

SMART INDUSTRIES SDN.BHD.

COMPONENT APPROVAL REPORT

SERIAL NO:

SE⁰90128

TOTAL PAGE:

PART NAME: AIC J (SM)		RATING / DESCRIPTION: P3113, 90-8, RHB													
PART NUMBER: 120-541-0113		TYPE OF MATERIAL / GRADE: REFER ATACH													
SUPPLIER: PITS, and Capital		SUPPLIER PART NUMBER: P3113-90P8													
SAFETY REQUIREMENT: REFER ATACH		CATEGORY: MECHANICAL ☐ ELECTRICAL ☒													
SUITABLE FOR MODEL: TN10-0320-01; TN11-0601-01		DATE OF APPROVAL:													
REFERENCE DOCUMENTS:															
☒ SPECIFICATION ☐ SMART TESTING REPORT ☐ SAFETY DOCUMENTS ☒ SAMPLE															
☐ DRAWING (SMART) ☐ DRAWING (SUPPLIER) ☐ DRAWING (LEAD YEAR) ☒ RoHS REPORT/DECLARATION LETTER (SUPPLIER)															
☐ ARTWORK ☐ RAW MATERIAL SPEC. ☐ SUPPLIER QC INSPECTION REPORT ☐ -----															
ELECTRICAL & MECHANICAL TEST: (ATTACH SEPARATE LISTING IF INSUFFICIENT SPACE)															
REFER TO COMPONENTS APPROVAL REPORT															
☐ : PASS ☐ : NG ☐ : CONDITIONAL APPROVED *INSPECTION CRITERIA FOR IQC															
PROCESS TEST: (ATTACH SEPARATE LISTING IF INSUFFICIENT SPACE)															
* Fitting ok. * Solderability ok.															
☒ : PASS ☐ : NG ☐ : CONDITIONAL APPROVED *INSPECTION CRITERIA FOR IQC															
SAFETY & QUALITY INSPECTION TEST: (ATTACH SEPARATE LISTING IF INSUFFICIENT SPACE)															
* Material condition = ok * Body marking = P3113 A10832A1F * RoHS Compliance = ok * Visual inspection = no cosmetic defect found															
☒ : PASS ☐ : NG ☐ : CONDITIONAL APPROVED *INSPECTION CRITERIA FOR IQC															
CONCLUSION:		APPROVED BY													
☒ ACCEPTED ☐ REJECTED ☐ CONDITIONAL APPROVED VALID UNTIL:		<table border="1"> <thead> <tr> <th>PURCH</th> <th>R&D</th> <th>ME</th> <th>QC</th> </tr> </thead> <tbody> <tr> <td>hi</td> <td>On</td> <td>ufo</td> <td>2</td> </tr> <tr> <td>2011-11-28</td> <td>2011-11-30</td> <td>2011-12-1</td> <td>2011-12-1</td> </tr> </tbody> </table>		PURCH	R&D	ME	QC	hi	On	ufo	2	2011-11-28	2011-11-30	2011-12-1	2011-12-1
PURCH	R&D	ME	QC												
hi	On	ufo	2												
2011-11-28	2011-11-30	2011-12-1	2011-12-1												
JECT REASON:															
CONDITIONS:															
☒ FIRST APPROVAL ☐ RE-APPROVAL ☐ ECN / ECO															

PS113

Version : A.007
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Total Pages : 10

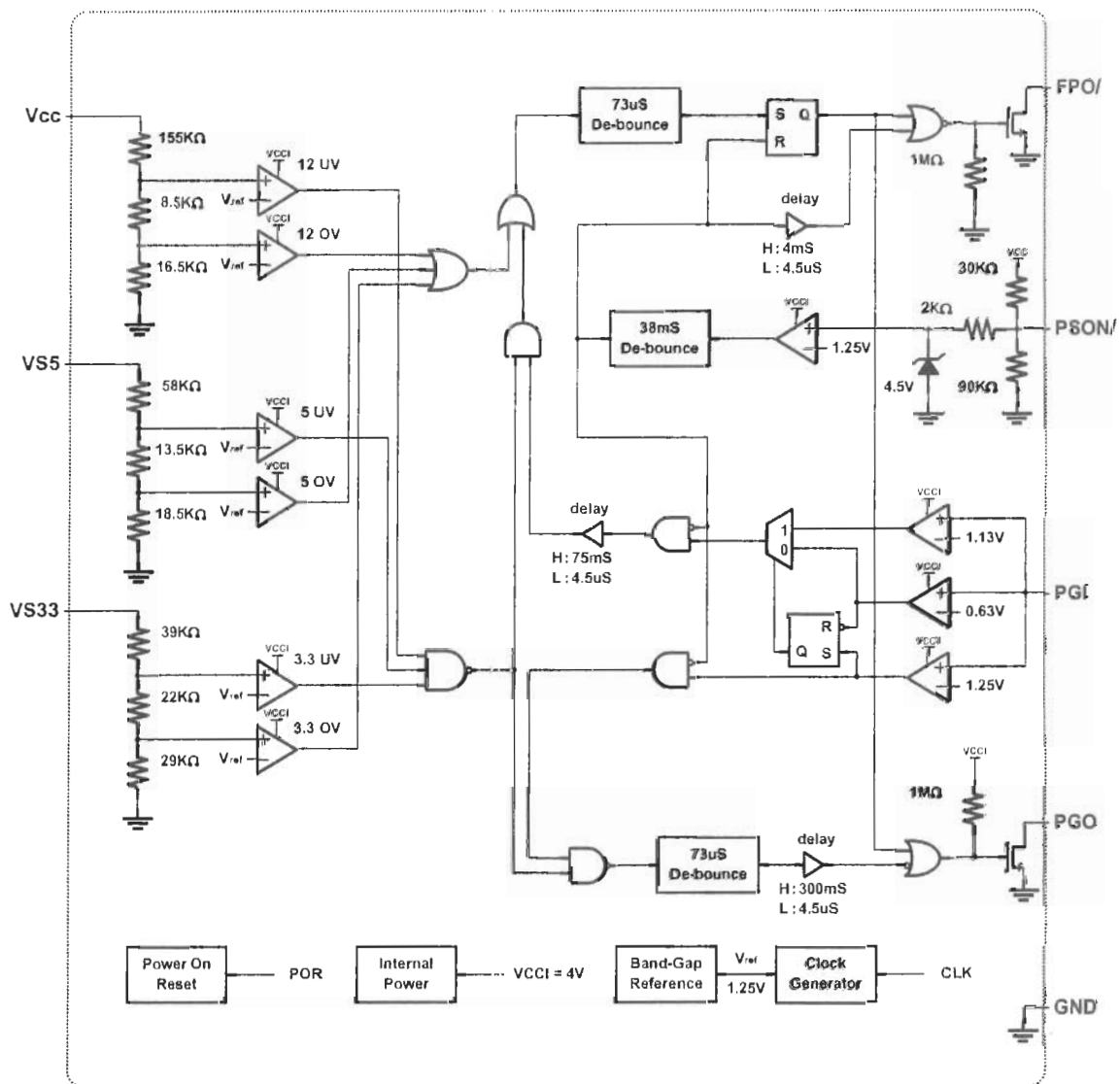
3-Channel Secondary Monitoring IC

APPROVED BY			
PURCH	R & D	PE	Q.C.
			
2010/1/28	Date: 2010/1/28	Date: 2010/1/28	Date: 2010/1/27

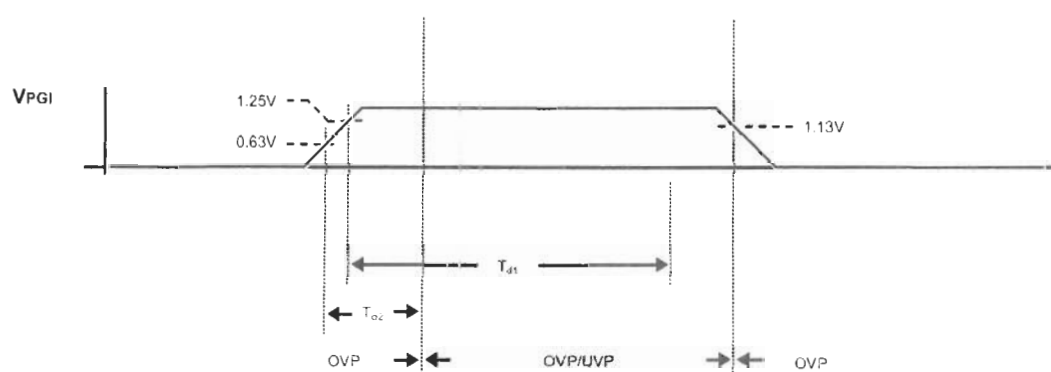
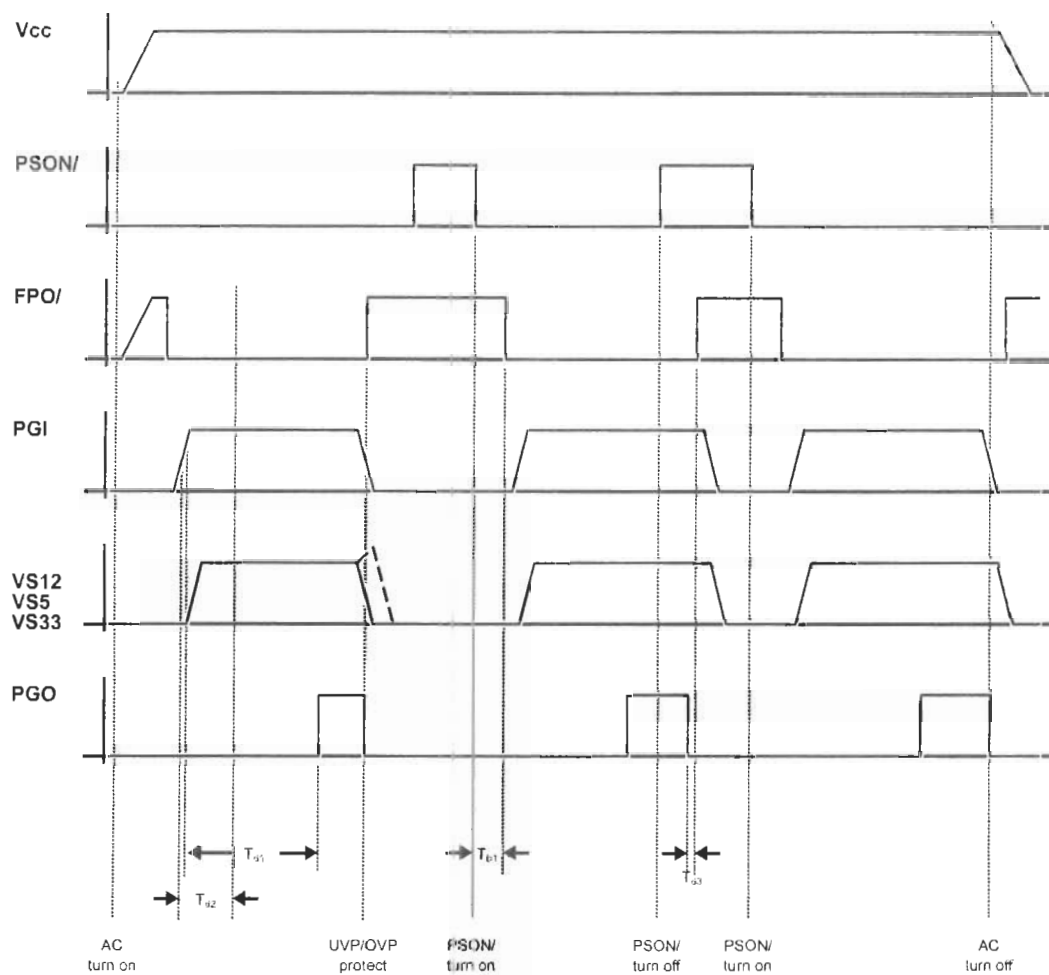


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Tel : 886-3-5645656 Fax : 886-3-5645626

Block Diagram



Timing Chart



Pin Descriptions

Pin No	PIN NAME	Descriptions
1	PGI	Power good input signal pin
2	GND	Ground
3	FPO	Inverted fault protection output ,open drain output stage
4	PSON	ON/OFF control input pin
5	VS33	3.3V over/under voltage protection input pin
6	VS5	5.0V over/under voltage protection input pin
7	VCC	Supply voltage/12V over voltage protection input pin
8	PGO	Power good output signal pin , open drain output stage

Absolute Maximum Ratings

Parameter		Rating	Unit
Storage Temperature (T_{stg})		-40 to +125	°C
Operating Temperature (T_{opr})		-30 to +90	°C
Supply Voltage (V_{cc})	VCC	-0.5 to +16.0	V
Input Voltage Range (V_i)	VS33, VS5	-0.5 to $V_{cc}+0.5$	V
	PGI	-0.5 to +16.0	V
	PSON/	-0.5 to $V_{cc}+0.5$	V
Output Voltage Range (V_o)	FPO/	-0.5 to +16.0	V
	PGO	-0.5 to $V_{cc}+0.5$	V
ESD Susceptibility* (V_{ESD})		> 2500	V

* Human Body Model (HBM).

Electrical characteristics, $V_{cc}=12V$, $T_A=25^{\circ}C$, (unless otherwise specified)

Power Supply Section

Parameter	Conditions	MIN	TYP	MAX	Unit
Supply Voltage		3.8	5.0	16.0	V
Supply Current	$V_{PSON} = 5V$		2	3	mA
Power On Reset Threshold Voltage (V_{POR})			3.6		V
Power On Reset Hysteresis (V_{HYST})				± 0.6	V

Electrical Characteristics (Continued)

Over-Voltage Section

Parameter	Conditions	MIN	TYP	MAX	Unit
Over-Voltage Threshold	VS33	3.7	3.9	4.1	V
	VS5	5.7	6.1	6.5	V
	VS12	13.2	13.8	14.4	V

Under-Voltage Section

Parameter	Conditions	MIN	TYP	MAX	Unit
Under-Voltage Threshold	VS33	2.0	2.2	2.4	V
	VS5	3.3	3.5	3.7	V
	VS12	8.5	9.0	9.5	V

PSON/, Analog Input

Parameter	Conditions	MIN	TYP	MAX	Unit
Threshold Voltage		0.9	1.2	1.5	V
Hysteresis (V_{HYST})			±50		mV

PGL, Analog Input

Parameter	Conditions	MIN	TYP	MAX	Unit
Threshold Voltage for start T_{d1}		1.16	1.25	1.33	V
Threshold Voltage for start T_{d2}		0.60	0.63	0.75	V
Threshold Voltage for mask OC,UV		1.05	1.13	1.21	V
Hysteresis (V_{HYST})*			±50		mV

* All of the comparator for PGL input in block diagram.

PGL, Open Drain Digital Output

Parameter	Conditions	MIN	TYP	MAX	Unit
Leakage Current (I_{LKG})	$V_{PGL}=5V$			5	uA
Low Level Output Voltage (V_{OL})	$I_{SINK}=10mA$			0.4	V

Electrical Characteristics (Continued)

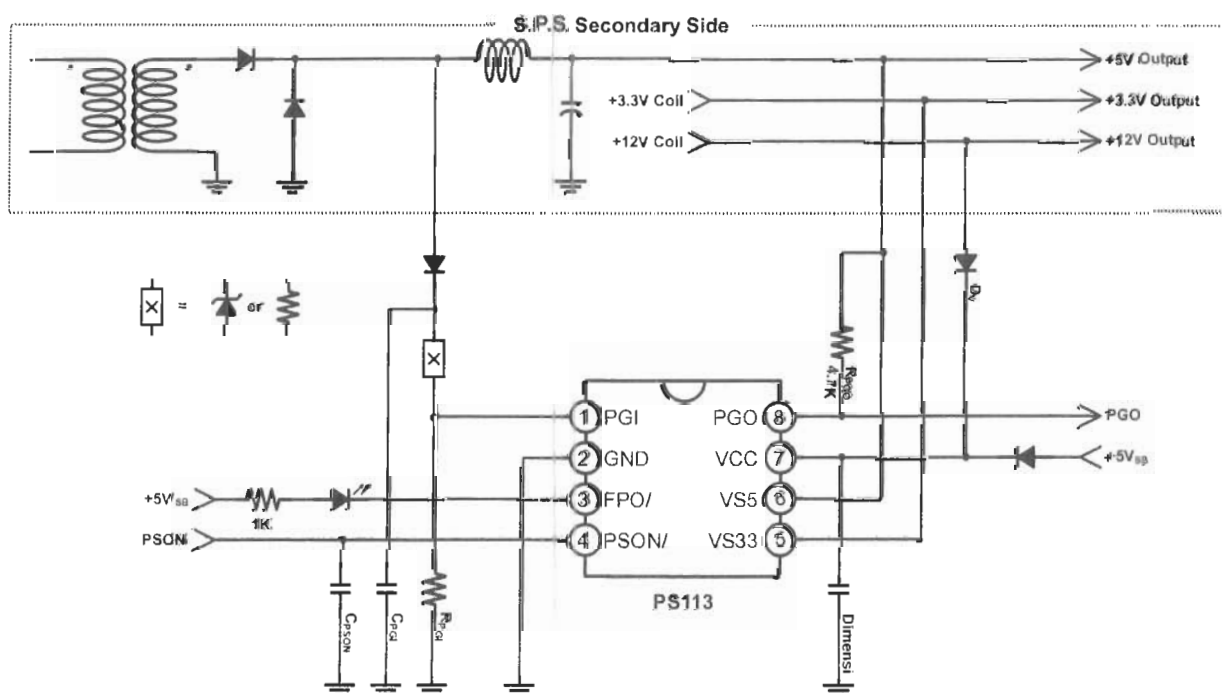
FPO/, Open Drain Digital Output

Parameter	Conditions	MIN	TYP	MAX	Unit
Leakage Current (I_{LKG})	$V_{FPO/}=5V$			5	μA
Low Level Output Voltage (V_{OL})	$I_{SINK}=10mA$			0.3	V
	$I_{SINK}=30mA$			0.7	V

Switching Characteristics, $V_{CC}=5V$, $T_a = 25^\circ C$.

Parameter	Conditions	MIN	TYP	MAX	Unit
PGI to PGO Delay Time (T_{d1})		200	300	480	mS
Short Circuit Delay Time (T_{d2})		49	75	100	mS
PGO to FPO/ Delay Time (T_{d3})		2	4	6	mS
PSON/ De-bounce Time (T_{b1})		24	38	50	mS
Noise De-glitch Time (T_{b2})		47	73	120	μS

Application



Note1: Zener diode or resistor or both of them can be used in componer;! X.

Note2: The bypass capacitor C_{by} suggests to be 0.1 μF ~ 10 μF and layout nearby pin VCC.



PS113

3-Channel Secondary Monitoring IC

General Description

PS113 is specially designed for switching power supply system. Three important functions of PS113 are the following: over-voltage protection, short circuit protection and power good signal generating.

OVP (Over Voltage Protection) monitors 5V, 12V and 3.3V to protect our power supply and PC, when one of these supply voltages exceeds their normal operation voltage.

Short circuit protection is done by UVP (Under Voltage Protection). When power supply is in short circuit, the supply voltages will be much smaller than their normal operation voltages. We can use UVP to monitor our power supply whether it is in the dangerous power load.

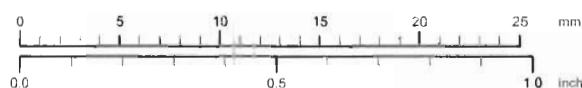
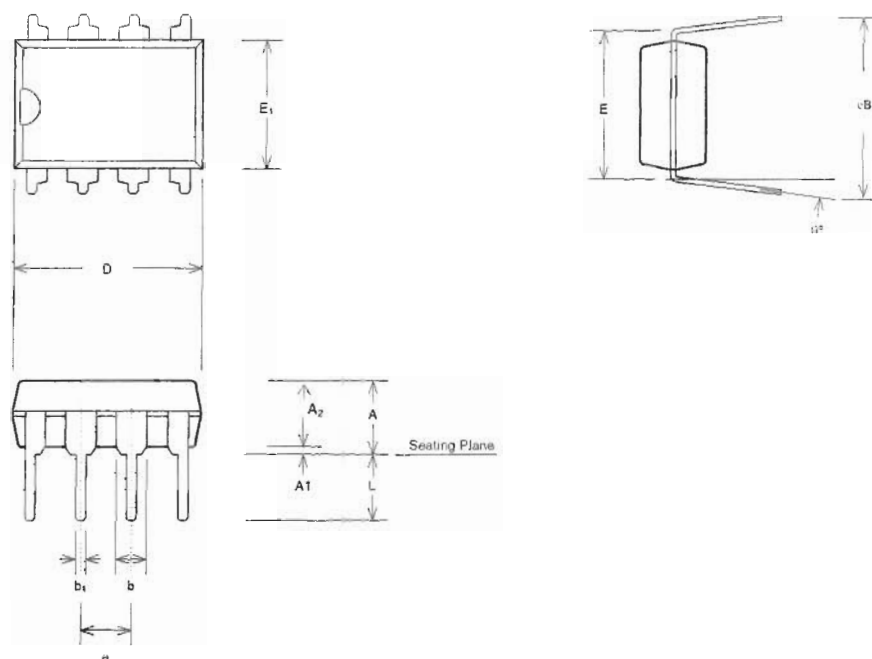
Power good signal generating notifies personal computer when power supply is ready or power supply is going to shutdown, therefore it can provide a reliable power supply environment.

Features

- Over voltage protection and lock out
- Short circuit protection and lock out
- Fault protection output with open drain output stage
- Open drain power good output signal for power good input
- Built-in 300ms power good delay
- 75ms delay for short-circuit turn on protection
- 38ms PSON control de-bounce
- 73us de-bounce for noise immunity
- Wide power supply range from 4V to 16V
- Pin to pin compatible with TPS3510
- Special care for AC power off
- Additional 12V UVP protection

Package Specification

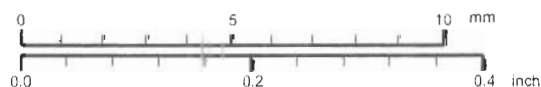
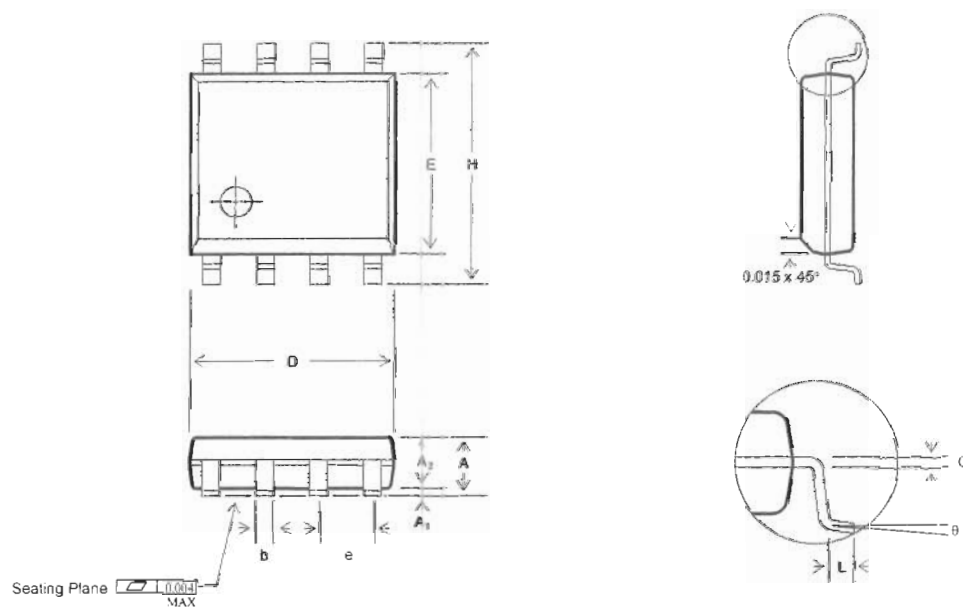
(8-pin DIP)



Symbol	Dimension in mm			Dimension in inch			NOTE
	Min	Normal	Max	Min	Normal	Max	
A			5.334			0.210	
A ₁	0.381			0.015			
A ₂	3.175	3.302	3.429	0.125	0.13	0.135	
b		1.524			0.06		
b ₁		0.457			0.018		
D	9.017	9.271	10.160	0.355	0.365	0.4	
E	7.366	7.620	7.874	0.290	0.300	0.310	
E ₁	6.223	6.376	6.528	0.245	0.251	0.257	
e		2.540			0.100		
eB	8.509	9.017	9.525	0.335	0.355	0.375	
L	2.921	3.302	3.810	0.115	0.13	0.150	
θ°	0	7	15	0	7	15	

Package Specification (Continued)

(8-pin SOP)



Symbol	Dimension in mm			Dimension in inch			NOTE
	Min	Normal	Max	Min	Normal	Max	
A	1.346		1.753	0.053		0.069	
A ₁	0.102		0.254	0.004		0.010	
A ₂	1.346		1.499	0.053		0.059	
b		0.406			0.016		
c		0.203			0.008		
D	4.801		4.978	0.189		0.196	
E	3.810		3.968	0.150		0.157	
e		1.270			0.050		
H	5.791		6.198	0.228		0.244	
L	0.406		1.270	0.016		0.050	
θ°	0		8	0		8	

The products listed herein are designed for ordinary electronic applications, such as electrical appliances, audio-visual equipment, communications devices and so on. Hence, it is advisable that the devices should not be used in medical instruments, surgical implants, aerospace machinery, nuclear power control systems, disaster/crime-prevention equipment and the like. Misusing those products may directly or indirectly endanger human life, or cause injury and property loss.

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COMPONENT APPROVAL REPORT IC

- | | | |
|--|--|--|
| ☐ Comparator | ☐ Voltage Regulator | ☒ Monitoring |
| ☐ OPA | ☐ Current Sense | |
| ☐ PWM Control | ☐ Voltage Detector | |
| ☐ Shunt Regulator | ☐ PWM + MOS | |

I. COMPONENT INFORMATION

Part Name	ASIC IC (SMD)	Part Number	150-541+0113
Supplier	SITI, GOLD CAPITAL	Model	TN10-0320-01, TN11-0601-01
Rating	PS113,SO-8,RoHS		
Date	2011-12-01		

II. VISUAL INSPECTION

Approval Sample	Actual Sample (If any)
Dimension & Appearance: Dimension : Ok (Refer to attachment B) Appearance: Ok (Refer to attachment C)	Dimension & Appearance: N/A
Body Marking: Refer to attachment C PS113 A10833A1F	Body Marking: N/A
Series / Package: SO-8	Series / Package: N/A
Manufacturer Part Number: PS113-SOP8	Manufacturer Part Number: N/A

III. TESTING

Electrical Test
N/A
Others:
N/A

IV. REMARK

Remark:
N/A

V. RoHS REPORT

☒ Comply with RoHS Directive 2002/95/EC

☐ Expired

Prepared By,

VI. RESULT

☒ Fully Approved

☐ Conditional Approved

☐ Reject

NorLaila



COMPONENT APPROVAL REPORT IC

Part Number : 150-541+0113

Supplier : SITI, GOLD CAPITAL

Suitable for model : TN10-0320-01, TN11-0601-01

Date :

Dimension: OK

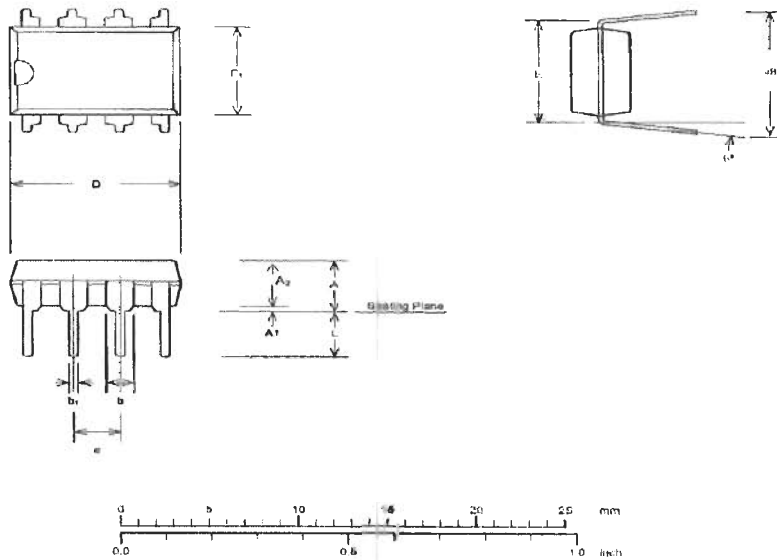


矽品科技股份有限公司
Silicon Touch Technology Inc.

PS113

Package Specification

(8-pin DIP)



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E	7.366	7.620	7.874	0.290	0.300	0.310	
E ₂	8.223	8.378	8.628	0.324	0.331	0.340	
e		2.540			0.100		
eB	8.609	9.017	9.826	0.339	0.355	0.375	
L	2.021	3.302	3.810	0.079	0.13	0.150	
0"	0	7	18	0	7	18	

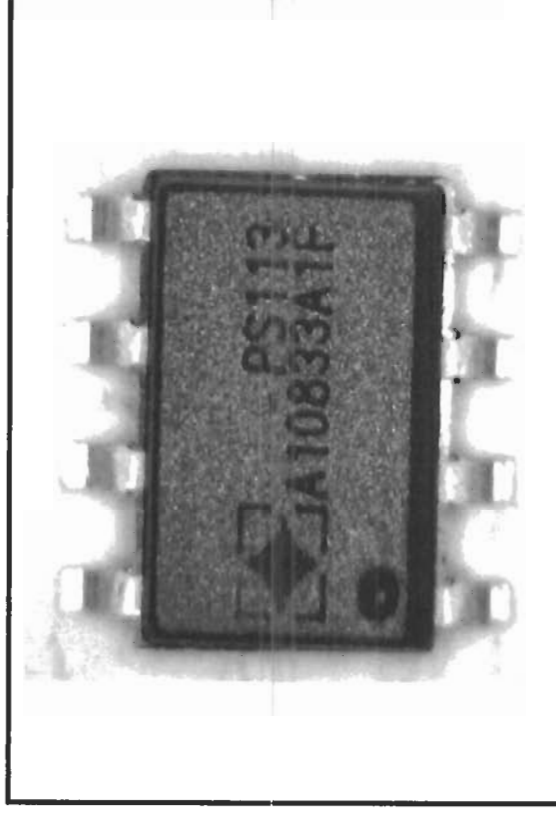
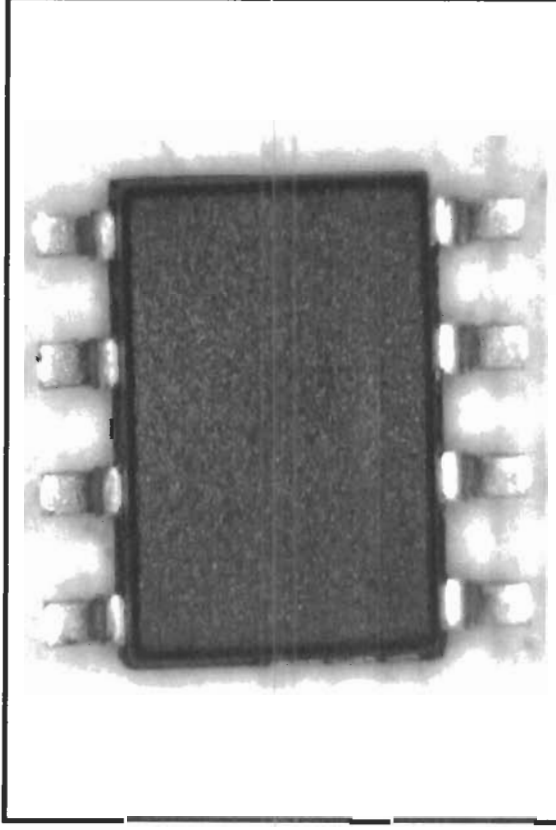
**COMPONENT APPROVAL REPORT
IC**

Part Number : 150-541+0113

Supplier : SITI, GOLD CAPITAL

Suitable for model : TN10-0320-01, TN11-0601-01

Date :

Appearance: OK**Body marking: PS113, A10833A1F**



Part Number :150-154+0113
Rating : PS113, 80-8, 2048
Supplier: SERIAL/AVNET, WPG

SMART INDUSTRIES SDN.BHD
IC Comparator Check List

Qty : 4pcs

Page 1 of 1

No	Item	Specs	Actual	Judgement	Remark
1.0	Solderability of Surface Finish results				
1.1	Coverage (solderability)	>95% coverage	95% cover fill	Pass	Actual Check
2.0	Insert Test				
2.1	Fitting test with unit sample	Meet application	Meet application	Pass	Actual Check
2.2	Body Marking			Pass	Actual Check

Prepare By:RAMANI
Dated :2011-12-01