



東莞嵩隆電子有限公司

Song Long Electronics (Dong Guan) Co., Ltd

Title: Control Plan of Radial parts - Song Long (Silver disc operation)

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Part name : Varistor					Product Engineering Designated,					Document No. : STQ-502-02		
Part type : All black disc series 5~20mm dia.					Designated, Yes <u>No</u>					First Issue Date : 2005 / 09 / 01		
Plant : Song Long					Control item (*)					Revision Date :		
End Item and Customer : All Customer					Producer : Song Long					Last drawing / specification date:		
Process flow		Machine device jig tools for manufacturing	Characteristics		Special class / SPCC#	Methods				Reference Document	Out or Control Reaction Plan	Resp.
No.	Process Name		Process parameters	Product Characteristi cs		Product / Process specs	Evaluation method	Sample size / Frequency	Control Method / format #			
1	Material Input											
2	Powder formulation	Balance	Additive Weight, Material	All electrical properties	*	Powder formulation Spec. Powder formulation list	Total Weight confirm	Every lot	Format # Powder formulation list	Spec # STP-709-72	1.Stop operation and quarantine affected products then notice engineer and lead. 2.Scrap. 3.Ref # STQ-807	Engg. Mfg.
3	Ball Mill	Ball Mill Equipment	RPM.Timing.	PH value Slurry Emplastic.		Ball Mill Spec.	Timer. Viscosimeter. PH meter	Every Lot	Format # STP-709-00-12 STP-709-74-01 STP-709-74-02 STP-709-74-03	Spec # STP-709-73 STP-709-74	1.Stop operation and notice engineer Inspector and lead. 2.According to engineer and QA confirm Rework or scrap.	Mfg.
						IPQC Spec.	Timer.	Every Lot	Format # STQ-805-00-01	Spec # STQ-805-01	3.Ref # STQ-807	IPQC.
4	Spray drying	Spray Dryer	RPM, Inlet and Outlet temp.Pressure	Flowability, Humidity, Tap density	*	Spray Drying Spec.	Speed Meter. Temperature Controler. Hull meter, Humidity meter	Every Lot	Format # STP-709-00-12 STP-709-75-01 STP-709-75-02	Spec # STP-709-75	1.Stop operation and quarantine affected products then notice engineer and leader. 2.M/C check and adjusted. 3.Quarantine affected products control by engineer, scrap or engineering treatment.	Mfg.
						IPQC Spec.	Visual	Every 3 Hours	Format # STQ-805-00-01	Spec # STQ-805-01	4.Ref # STQ-807	IPQC.
5	Powder Inspection	Disc Press Equipment	Thickness. Weight. Density	Vunit, Surge current, Vb, Alpha, IL,△ V,Clamping		Powder Preprocess Spec.	Preprocess	Each Lot (powder)	Format # STP-709-81-01	Spec # STP-709-81	1.Stop operation and quarantine affected products. 2.Rework. 3.Ref # STQ-807	Engg.



6	Powder storage	Balance	Weight, Lot No.			Product Protect Procedural	Label	Every lot	Format # STF-714-00-07	Spec # STF-714	N/A	Mfg. Warehouse -man
7	Disc Press	Disc Press Equipment	Thickness. Weight. Density. RPM	Vunit, Surge Curent	*	Disc Press Spec.	Visual. Caliper. Timer. Balance	Every Lot and every 50 min SS = 16pcs	Format # STP-709-00-12 STP-709-76-01 STP-709-76-02 STP-709-76-03 STP-709-76-04	Spec # STP-709-76	1.Stop operation and quarantine affected products. 2.M/C check and adjusted. 3.NRB or scrap. 4.Ref # STQ-807.	Mfg.
						IPQC Spec.		Every 3 Hours	Format # STQ-805-00-01	Spec # STQ-805-01		IPQC.
8	De-bindering	De-binder Oven	Temp. Timing	Binder burned off		De-Binding Spec	Temp. Record	Continuous	Format # STP-709-00-12 STP-709-77-01	Spec # STP-709-77	1.Stop operation and quarantine affected products. 2.M/C check and adjusted. 3.Rework or scrap. 4.Ref # STQ-807.	Mfg.
9	Disc load	Mannually by fixtures	Load type of discs per Sagger . Partition powder type. Partition board.	Alpha, IL, ΔV		Disc Load Spec.	Visual	Every Lot	Format # STP-709-00-12 STP-709-78-01	Spec # STP-709-78	1.Stop operation and quarantine affected products. 2.Check partition powder type 3.Rework or scrap. 4.Ref # STQ-807	Mfg.
						IPQC Spec.	Visual	Every 3 Hours	Format # STQ-805-00-01	Spec # STQ-805-01		IPQC.
10	Sintering	Sintering Furnace	Slab Speed . Temp. Sagger Arrange type	Vunit. Dimension	*	Sintering Spec.	Visual, Caliper,	Continuous	Format # STP-709-00-12 STP-709-79-01 STP-709-79-02	Spec # STP-709-79	1.Stop operation and quarantine affected products. 2.M/C check and adjusted. 3.NRB, rework or scrap. 4.Ref # STQ-807	Mfg.
						IPQC Spec.			Format # STQ-805-00-01	Spec # STQ-805-01		
11	Black disc Vibration	Black disc vibration equipment	Q'ty, Timing, Frequency	Black Disc Lap over		Sintering Spec. Disc Vibvation And Bend Thinkness Sorting Spec	Visual	Every Lot	Format # STP-709-00-12 STP-709-80-01	Spec # STP-709-80 STP-709-79	1.Stop operation and quarantine affected products. 2.M/C check and adjusted. 3.Rework or scrap. 4.Ref # STQ-807	Mfg.



12	Black disc Inspection	TTK Tester. Surge Generator	Vn, DV, Vclamp leakage & surge test.	Samples within specs and Surge Grade		IPQC Spec. IQC Spec.	Sampling, Visual	Every Lot SS =100pcs	Format # STQ-708-00-06 STQ-708-00-11 STQ-708-00-12 STQ-805-00-04	Spec # STQ-805-01	1.Quarantine affected products. 2.M/C check and adjusted. 3.Rework, NRB or scrap. 4.Re-inspection 5.Ref # STQ-807	IPQC.
13	Black disc storage	Balance	P/N, Q'ty. Lot No.			Product Protect Procedural	Label	Every lot	Format # STF-714-00-07	Spec # STF-714	N/A	Mfg. Warehouse
14	Silver Print & Drying	Silver Print Equipment & Drying Furnace	Ag weight. Drying Temp. Timing	Clamping, Surge Current	*	Silver Print Spec. Silver Drying Spec.	Visual. Temperature Controller	Every Lot	Format # STP-709-00-06 STP-709-02-01	Spec # STP-709-02 STP-709-66	1.Stop operation and quarantine affected products. 2.M/C check and adjusted. 3.Rework, NRB or scrap. 4.Re-inspection 5.Ref # STQ-807	Mfg.
						IPQC Spec.		Every 3 Hours	Format # STQ-805-00-01	Spec # STQ-805-01	4.Re-inspection 5.Ref # STQ-807	IPQC
15	Silver disc firing	Firing oven	Firing Temp. Cling Strength.	Vb, Alpha, IL, ΔV. Surge	*	Silver Firing Spec.	Temperature Controller	Every Lot	Format # STP-709-00-06 STP-709-02-01	Spec # STP-709-68	1.Stop operation and quarantine affected products. 2.M/C check and adjusted. 3.Rework, NRB or scrap. 4.Re-inspection 5.Ref # STQ-807	Mfg.
						IPQC Spec.		Every 3 Hours	Format # STQ-805-00-01 STQ-805-02-01	Spec # STQ-805-01	4.Re-inspection 5.Ref # STQ-807	IPQC
16	Disc sorting	Disc sorting equipment / TTK Tester	Electrical Specs. RPM. Stylet	Sort to required electrical specs	*	Electrical Characteristic Sorting Spec.	100% Sorting	100% Sorting	Format # STP-709-00-06 STP-709-03-01	Spec # STP-709-03	1.Stop operation and quarantine affected products. 2.M/C check and adjusted. 3.Rework, NRB or scrap. 4.Ref # STQ-807	Mfg.
						IPQC Spec.	Sampling	Visual. Check List	Format # STQ-805-00-01 STQ-708-00-08	Spec # STQ-805-01	4.Re-inspection 5.Ref # STQ-807	IPQC
17	OQC	TTK Tester	Vb, Alpha, ΔV, IL, Clamping, Surge Current	Discs within electrical specs		IPQC Spec. IQC Spec.	Sampling	Every Lot SS = II AQL 0.4%	format # STQ-708-00-12	Spec # STQ-805-01	1.Stop operation and quarantine affected products. 2.M/C check and adjusted. 3.Rework, NRB or scrap. 4.Re-inspection 5.Ref # STQ-807	IPQC
18	Silver Disc Storage	Balance	Part No. Q'ty, Lot No.			Product Protect Procedural.	Label	Every Lot.	Format # STQ-708-00-12 STQ-708-00-11 STQ-708-00-06 STQ-805-00-04	Spec # STF-714	N/A	Mfg. Warehouse -man



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Title: 銀片品保工程圖

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產品：Varistor(壓敏電阻)				工程指定產品				文件編號：STQ-502-02				
產品型號：5~20mm 銀素片.				Yes No				發行日期：2005 / 09 / 01				
製造廠：東莞嵩隆電子有限公司				控制項目 (*)				改版日期：				
客戶：所有客戶				製造者：嵩隆				最新圖紙及規範日期：				
流程		設備/治工具	特性		特性等級	管理方法				指導書	緊急處置	責任者
No.	製程		參數	產品特性		標準	方法	檢驗頻率	管理表單			
1	原物料投入											
2	配粉	電子秤	重量,原料	所有電性特性	*	配粉作業標準書 依配方單	總重確認	每批	Format # Powder formulation list	Spec # STP-709-72	1.立即停止作業並進行隔離。 2.報廢。 3.參考文件 STQ-807	Engg. Mfg.
3	球磨	球磨機	轉速,時間	PH值,黏度		球磨作業標準書 PVA 溶解作業標準書	計時器, 黏度計, PH計	每批	Format # STP-709-00-12 STP-709-73-01 STP-709-74-01 STP-709-74-02 STP-709-74-03	Spec # STP-709-73 STP-709-74	1.立即停止作業並通知主管 及工程品保人員。 2.經工程及品保人員確認後 重工或報廢。 3.參考文件STQ-807	Mfg.
						QC製程檢驗規範	秒表,	1次/批	Format # STQ-805-00-01	Spec # STQ-805-01		IPQC.
4	造粒	造粒機	Disk轉速,出入風溫度, 壓力	流動性, 含水率, 鬆裝密度	*	噴霧造粒作業標準書	轉速表, 溫控器, 水份天平, Hull meter	每批	Format # STP-709-00-12 STP-709-75-01 STP-709-75-02	Spec # STP-709-75	1.立即停止作業並將異常品 隔離, 通知工程人員及主 管。 2.檢查及調整設備。 3.異常品由工程管控, 進行 報廢或工程處置。 4.參考文件 STQ-807	Mfg. Engg.
						QC製程檢驗規範	目視	1次/3H	Format # STQ-805-00-01	Spec # STQ-805-01		IPQC.
5	先行試作	成型機	厚度,重量, 密度,	單位電壓, 雷擊, Vb, Alpha, IL, Δ V, Clamping		先行試做工作指導書	試作	1次/批(造粒粉)	Format # STP-709-81-01	Spec # STP-709-81	1.停止作業並將不良粉末進行 隔離。 2.重新試做。 3.參考文件 STQ-807	Engg.



6	粉末入庫	電子秤	重量、批號			產品防護控制程序	標籤	每批	Format # STF-714-00-07	Spec # STF-714	N/A	Mfg. Warehouseman
7	成型	成型機	厚度,重量, 密度, 轉速	Vb, 雷擊	*	成型作業標準書	目視, 秒表, 百分表, 電子秤	每批, 每50分16pcs	Format # STP-709-00-12 STP-709-76-01 STP-709-76-02 STP-709-76-03 STP-709-76-04	Spec # STP-709-76	1.停止作業並將異常品隔離。 2.檢查及調整設備。 3.特采或報廢。 4.參考文件 STQ-807	Mfg.
						QC製程檢驗規範		1次/3H	Format # STQ-805-00-01	Spec # STQ-805-01		IPQC.
8	排膠	排膠爐	溫度,時間	IL, 燒結品質		箱型排膠作業標準書	爐溫記錄器	24小時	Format # STP-709-00-12 STP-709-77-01	Spec # STP-709-77	1.停止作業並將異常品隔離。 2.檢查及調整設備。 3.重工或報廢。 4.參考文件 STQ-807	Mfg.
9	排片	搖盤	排片方式, 數量, 敷粉種類, 匣鉢種類, 隔板種類	Alpha, IL, Δ V		排片作業標準書	目視	1次/批	Format # STP-709-00-12 STP-709-78-01	Spec # STP-709-78	1.停止作業並將異常品隔離。 2.檢查使用敷粉型號。 3.重工或報廢。 4.參考文件 STQ-807	Mfg.
						QC製程檢驗規範	目視	1次/3H	Format # STQ-805-00-01	Spec # STQ-805-01		IPQC.
10	燒結	燒結爐	溫度,擺放方式,推板速度	基本電性特性	*	燒結作業標準書	目視, 測溫環, 秒表	每批, 1次/每週	Format # STP-709-00-12 STP-709-79-01 STP-709-79-02	Spec # STP-709-79	1.停止作業並將異常品隔離。 2.檢查及調整設備。 3.特采、重工或報廢。 4.參考文件 STQ-807	Mfg.
						QC製程檢驗規範		1次/3H	Format # STQ-805-00-01	Spec # STQ-805-01		IPQC.
11	震片	震片機	數量, 時間, 頻率	黏片		燒結作業標準書 彎曲厚薄分選作業標準書	目視	每批	Format # : STP-709-00-12 STP-709-80-01	Spec # STP-709-80 STP-709-79	1.停止作業並將異常品隔離。 2.檢查及調整設備。 3.重工或報廢。 4.參考文件 STQ-807	Mfg.



12	Black disc Inspection	TTK Tester. Surge Generator	Vn, DV, Vclamp leakage & surge test.	Samples within specs and Surge Grade		IPQC Spec. IQC Spec.	Sampling, Visual	Every Lot SS =100pcs	Format # STQ-708-00-06 STQ-708-00-11 STQ-708-00-12 STQ-805-00-04	Spec # STQ-805-01	1.Quarantine affected products. 2.M/C check and adjusted. 3.Rework, NRB or scrap. 4.Re-inspection 5.Ref # STQ-807	IPQC.
13	Black disc storage	Balance	P/N, Q'ty. Lot No.			Product Protect Procedural	Label	Every lot	Format # STF-714-00-07	Spec # STF-714	N/A	Mfg. Warehouse
14	Silver Print & Drying	Silver Print Equipment & Drying Furnace	Ag weight. Drying Temp. Timing	Clamping, Surge Current	*	Silver Print Spec. Silver Drying Spec.	Visual. Temperature Controller	Every Lot	Format # STP-709-00-06 STP-709-02-01	Spec # STP-709-02 STP-709-66	1.Stop operation and quarantine affected products. 2.M/C check and adjusted. 3.Rework, NRB or scrap. 4.Re-inspection 5.Ref # STQ-807	Mfg.
						IPQC Spec.		Every 3 Hours	Format # STQ-805-00-01	Spec # STQ-805-01	4.Re-inspection 5.Ref # STQ-807	IPQC
15	Silver disc firing	Firing oven	Firing Temp. Cling Strength.	Vb, Alpha, IL, ΔV. Surge	*	Silver Firing Spec.	Temperature Controller	Every Lot	Format # STP-709-00-06 STP-709-02-01	Spec # STP-709-68	1.Stop operation and quarantine affected products. 2.M/C check and adjusted. 3.Rework, NRB or scrap. 4.Re-inspection 5.Ref # STQ-807	Mfg.
						IPQC Spec.		Every 3 Hours	Format # STQ-805-00-01 STQ-805-02-01	Spec # STQ-805-01	4.Re-inspection 5.Ref # STQ-807	IPQC
16	Disc sorting	Disc sorting equipment / TTK Tester	Electrical Specs. RPM. Stylet	Sort to required electrical specs	*	Electrical Characteristic Sorting Spec.	100% Sorting	100% Sorting	Format # STP-709-00-06 STP-709-03-01	Spec # STP-709-03	1.Stop operation and quarantine affected products. 2.M/C check and adjusted. 3.Rework, NRB or scrap. 4.Ref # STQ-807	Mfg.
						IPQC Spec.	Sampling	Visual. Check List	Format # STQ-805-00-01 STQ-708-00-08	Spec # STQ-805-01	4.Re-inspection 5.Ref # STQ-807	IPQC
17	OQC	TTK Tester	Vb, Alpha, ΔV, IL, Clamping, Surge Current	Discs within electrical specs		IPQC Spec. IQC Spec.	Sampling	Every Lot SS = II AQL 0.4%	format # STQ-708-00-12	Spec # STQ-805-01	1.Stop operation and quarantine affected products. 2.M/C check and adjusted. 3.Rework, NRB or scrap. 4.Re-inspection 5.Ref # STQ-807	IPQC
18	Silver Disc Storage	Balance	Part No. Q'ty, Lot No.			Product Protect Procedural.	Label	Every Lot.	Format # STQ-708-00-12 STQ-708-00-11 STQ-708-00-06 STQ-805-00-04	Spec # STF-714	N/A	Mfg. Warehouse -man