

# SPECIFICATION

Customer : compel

Applied To :

Product Name : Piezo Transducer

受 控

Model Name : SPT-G1210A-K9369




Drawing No. : OEM9369R

Compliance with ROHS(本品符合ROHS指令)

Signature of Approval

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Signature of KEPO

Approved by	Checked by	Issued by	Date
			

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## 1. Scope

This product specification is applied to the piezoelectric sounder in alarm systems. Please contact us when using this product for any other applications than described in the above.

本规格书适用于压电式声响器，通常它用在系统中做报警或提示的声响器用，如果将该产品用于其它领域，请与我们联系。

## 2. General

2.1 Out-Diameter: 12x12 mm

外径: 12x12 mm

2.2 Height : 3.0 mm

高度: 3.0 mm

2.3 Weight: 0.7 g

重量: 0.7克

2.4 Operating Temperature range:

-40~+85°C without loss of function

工作温度: -40~+85°C

2.5 Store Temperature range:

-40~+85°C without loss of function

储藏温度: -40~+85°C

## 3. Electrical and Acoustic Characteristics.

Test condition : 15 ~ 35 °C , 25% ~ 85% RH , 860~1060 mbar

测试条件: 15~35 °C , 25%~85%RH , 860~1060mbar

	Items 项目	Specification 规格
1	Rated Voltage 额定电压	3Vp-p Square Wave
2	Max.Allowable Voltage 最大输入电压	30Vp-p Square Wave
3	Rated Frequency 额定频率	4.0KHz
4	Min.Sound Pressure Level 额定声压	75dB at 4.0KHz/3Vp-p Square Wave/10cm
5	Capacitance at 100Hz 电容量(at 100Hz)	16000pF± 30%
6	Case Material/Color 壳体材质/颜色	LCP (BLACK)

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## 4. Reliability Test

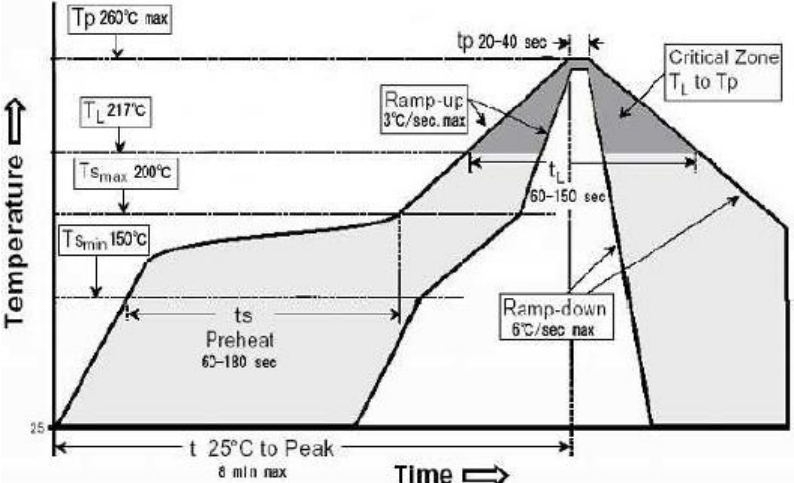
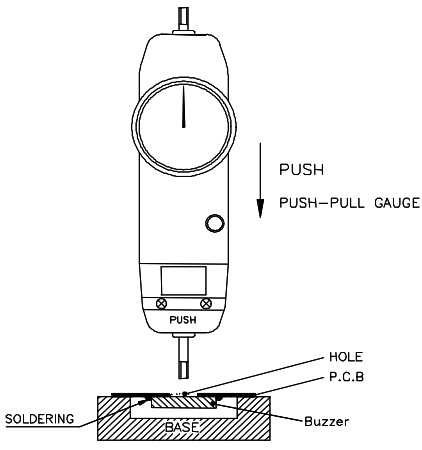
After test(1~10item), the transducer S.P.L . difference shall be within  $\pm 10\text{dB}$ , and the appearance not exist any change to be harmful to normal operation(e.g. cracks,rusts,damages and especially distortion).

在1-10项试验后，声响器的声压变化值在 $\pm 10\text{dB}$ 之内，外观无变化（例如：无开裂、生锈、损伤、变形等现象）。

	Item	Specification
1	High Temperature Test 高温试验	After being placed in a chamber with $+85\pm 2\text{ }^\circ\text{C}$ for 240h and then being placed in natural condition for 4h, sounder shall be measured. 将产品置于 $+85\pm 2\text{ }^\circ\text{C}$ 试验箱内放置240小时，然后在正常大气压条件下恢复4小时后，进行测量
2	Low Temperature Test 低温试验	First being placed in a chamber with $-40\pm 2\text{ }^\circ\text{C}$ for 240h, then being placed in natural condition for 4h, sounder shall be measured. 将产品置于 $-40\pm 2\text{ }^\circ\text{C}$ 试验箱240小时，然后在正常大气压条件下恢复4小时后，进行测量
3	Humidity Test 潮湿试验	After being placed in a chamber with 90 to 95%R.H. at $+60\pm 2\text{ }^\circ\text{C}$ for 240 h and then being placed in natural condition for 4 h , sounder shall be measured. 将产品置于湿度为 90-95%R.H，温度为 $60\pm 2\text{ }^\circ\text{C}$ 试验箱中 240小时，然后在正常大气压条件下恢复4小时后，进行测量
4	Thermal Shock Test 热冲击试验	After being placed in a chamber at $-40\pm 2\text{ }^\circ\text{C}$ for 30 minutes, sounder shall be placed at room temperature( $+20\text{ }^\circ\text{C}$ ).After 2-3 minutes at this temperature ,sounder shall be placed in a chamber at $+85\pm 2\text{ }^\circ\text{C}$ . After 30 minutes at this temperature, sounder shall be returned to $-40\text{ }^\circ\text{C}$ again. After 240 above cycles, sounder shall be measured after being placed in natural condition for 4 hours. 先放置于温度 $-40\pm 2\text{ }^\circ\text{C}$ 的制冷箱内30分钟，然后放置于室温 ( $+20\text{ }^\circ\text{C}$ )2-3分钟后，放置于 $+85\pm 2\text{ }^\circ\text{C}$ 的烘箱内30分钟.经过以上循环240次,在常温下放置4小时后，测试声响器。
5	Drop Test 跌落试验	75cm高度/2回自然落到亚麻布垫上。 free fall from 75cm with 2 times.
6	Vibration Resistance 振动试验	Sounder shall be measured after being applied vibration of amplitude of 1.5mm with 10 to 55Hz band of vibration frequency to each of 3 perpendicular directions for 2 hour. 振幅为1.5mm，频率为10-55Hz，三个不同轴方向各振动2小时，试验后进行测量。

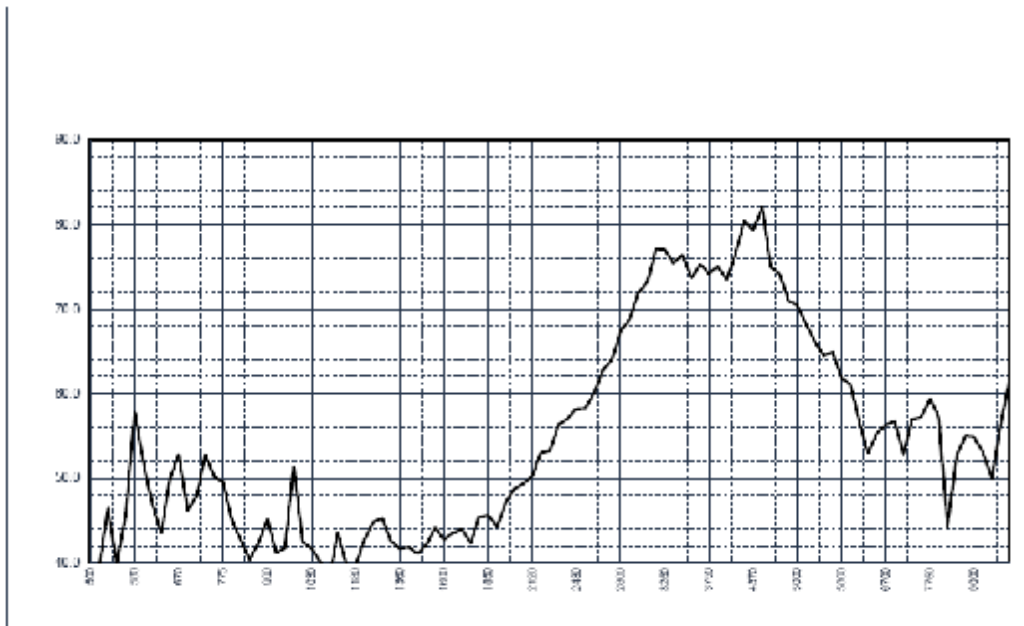
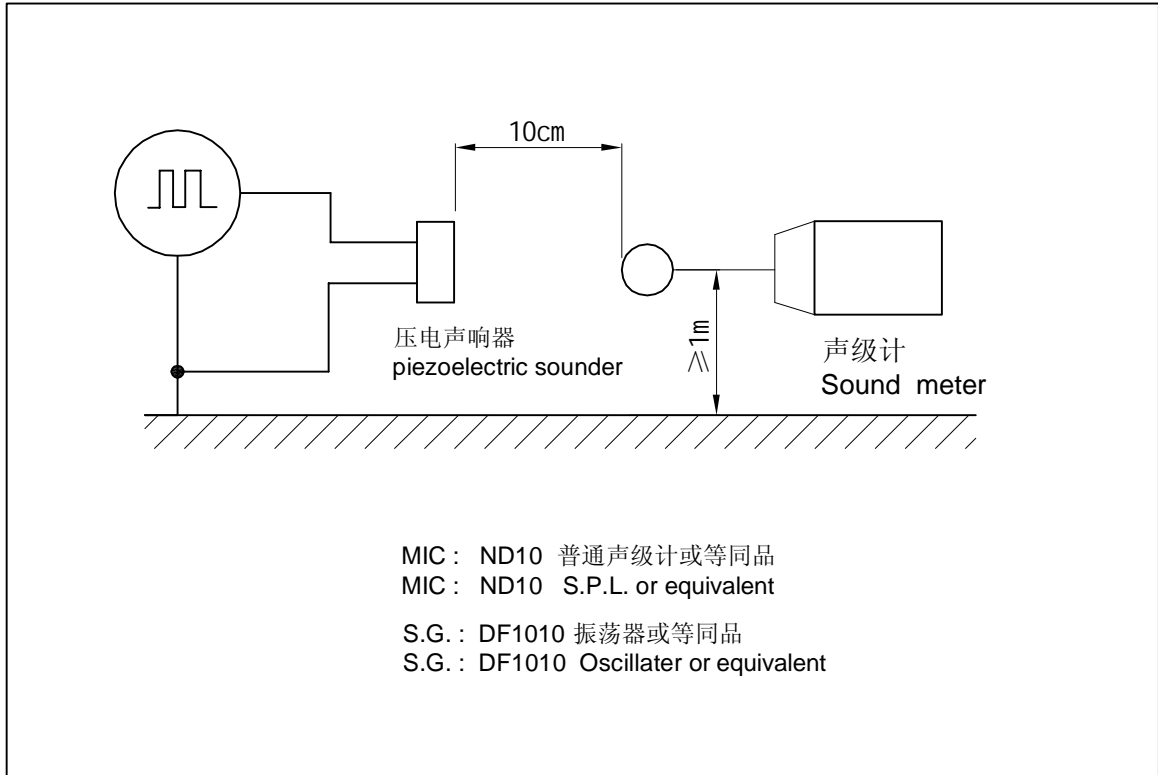
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#### 4. Reliability Test

	Item	Specification
7	耐焊接性 Soldering Heat Resistance	Lead terminal are immersed up to 1.5mm from sounder's body in solder bath of $360 \pm 5^\circ\text{C}$ for $3 \pm 0.5$ seconds , and then sounder shall be measured after being placed in natural condition for 1 hours. 将声响器的焊片插入(插至距声响器壳体 1.5mm 处为止) $360 \pm 5^\circ\text{C}$ 的焊锡槽 $3 \pm 0.5$ 秒, 然后在常温中放置 1 小时后, 测试声响器.
8	可焊性试验 Solderability	Lead terminals are immersed in rosin for 5 seconds and the immersed in solder bath of $+245 \pm 5^\circ\text{C}$ for $3 \pm 0.5$ seconds. 焊片浸入松香 5 秒, 然后再浸入 $+245 \pm 5^\circ\text{C}$ 的锡炉中 $3 \pm 0.5$ 秒, 插针表面应覆盖一层光滑明亮的焊料.
9	Reflow Soldering 回流焊接	<p>Recommendable reflow soldering condition is as follows.</p> <p>Note 1; It is requested that reflow soldering should be executed after heat of product goes down to normal temperature.</p> <p>Note 2; Peak reflow temperature of <math>260^\circ\text{C}</math>, with a maximum duration of 60 sec. between <math>220^\circ\text{C}</math> and <math>260^\circ\text{C}</math></p>  <p>The graph shows a temperature profile over time. The y-axis is Temperature and the x-axis is Time. The profile starts at 25°C, rises to a preheat temperature <math>T_{Smin}</math> of <math>150^\circ\text{C}</math> (duration <math>t_s</math> Preheat 60-180 sec), then rises to a maximum temperature <math>T_{Smax}</math> of <math>200^\circ\text{C}</math>. It then ramps up at <math>3^\circ\text{C}/\text{sec. max}</math> to a peak temperature <math>T_p</math> of <math>260^\circ\text{C max}</math> (duration <math>t_p</math> 20-40 sec). The peak is within a 'Critical Zone' between <math>T_L</math> and <math>T_p</math>. The temperature then ramps down at <math>6^\circ\text{C}/\text{sec max}</math> to <math>T_L</math> (duration <math>t_L</math> 60-150 sec), and finally reaches a final temperature <math>T_L</math> of <math>217^\circ\text{C}</math>. The total time from <math>25^\circ\text{C}</math> to Peak is <math>t</math> 25°C to Peak 8 min max.</p>
10	Pad Test 焊片强度测试	<p>Pad Tensile Strength Test Condition, In the pad direction, push the buzzer for 10 sec. with tensile strength of 1.0kg, Refer to the following.</p> <p>用 1.0kg 强度, 垂直压蜂鸣器 10 秒, 如下图所示.</p>  <p>The diagram shows a buzzer being pushed against a pad on a P.C.B. The buzzer is labeled 'Buzzer' and is being pushed by a 'PUSH-PULL GAUGE'. The pad is labeled 'HOLE P.C.B.' and is soldered to a 'BASE'. The soldering is labeled 'SOLDERING'. Arrows indicate the 'PUSH' direction and the 'PUSH-PULL GAUGE' force.</p>

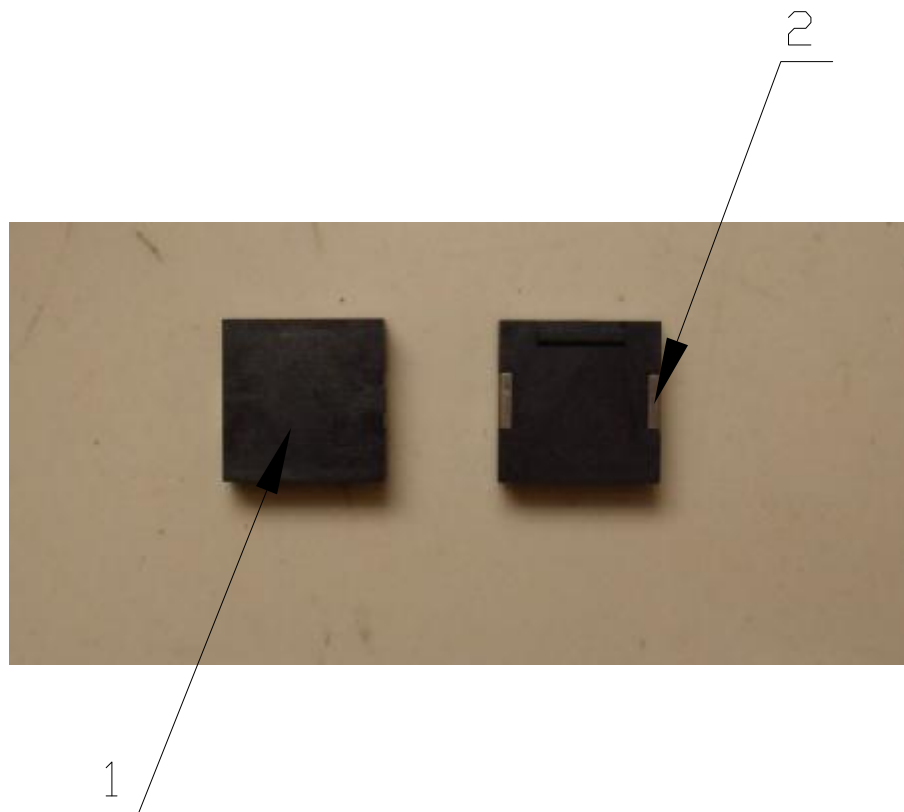
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## 5. Measurement Block Diagram & Response curve



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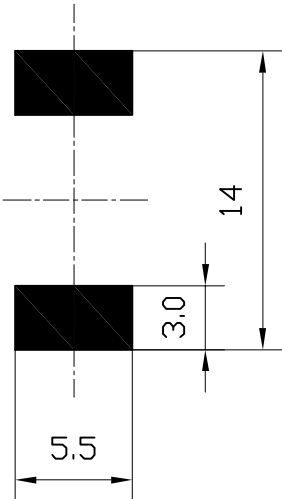
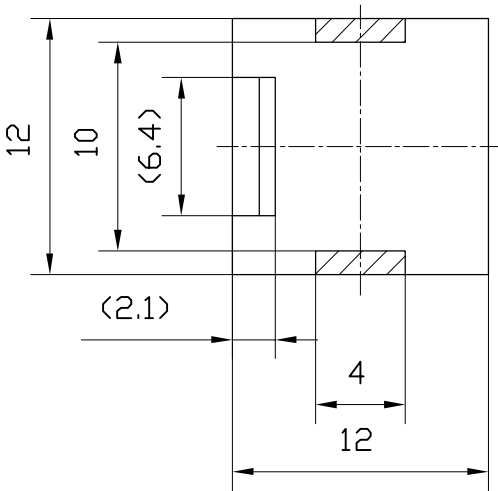
## 6. Structure



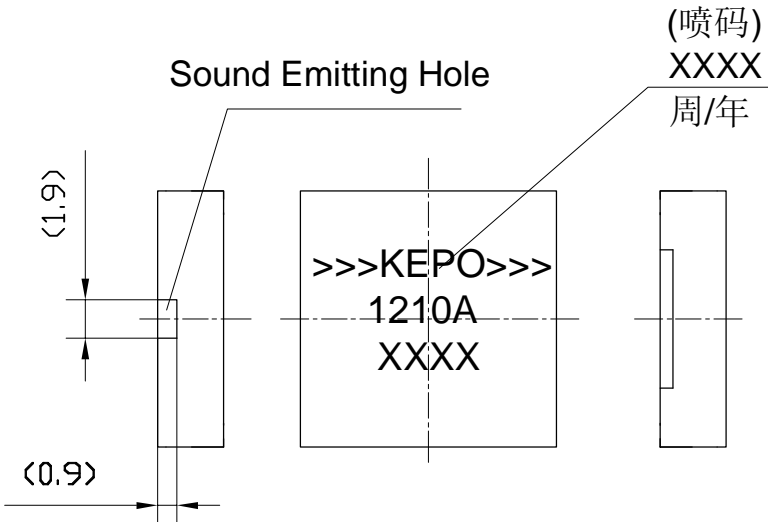
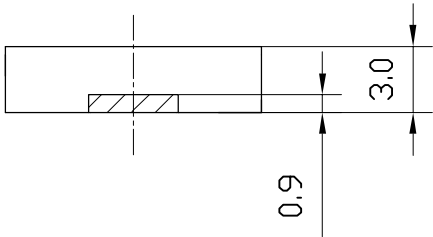
2	weld silce 焊片	2		
1	Case 壳体	1	LCP (BLACK)	
No.	Part Name 型号	Q'TY 数量	Material 材质	Remarks 备注

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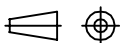
### 7. Dimensions



RECOMMENDED  
SMD FOOT PATTERN



FIRST ANGLE PROJECTION

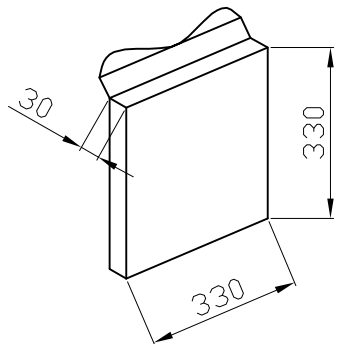
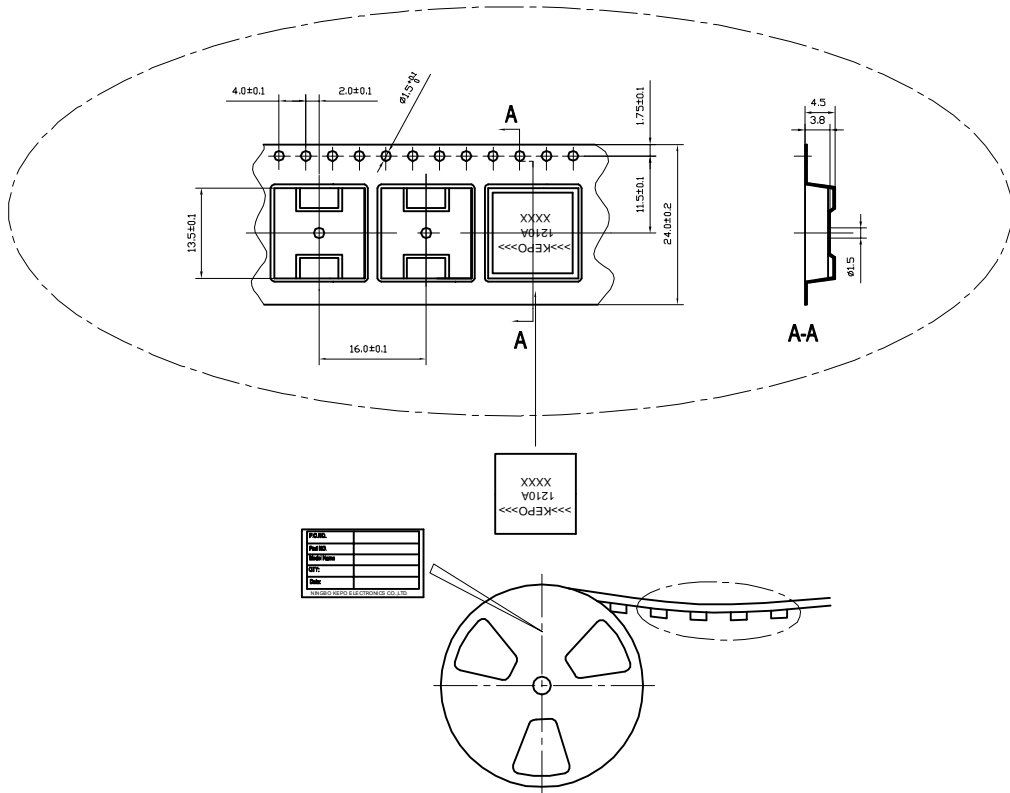


UNIT : mm  
Tolerance : ±0.2

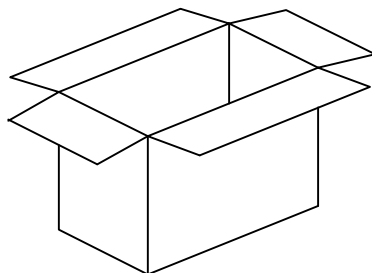


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## 8. Packing



QTY: 1000Pcs  
 SIZE: 330 x 30 x 330mm  
 N.W.: 0.6KG  
 G.W.: 0.95KG



QTY: 10000Pcs  
 SIZE: 350x450x350mm  
 N.W.: 6KG  
 G.W.: 10.5KG

注: QC PASS标贴和RoHS标贴和物料标贴都贴于内外箱包装

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## 9. Revision

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1.0	2012.11.12	/	primary	