

NO: [FJOS1804108](#)客 户: **F14217AA0216**

CUSTOMER _____

承 认 书

SPECIFICATION FOR APPROVAL

客户料号: EP-PS12V5A60WFJ

CUSTOMER PART NO _____

福佳型号: **FJ-SW20171205000 (2017)**

FUJIA PART NO _____

品名规格: **12V 5000mA 开关电源**

DESCRIPTION _____

编制日期: **2018-04-23(C14 过六级 过 REACH+6P)**

DATE _____



制造商 MANUFACTURE			客户承认 CUSOMER APPROVER
设计 DESIGN	审核 CHECKED	批准 APPROVED	
蒋红艳			
			请客户确认回传我司存档, 谢谢

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1 概述 /SCOPE

本规格书适合于 [FJ-SW20171205000](#) 认证型号的开关电源。

The purpose of the document is to the specify the functional requirements of [FJ-SW20171205000](#) switching power supply.

2. 输入特性/ INPUT CHARACTERISTICS:

2.1 输入电压/ Input Voltage

额定输入电压/ Rated Input Voltage: 100-240Vac

可变输入电压/Variable input voltage : 90V—264Vac

2.2 输入电流/Input Current:

当输入额定电压带额定负载时，最大的输入交流电流 [1.5A](#)

[1.5A](#) max when input rated voltage and output rated load.

2.3 输入频率/ Input Frequency

额定频率/Rate Frequency:50/60Hz

调整频率/ Variation Frequency: 47-63Hz

2.4 浪涌电流/In-rush Current:

当输出为额定负载，环境温度为 25℃,输入 240Vac 冷启动时的最大浪涌电流为 60A。

60 A mps Max Cold start at 240Vac input ,with rated load and 25℃ ambient.

2.5 AC 漏电流/ AC leakage Current:

当输入电压 240Vac 时，最大的漏电流为 3.5mA

[3.5mA](#) Max .At 240Vac input

3. 输出特性/OUTPUT CHARACTERISTICS:

3.1 额定输出功率/Rated Output Power [60W](#)

3.2 负载特性/调整率 (Combined Load/line Regulation)

电压	最小负载	最大负载	满载输出电压	空载输出电压
Voltage	Min. Load	Max Load	Load Regulation	Unload output voltage
+12V	0A	5A	11.4-12.6V	11.4-12.6V

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3.3 效率/Efficiency:

6 级平均工作效率 $\geq 88\%$

当输入 115VAC 时, 平均效率 $\geq 88\%$ 。是输出额定负载的 25%,50%,75%,100%4 种情况下平均效率,
115VAC input, the average efficiency $\geq 88\%$ 。 output rated load is 25%,50%,75%,100% 4 situations of average efficiency

当输入 230VAC 时, 平均效率 $\geq 88\%$ 。是输出额定负载的 25%,50%,75%,100%4 种情况下平均效率,
230VAC input, the average efficiency $\geq 88\%$ 。 output rated load is 25%,50%,75%,100% 4 situations of average efficiency

3.4 空载待机功率/Unload standby Power: 0.21W Max

3.5 纹波和噪音/ Ripple And Noise

纹波与噪声: 量测时示波器选用 20MHz 带宽限制,输出端要并联一颗 0.1uF 的陶瓷电容和一颗 47uF 的电解电容。(在额定输入及输出的条件下检测)

Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 47uF electrolysis capacitor. (test under the condition of rated input and rated output)

电压	电流	最大纹波最大噪音
Voltage	current	Ripple And Noise(Max)
<u>+12V</u>	<u>5000mA</u>	120m Vp-p

3.6 启动延迟时间/ Turn On Delay Time:

当输入 100Vac 和输出最大负载时, 最大启动时间为 5S
5 second Max .At 100Vac input and output Max. Load

3.7 上升时间/ Rise Time:

当输入 100Vac 和输出最大负载时最大时间为 100ms
100ms Max. At 100Vac input and output Max. Load

3.8 保持时间/Hold Up Time :

当输入 100Vac 和输出最大负载时, 最小保持时间为 5ms
5ms Min.at100Vac input and output Max .Load.

3.9 过充/ Overshoot:

在电源开启或关闭的时候, 最大 10%
10% Max. When power supply on or turn off.

4. 保护功能/ PROTECTION FUNCTION:

4.1 短路电路保护/Short circuit protection:

电源供给器在短路解除后能正常恢复工作。

The Power Supply will be auto recovered when short circuit faults remove.

4.2 过流保护/ Over current Protection:

过流点限制/Over Current Point Limited:是额定电流的 5.5A-10A(input:110-230Vac)
当过电流时,输出将进入打嗝模式,当过流情况解除后,产品将会自动恢复正常

The output shall hiccup when the over currents applied to the output t rail, and shall be self-recovery when the fault condition is removed

5. 环境要求/ENVIRONMENTAL REQUIREMENTS

5.1 工作温度/Operating Temperature

0°C -- +45°C,满载, 正常工作。

0°C to +45°C ,Full Load, Normal Operation.

5.2 储存温度/Storage temperature

带外壳 :-10°C -- +85°C

With enclosure:-10°C to+85°C

5.3 工作湿度/Relative Humidity:

5%(0°C)~90%(40°C),72 小时, 满载, 正常工作。

5%(0°C)~90%(40°C) 72h Full Load , Normal operating.

5.4 振动/ Vibration:

5.4.1 测试标准: 国际电工电子委员会

Operating: IEC 721-3-3 3M3

5~9Hz,A=1.5mm

加速度 (9~200Hz,Acceleration 5m/s)

5.4.2. 运输 (Transportation) :

IEC 721-3-2 2M2

5~9Hz, A=3.5mm

9~200Hz ,加速度 Acceleration=5 m/s²

200~500Hz ,加速度 acceleration=15 m/s²

5.4.3. 轴向振动/ Axes,10 cycles per axis :

在测试过程中不能出现永久性损坏.

No permanent damage occur during testing.

在电源开启和关闭后, 样机能够恢复到最初条件。

The product has to restore to its original situation after power off/on

6. 机械特性/ MECHANICAL CHARACTERISTICS

6.1 摇摆实验/Cable Flexing Testing

DC 引线吊重 200 克, 摇摆角 60 度, 最少能承受 1000 次, 弯曲速度每分 40 次, 不会出现损伤。

The DC cord shall with weight of 200g,it swings at angle 60 deg ,1000cycle

Time min Bending speed: 40cycle per minute shall to be no breakage to the code

7. 安全标准 SAFETY STANDARD

7.1 安全:符合标准 IEC60950,EN60950, UL60950,GB4943。

Safety Accord with IEC60950, EN60950, UL60950,GB4943。

注: 相应的 AC 插脚对应相应国家的标准, 如 CE 即对应为 EN60950,1500Vac。

Note :AC pins corrspondng corresponding corrsponding to national standards,such as the CE that corresponds to EN60950 ;1500Vac。

7.2 高压/ DIELECTRIC STRENGTH Hi-Pot

初级对次级/ Primary to secondary, 1500Vac/5mA/60s.

7.3 绝缘阻抗/ Insulation resistance:

初级对次级/ Primary to secondary :10M Ω Min at 500V DC

8. EMC 标准/EMC STANDARD

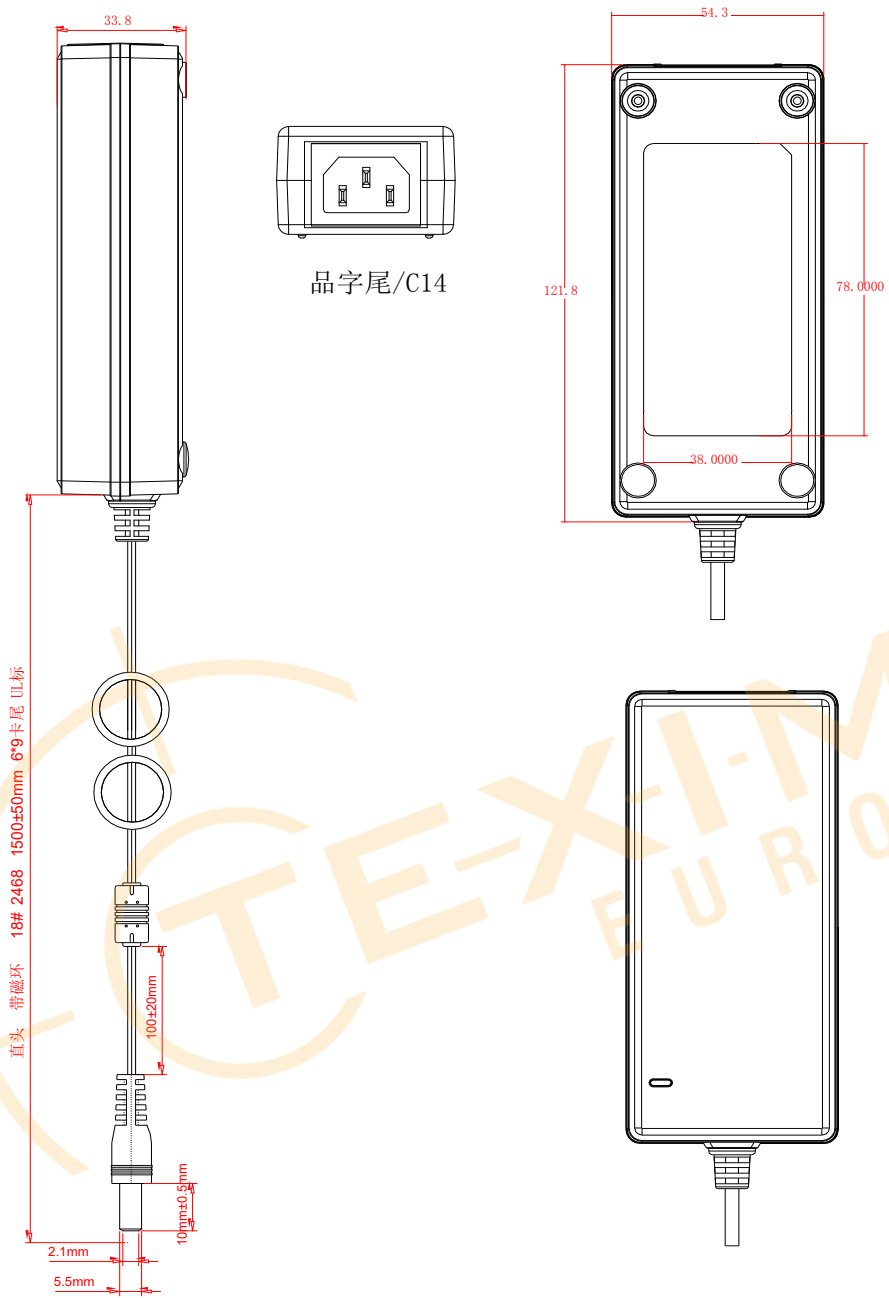
EMC---EN55032+55024

9. 体积/VOLUME: L×W×H

长 121.8mm ×宽 54.3mm×高 33.8mm

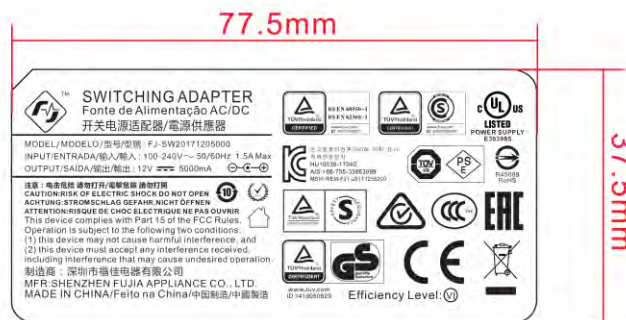
10. 重量/ Weight : 205g ±20g

11 外观图/OUTLOOK DRAWING (公差/Common difference: +/-0.5mm)

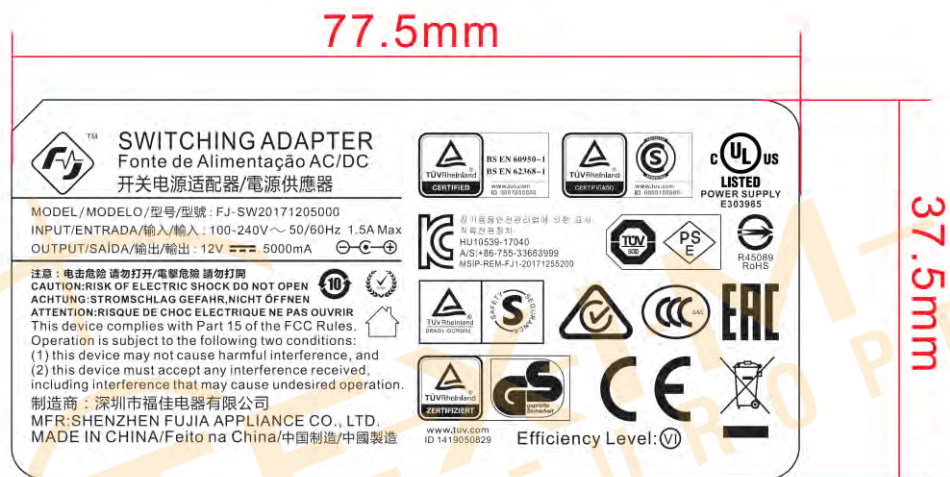


注：线材、外壳过 REACH+6P

12. 铭牌/LABEL:



比例/Scale: 1:1



比例/Scale: 1.5:1

注:

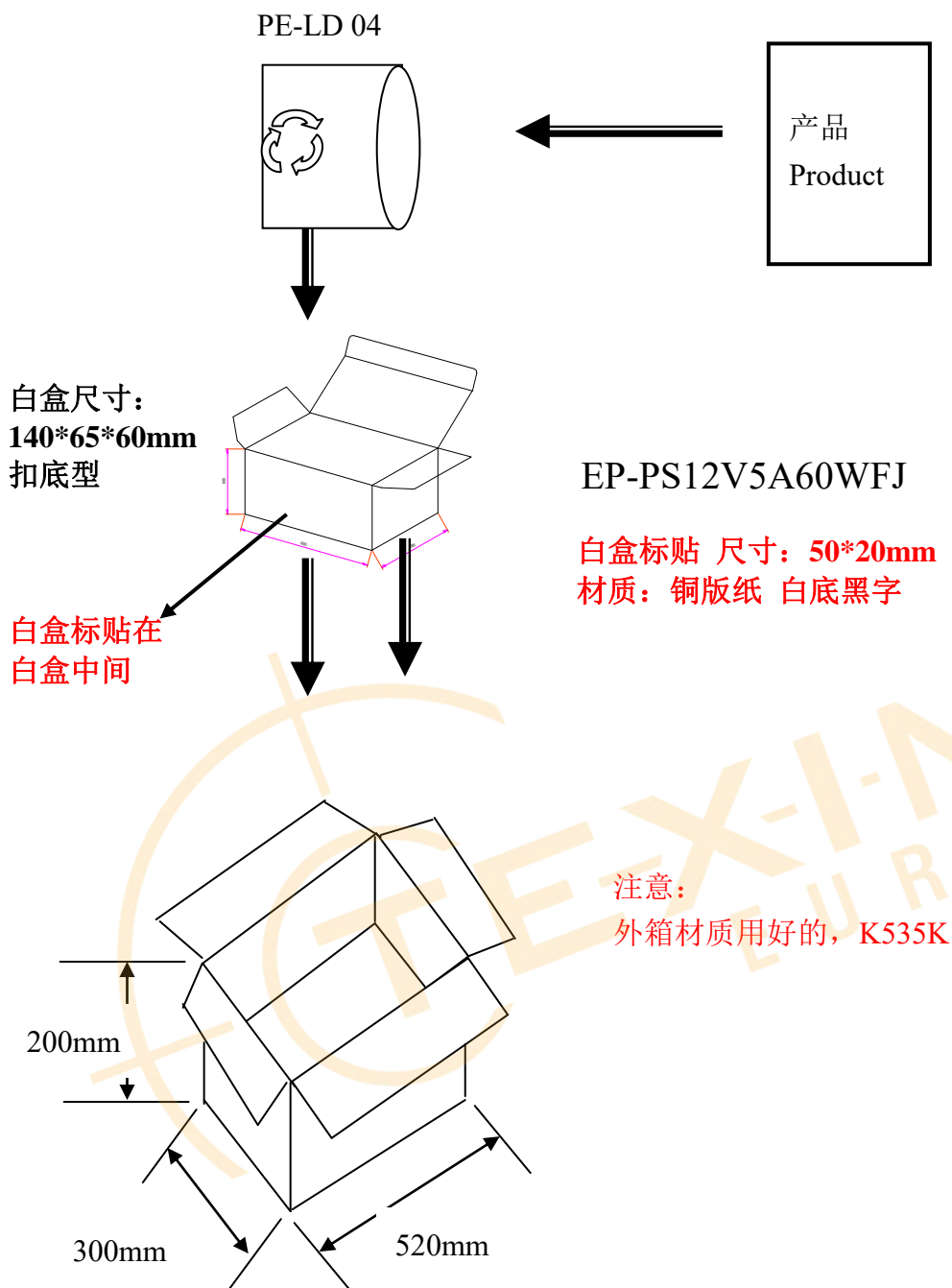
2. "CE"标志, 最低高度为5MM
3. "WEEE"垃圾桶标志, 最低高度为7MM
4. GS ID:1419050829

备注/Note:

1. 材料/Material: PVC 环保/ ROHS. 过REACH+6P
2. 印刷/Printing: 黑底白字/ black ground White character
3. 尺寸/Size:(W)37.5+/-0.2mm(H)77.5+/-0.2mm
4. 厚度/Thickness:0.15mm

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13 包装图示 PACKING



备注/NOTE:

1. 每箱装 48 个，分 3 层，材质 K=K
48PCS Per carton, Divided into 3floor.
Material K=K
2. PE 袋尺寸：205X140MM 带环保标志。
PE bag size: 205X140MM , With the
environmental protection symbol.

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外箱唛头：（印正唛 2 面）

ITEM:EP-PS12V5A60WFJ （业务提供：随生产订单变化而变化）

QTY: 48 PCS

N.W.: KG (请生产时用大头笔填写)

G.W.: KG (请生产时用大头笔填写)

P/O: PON1700336 (业务提供：随生产订单变化而变化)

Carton: (比如1/28 表示第一箱，如此类推，请生产时用大头笔填写)

MEAS: 52*30*20CM

Made in China



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14 样品测试报告SAPLES TEST REPORT

客户 Customer	F14217AA0216	客户编号 Customer No	FJOS1804108	室温 Ambient temp	25℃						
产品型号 Model NO	2017	产品编号 Part No		日期 Date	4月23日						
输入电压/频率 Input volt/Freq	100-240Vac 50/60HZ		输出电压/电流 Output volt/Amp	12V 5A							
测试内容 Test content		1#样品/Sample NO:		2#样品/Sample NO:		判定 Judge PASS or NG					
NO	测试项目 Test Item	测试标准 spec	115Vac	230Vac	115Vac	230Vac					
1	空载电压 Unload voltage	11.4-12.6V	12.32	12.33	12.26	12.26	PASS				
2	空载纹波与噪声 UnLoad ripple&noise	≤120mV P-P	44	40	48	38	PASS				
3	满载电压 Rated Load output Voltage	11.4-12.6V	11.98	11.98	11.92	11.92	PASS				
4	满载纹波&噪声 Rated load ripple&noise	≤120mV P-P	36	32	34	26	PASS				
5	额定输入电流 Rated input current	≤1500mA	1005	558	1008	535	PASS				
6	短路保护 Shortcircuit protection	No damage and auto recovered OK/NG	OK	OK	OK	OK	PASS				
7	过流保护 Over current protection	5.5A-10A	7.30	7.10	7.25	7.12	PASS				
8	介电强度测试 Hi-Pot test	AC1.5KV 60S	<5mA	泄漏电流/Leakage current (2.205 mA) ; 绝缘击穿/insulation breakdown: ■OK □NG			PASS				
9	绝缘阻抗测试 Insulation resistance	DC500V 5S	>10MΩ	绝缘阻抗/insulation resistance (197 MΩ) ; 绝缘击穿/insulation breakdown: ■OK □NG			PASS				
10	输入/Input		输出/Output				能源之星/Energy star				
	电压 Voltage	功率 Pin(W)	负载% Load%	电压 Vout(V)	电流 Iout(A)	功率 Watt(W)	效率 EFF(%)	平均效率 average EFF(%)	能效标准 VI SPEC	空载功耗 Standby Power(W)	
	115Vac	68.58	100%	11.98	5	59.900	87.343	89.094	平均效率 AVG EFF ≥88% 空载功耗 Standby Power <0.21W	0.08	PASS
		51.01	75%	12.06	3.75	45.225	88.659				
		33.87	50%	12.15	2.5	30.375	89.681				
		16.87	25%	12.24	1.25	15.300	90.694				
	230Vac	67.77	100%	11.98	5	59.900	88.387	89.572	0.15	PASS	
		50.38	75%	12.06	3.75	45.225	89.768				
		33.76	50%	12.15	2.5	30.375	89.973				
		16.97	25%	12.24	1.25	15.300	90.159				
11	100V/240V输入时满载开关机测试 Turn on/off test when rated load and input 100V/240Vac	10 times	正常开机 Normal turn on : ■OK □NG				PASS				
12	115-240V 满载老化/Rated load burn-in test at 115V-240Vac	≥4 hours	无损坏No damage : ■OK □NG				PASS				
测试/TESTED BY		钟江		核准/CHECKED BY		批准/APPROVAL BY					

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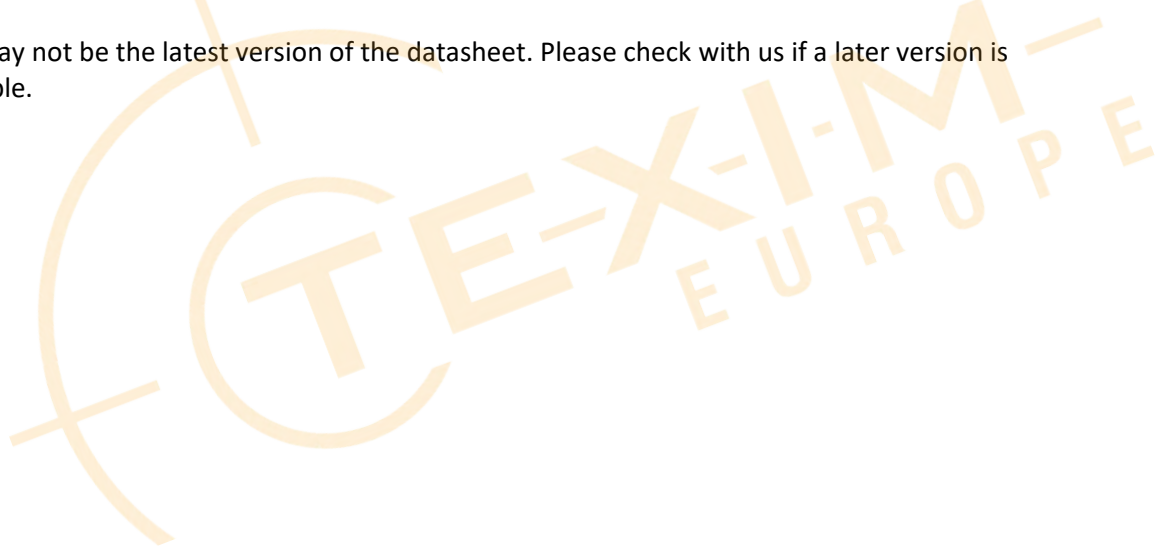
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Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time.

All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts.

Please contact us if you have any questions about the contents of the datasheet.

This may not be the latest version of the datasheet. Please check with us if a later version is available.





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