_\_

Customer No. (客户编码): \_\_\_\_\_

Product (产品类型) : Capacitive Touch Panel

Product No. (产品编号) : BET-CT016001V1

Date (日期) : 2014-1-01

BET Optronics Technology Co.,Ltd		
APPROVED (批准)	CHECKED (审核)	PREPARED (编写)
		JT.LEE

Customer  Approval:  客户批准	<input type="checkbox"/> Accept 接收  <input type="checkbox"/> Reject 拒绝  Comment 意见:        <p style="text-align: right;">Approved by 确认人: _____</p>
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## History of version 变更记录

Date 日期	Ver. 版次	Description 描述	Page 页码	Design by 变更人
2014/1/01	A0	Initial Release 首次发行	-	JT.LEE
Remarks 备注 :				

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## 1. General Specification 产品规格

Item 项目	CONTENTS 内容	Unit 单位
Outline Dimension 外形尺寸	38.1(L) * 37.8(W) * 0.8 (H)	mm
Active Area(W*L)动作区	--	mm
View Area 可视区	29.4 (L)*29.4(W)	mm
TP size (inch) 英寸尺寸	1.6	inch
Interface Type 接口种类	IIC	-
Operation Temperature 工作温度	TOPL = -10, TOPH =60	°C
Storage Temperature 储存温度	TSTL = -20, TSTH =70	°C
OGS thickness 厚度	0.7	mm
Resolution 解析度	240*240	
Input force 输入外力	<10g	
Surface hardness 表面硬度	>6H	

## 2. Electrical Characteristics (Ta = 25°C) 电气参数

Item 项目	Symbol 标识	Condition 条件	Min. 最小值	Type 典型值	Max. 最大值	Unit 单位
Power Supply 电压	VDD	--	2.6	2.8	3.3	Volt
Supply Current 电流	IDD	V <sub>DD</sub> =2.8V Free mode	--	--	--	mA
		V <sub>DD</sub> =2.8V watch mode	-	-	--	mA
		V <sub>DD</sub> =2.8V Active mode	-	-	--	mA
		V <sub>DD</sub> =2.8V Fast mode	-	-	-	mA

## 3. Optical Characteristics 光学参数

Item 项目	CONTENTS 内容	Remark 备注
Transparency 透过率	>86%	

## 4. Reliability 信赖性

Item 项目	Specifications 规格	Remark 备注
High Temperature Storage 高温存储	70°C, 240hrs, Normalized for 2 hrs	
Low Temperature Storage 低温存储	-20°C, 240hrs, Normalized for 2 hrs	Non-condensing 无结露
Temperature/ Humidity Storage 储存温度/湿度	-20-70 °C/85% 240hrs and normalized for 2 hrs	Non-conden sing无结露
High Temperature Operation 高温工作	60°C, 24hrs, Perform well	
Low Temperature Operation 低温工作	-10 °C, 24hrs, Perform well	Non-condensing 无结露
Temperature/ Humidity Operation 工作温度/湿度	-10-60°C/85%RH, 240hrs, Normalized for 2 hrs	Non-conden sing无结露

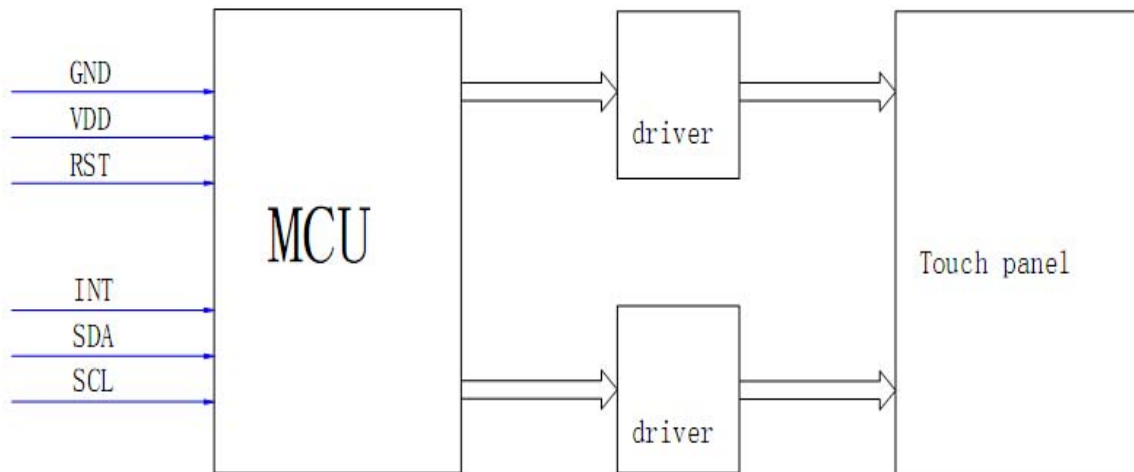
## 5. Durability 寿命

Item 项目	Specifications 规格	Condition 条件
Hitting life 撞击寿命	35,000,000 times	Hitting test may cause surface slight scratch yet the function stays intact 功能OK, 外观轻微刮伤判OK.
Panel Slide Test 滑动测试	250g, 20mm, 100,000 times	Slide test may cause surface slight scratch yet the function stays intact 功能OK, 外观轻微刮伤判OK.

## 6. Touch panel description 触摸屏功能描述

6.1 touch panel drawing 外形图: See appendix

6.2 Block diagram 功能结构图



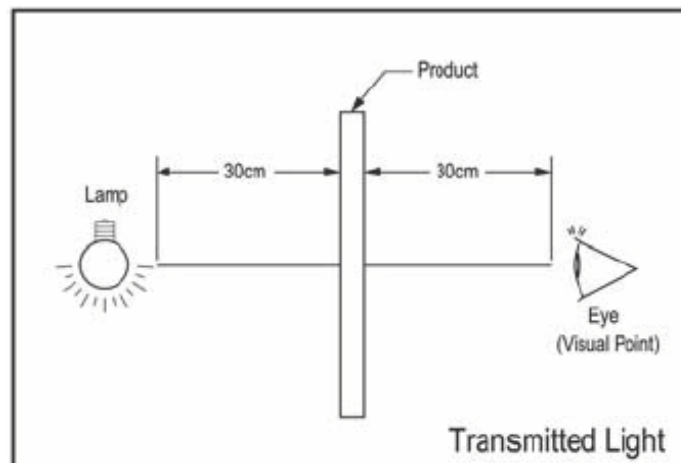
6.3 Touch panel pin assignment 引脚定义

Pin	Symbol	Description
1	VDD(2.8V)	Power supply.
2	SCL	Clock for the data input.
3	SDA	Data input.
4	INT(1.8V)	Interrupt output Pin.
5	RST	Reset pin for the TP.
6-7	GND	Power ground.
8	NC	No conected.
9-10	GND	Power ground.

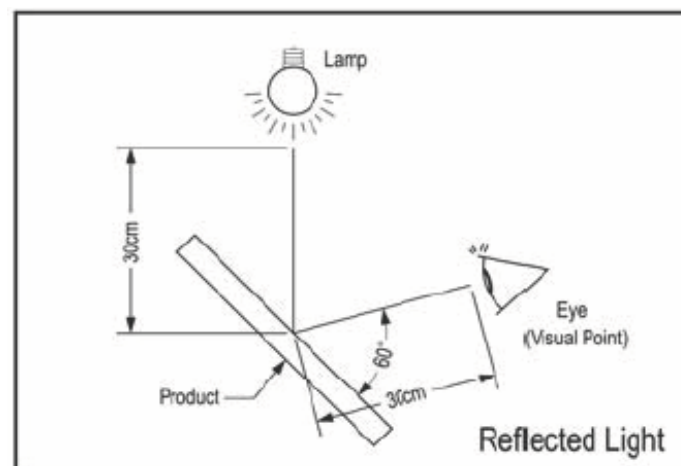
## 7. Appearance Inspection 外观检验

### 7.1 Inspection Conditions 检验条件

1. Environment:  $22 \pm 3^{\circ}\text{C}$ , Inspection distance:  $30 \pm 10\text{cm}$ .
2. Angle of Vision:  $30^{\circ} \sim 90^{\circ}$
3. Lighting illumination: 17W fluorescent luminant lamp is used for appearance inspection. Detail of settings is shown in **figure 13.1 & 13.2**.
4. Minor impurities outside viewing area are acceptable unless their existence affect electrical functions.



**figure 13.1**



**figure 13.2**



## 7.2 Criteria 判定标准

Item 项目	Specification 规格
<b>Particle</b> 灰尘	(1) $D \leq 0.25$ OK (2) $0.25 < D \leq 0.4$ (each area contains $\leq 3$ , total $\leq 5$ ) OK (3) $D > 0.4$ NG
<b>Linear Object</b> 线状异物	(1) $W \leq 0.05$ OK (2) $0.05 < W \leq 0.1$ and $L \leq 5.0$ , total $\leq 3$ OK (3) $W > 0.1$ NG Remark: the particle will be ignored when it is removable by cleaning
<b>Scratch</b> 刮伤	(1) $W \leq 0.025$ OK (2) $0.025 < W \leq 0.05$ and $L \leq 12.0$ , total $\leq 5$ OK (3) $0.05 < W \leq 0.1$ and $L \leq 6$ , total $\leq 5$ OK (4) $W > 0.1$ NG
<b>Remark</b> 备注	1. D=Diameter 2. W=Width 3. L=Length 4. Each area contains=20 $\mu$ s

## 8. Precautions 注意事项

<b>Storage</b> 存储	Store panel under the temperature and humidity range pre-specified. Direct sunlight exposure or piling should be avoided.
<b>Unpack</b> 拆包	Unpack the box with the printed red arrow pointing up.
<b>Handling</b> 使用中	(1) Use clean sacks or glove to prevent fingerprints and/or stains left on the panel. Extra attention and carefulness should be taken while handling the glass edge. (2) Avoid high voltage and/or static charge (3) Holding the panel instead of the tail at all time.
<b>Cleaning</b> 清洁	(1) Use neutral detergent or isopropyl alcohol on a clean soft cloth to clean the panel surface (2) Prevent using any kind of chemical solvent, acidic or alkali solution.
<b>Installing</b> 安装	(1) Excessive force or strain to the panel or tail is prohibited. (2) Retain at least 0.3 mm clearance between panel and display module. (3) Gasket or cushion pads around the edge of the panel may segregate water and/or dust contamination.
<b>Operating</b> 操作	(1) Touch the panel with your finger or stylus only to assure normal operation. Any sharp edged or hard objects are prohibited. (2) Operate the panel in a steady environment. Abrupt variation on temperature and humidity may cause malfunction of the panel.
<b>Others</b> 其他	(1) Keep the panel surface clean. Prevent any kind of adhesive applied on the surface. (2) Avoid high voltage and/or static charge.



客户签名:



LCD PIN脚定义:

PIN	NAME
1	GND
2	LEDK
3	LEDA
4	GND
5	FMARK
6	SDA
7	WR
8	RS
9	CS
10	RESET
11	IOVCC
12	VCC
13	GND

CTP PIN脚定义:

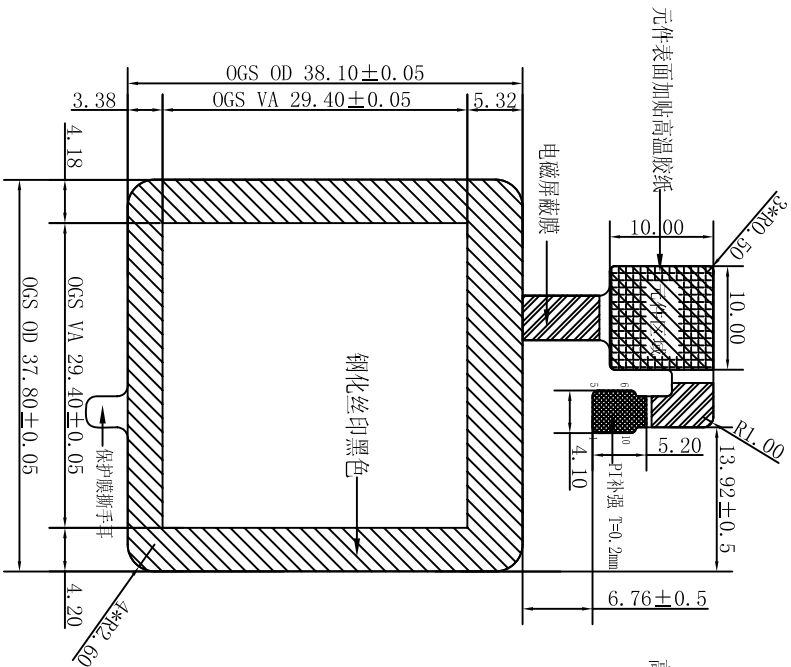
PIN	DEFINE
1	VDD=2.8V
2	SCI
3	SDA
4	EINT
5	RESSET
6	GND
7	GND
8	NC
9	GND
10	GND

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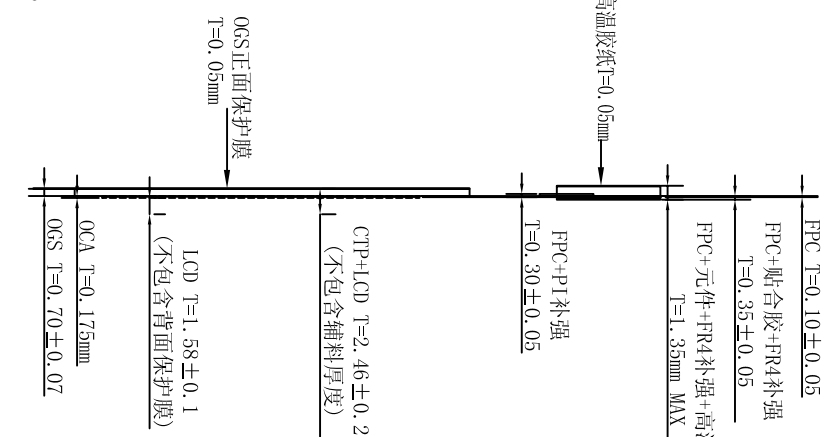
### 技术要求:

- 1、IC方案: GT9137
- 2、产品透过率为86%以上
- 3、表面处理:正表面硬度7H以上;
- 4、产品符合RoHS标准;

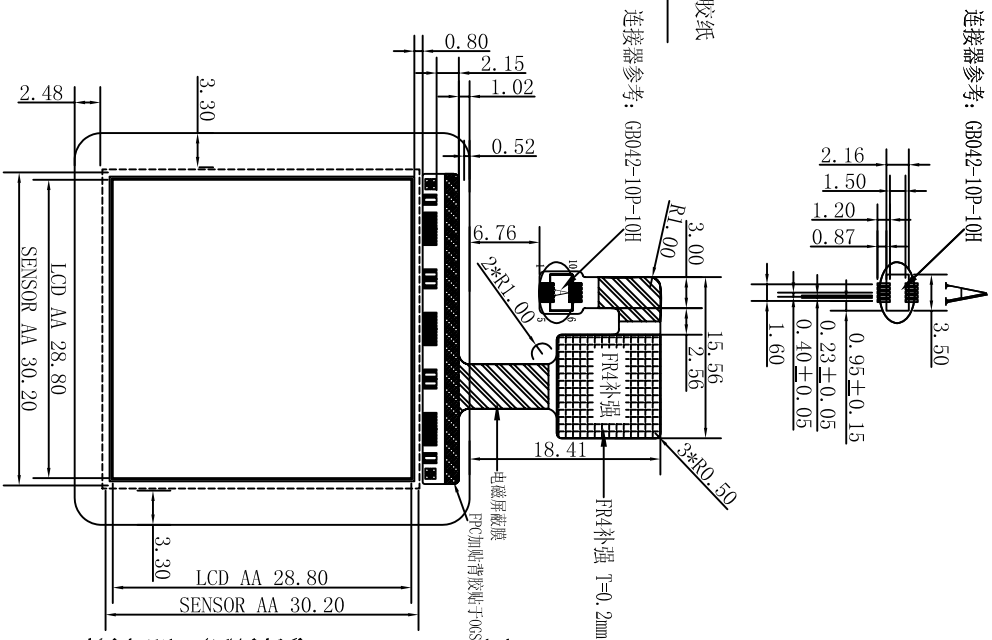
### 正面



### 侧面



### 背面



VER.	REVISED RECORD	DRAWN BY	DATE	CTP SPECIFICATION
A0	在016001基础上贴总成;IC改为GT9137.	LY	14-02-19	1. VDD
A1				2. OPERATION TEMP. -20 ° C TO 60 ° C
A2				3. STORAGE TEMP. -30 ° C TO 80 ° C
A3				



钢化丝印黑色



深圳市佰得威光电科技有限公司  
BET Optronics Technology Co., Ltd.

CUSTOM NO.	DESIGN NO. & (VERSION)	MODEL NO.	DRAWING TOLERANCE
	A0	BET-C0016001V1 (总成)	±0.2
	LY		UNIT
			mm
			SHEET
			1 OF 1

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