

Write date	JUN. 05,2023	<h1>4M Change Report</h1>	Item name	TACT SWITCH
Write No.				INT-1102S series
Customer	Maritex		Code	160gf, 130gf

Reason	<input type="checkbox"/> Prevent defect <input type="checkbox"/> Improve quality <input checked="" type="checkbox"/> Improve product rate <input type="checkbox"/> Revise process <input type="checkbox"/> Change product Q'ty <input type="checkbox"/> Break out facility <input type="checkbox"/> Decreasing cost <input type="checkbox"/> Others ()
Contents	<input type="checkbox"/> Man <input type="checkbox"/> Machine, Facilities <input checked="" type="checkbox"/> Material, Parts <input type="checkbox"/> Method, Condition <input type="checkbox"/> Progress <input type="checkbox"/> Change Factory <input type="checkbox"/> Change Outsourcing <input checked="" type="checkbox"/> Others (Color)
Self-qualification result	<input checked="" type="checkbox"/> No quality change <input type="checkbox"/> Quality Change ※ Verified results : Sample, Verified data, ETC ()

		BEFORE		AFTER	
Part No.		INT-1102S series 160gf, 130gf		INT-1102S series 160gf, 130gf	
Component		Case & Stem		Case & Stem	
Material		PA9T		LCP	
- Maker		KURARAY CO.,LTD / JAPAN		POLYPLASTICS CO.,LTD / JAPAN	
- Grade of material		G1300H		E130i	
- UL rating		UL 94HB		UL 94V-0	
Color		Case	Stem	Case	Stem
	INT-1102S43AP	Black	Black	INT-1102S43AP	Black Black
	INT-1102S50AP	Black	Black	INT-1102S50AP	Black Black
	INT-1102S50AP (200K LIFE)	Black	Ivory	INT-1102S50APL (200K LIFE)	Ivory Ivory
	INT-1102S73AP	Black	Ivory	INT-1102S73AP	Black Black
	INT-1102S80AP	Black	Black	INT-1102S80AP	Black Black
	INT-1102S95CP	Black	Black	INT-1102S95CP	Black Black
Reason		1. Has UL94V-0 rating even without adding flame retardant 2. Has high impact strength from low temperature to high temperature 3. Has excellent heat resistance and fluidity, high strength 4. Has excellent electrical insulation 5. Water absorption is significantly lower than PA9T			
Remarks		See page 4 for raw material property comparison table of PA9T and LCP. The new parts will be shipped after the current stock is exhausted.			

C H A N G E C O N T E N T

We would like to ask for approval of the changed point as above.

Quality assurance manager : 김철 CEO : 김승호

INNOCENT ELECTRONICS CO., LTD.

WR	Manager	Check	Approval
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<h2>Change Report</h2>	Doc No.	App date
	Manager	Check

C H E C K P O I N T	Check Method	<input type="checkbox"/> Checking changed goods () <input type="checkbox"/> Check progress () <input type="checkbox"/> Evaluate doc () <input type="checkbox"/> Test for Confirm () <input type="checkbox"/> ETC ()	Submit document
	Check Result	<input type="checkbox"/> Accept Change <input type="checkbox"/> Don't Accept <input type="checkbox"/> Apply after sample confirm <input type="checkbox"/> Postpone ()	<input type="checkbox"/> ISIR approval doc <input type="checkbox"/> Inspection standard <input type="checkbox"/> Inspection data <input type="checkbox"/> Control plan <input type="checkbox"/> Progress ability report <input type="checkbox"/> Flow chart <input type="checkbox"/> ETC ()
	Checking opinion (predictable problem)	Treat Stock <input type="checkbox"/> Can use <input type="checkbox"/> Can not use Confirm related dep.	



Write date	JUN. 05,2023	<h1>4M Change Report</h1>	Item name	TACT SWITCH
Write No.				INT-1102S series 250gf
Customer	Maritex		Code	

Reason	<input type="checkbox"/> Prevent defect <input type="checkbox"/> Improve quality <input checked="" type="checkbox"/> Improve product rate <input type="checkbox"/> Revise process <input type="checkbox"/> Change product Q'ty <input type="checkbox"/> Break out facility <input type="checkbox"/> Decreasing cost <input type="checkbox"/> Others ()
Contents	<input type="checkbox"/> Man <input type="checkbox"/> Machine, Facilities <input checked="" type="checkbox"/> Material, Parts <input type="checkbox"/> Method, Condition <input type="checkbox"/> Progress <input type="checkbox"/> Change Factory <input type="checkbox"/> Change Outsourcing <input checked="" type="checkbox"/> Others (Color)
Self-qualification result	<input checked="" type="checkbox"/> No quality change <input type="checkbox"/> Quality Change ※ Verified results : Sample, Verified data, ETC ()

	BEFORE			AFTER		
Part No.	INT-1102S series 250gf			INT-1102S series 250gf		
Component	Case & Stem			Case & Stem		
Material	PA9T			LCP		
- Maker	KURARAY CO.,LTD / JAPAN			POLYPLASTICS CO.,LTD / JAPAN		
- Grade of material	G1300H			E130i		
- UL rating	UL 94HB			UL 94V-0		
Color		Case	Stem		Case	Stem
	INT-1102S43BP	Black	RED	INT-1102S43BP	Black	Ivory
	INT-1102S50BP	Black	RED	INT-1102S50BP	Black	Ivory
	INT-1102S70BP	Black	RED	INT-1102S70BP	Black	Ivory
	INT-1102S73BP	Black	RED	INT-1102S73BP	Black	Ivory
	INT-1102S80BP	Black	Ivory	INT-1102S80BP	Black	Ivory
	INT-1102S85BP	Black	Ivory	INT-1102S85BP	Black	Ivory
Reason	1. Has UL94V-0 rating even without adding flame retardant 2. Has high impact strength from low temperature to high temperature 3. Has excellent heat resistance and fluidity, high strength 4. Has excellent electrical insulation 5. Water absorption is significantly lower than PA9T					
Remarks	See page 4 for raw material property comparison table of PA9T and LCP. The new parts will be shipped after the current stock is exhausted.					

CHANGE CONTENT

We would like to ask for approval of the changed point as above.

Quality assurance manager : 김철  CEO : 김승호 

INNOCENT ELECTRONICS CO., LTD.

WR	Manager	Check	Approval
<h2>Change Report</h2>	Doc No.	App date	
	Manager	Check	

CHECK POINT	Check Method	<input type="checkbox"/> Checking changed goods () <input type="checkbox"/> Check progress () <input type="checkbox"/> Evaluate doc () <input type="checkbox"/> Test for Confirm () <input type="checkbox"/> ETC ()			Submit document
	Check Result	<input type="checkbox"/> Accept Change <input type="checkbox"/> Don't Accept <input type="checkbox"/> Apply after sample confirm <input type="checkbox"/> Postpone ()			<input type="checkbox"/> ISIR approval doc <input type="checkbox"/> Inspection standard <input type="checkbox"/> Inspection data <input type="checkbox"/> Control plan <input type="checkbox"/> Progress ability report <input type="checkbox"/> Flow chart <input type="checkbox"/> ETC ()
	Checking opinion (predictable problem)	Treat Stock	<input type="checkbox"/> Can use <input type="checkbox"/> Can not use		
		Confirm related dep.			

Write date	JUN. 05,2023	<h1>4M Change Report</h1>	Item name	TACT SWITCH
Write No.				INT-1102T24AP
Customer	Maritex		Code	INT-1102ST24BPL

Reason	<input type="checkbox"/> Prevent defect <input type="checkbox"/> Improve quality <input checked="" type="checkbox"/> Improve product rate <input type="checkbox"/> Revise process <input type="checkbox"/> Change product Q'ty <input type="checkbox"/> Break out facility <input type="checkbox"/> Decreasing cost <input type="checkbox"/> Others ()
Contents	<input type="checkbox"/> Man <input type="checkbox"/> Machine, Facilities <input checked="" type="checkbox"/> Material, Parts <input type="checkbox"/> Method, Condition <input type="checkbox"/> Progress <input type="checkbox"/> Change Factory <input type="checkbox"/> Change Outsourcing <input checked="" type="checkbox"/> Others (Color)
Self-qualification result	<input checked="" type="checkbox"/> No quality change <input type="checkbox"/> Quality Change ※ Verified results : Sample, Verified data, ETC ()

		BEFORE	AFTER																			
CHANGE CONTENT	Part No.	INT-1102ST24AP INT-1102ST24BPL	INT-1102ST24AP INT-1102ST24BPL																			
	Component	Case & Stem	Case & Stem																			
	Material	PA9T	LCP																			
	- Maker	KURARAY CO.,LTD / JAPAN	POLYPLASTICS CO.,LTD / JAPAN																			
	- Grade of material	G1300H	E130i																			
	- UL rating	UL 94HB	UL 94V-0																			
	Color	<table style="width: 100%; border: none;"> <tr> <td></td> <td style="text-align: center;">Case</td> <td style="text-align: center;">Stem</td> <td></td> <td style="text-align: center;">Case</td> <td style="text-align: center;">Stem</td> </tr> <tr> <td>INT-1102ST24AP</td> <td style="text-align: center;">Black</td> <td style="text-align: center;">Black</td> <td></td> <td style="text-align: center;">Black</td> <td style="text-align: center;">Black</td> </tr> <tr> <td>INT-1102ST24BPL</td> <td style="text-align: center;">Black</td> <td style="text-align: center;">Ivory</td> <td></td> <td style="text-align: center;">Black</td> <td style="text-align: center;">Ivory</td> </tr> </table>		Case	Stem		Case	Stem	INT-1102ST24AP	Black	Black		Black	Black	INT-1102ST24BPL	Black	Ivory		Black	Ivory		
		Case	Stem		Case	Stem																
	INT-1102ST24AP	Black	Black		Black	Black																
	INT-1102ST24BPL	Black	Ivory		Black	Ivory																
Reason		1. Has UL94V-0 rating even without adding flame retardant 2. Has high impact strength from low temperature to high temperature 3. Has excellent heat resistance and fluidity, high strength 4. Has excellent electrical insulation 5. Water absorption is significantly lower than PA9T																				
Remarks	See page 4 for raw material property comparison table of PA9T and LCP. The new parts will be shipped after the current stock is exhausted.																					

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	Checking opinion (predictable problem)	Treat Stock	<input type="checkbox"/> Can usd <input type="checkbox"/> Can not usd		
		Confrim related dep.			

Raw material property comparison table (원재료 물성 비교표)

Item (항목)	Material name (재료명)		Unit (단위)	Test Standard (시험기준)
	PA9T (G1300H)	LCP (E130i)		
Processing/Physical Characteristics(물리적 특성)	Value (값)			
ISO Data				
Molding shrinkage, parallel (성형수축율, 평행)	0.3	0.1	%	ISO 294-4, 2577
Molding shrinkage, normal (성형수축율, 수직)	1	0.4	%	ISO 294-4, 2577
Mechanical properties (기계적 특성)	Value		Unit (단위)	Test Standard (시험기준)
ISO Data				
Tensile Modulus (인장탄성률)	9500	16000	MPa	ISO 527
Stress at break (파단시 강도)	151	160	MPa	ISO 527
Strain at break (파단시 신율)	1.9	1.6	%	ISO 527
Charpy notched impact strength, +23°C (차피 노치드 충격 강도, +23°C)	11	38	kJ/m ²	ISO 179/1eA
Thermal properties (열적 특성)	Value		Unit (단위)	Test Standard (시험기준)
ISO Data				
Melting temperature, 10°C/min (녹는점)	306	335	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.80 Mpa (하중 하에서의 변형 온도 1.80 Mpa)	290	270	°C	ISO 75-1/-2
Temp. of deflection under load, 8.00 Mpa (하중 하에서의 변형 온도 8.00 Mpa)		216	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel (선형 열팽창 계수, 평행)		7	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal (선형 열팽창 계수, 수직)		20	E-6/K	ISO 11359-1/-2
Burning Behav. at thickness h (두께 H인 제품의 난연성)	HB	V-0	class	IEC 60695-11-10
UL 94 Flame rating (UL 94 난연등급)	HB	V-0		UL 94
Electrical properties (전기적 특성)	Value		Unit (단위)	Test Standard (시험기준)
ISO Data				
Relative permittivity, 100Hz (상대유전율 100Hz)		4	-	IEC 62631-2-1
Relative permittivity, 1MHz (상대유전율 1MHz)		3.9	-	IEC 62631-2-1
Dissipation factor, 100Hz (유정전접 100Hz)		100	E-4	IEC 62631-2-1
Dissipation factor, 1MHz (유정전접 1MHz)		360	E-4	IEC 62631-2-1
Volume resistivity (부피저항)		1.00E+13	Ohm*m	IEC 62631-3-1
Surface resistivity (표면저항)		1.00E+14	Ohm	IEC 62631-3-2
Electric strength (전기압력)	28	32	kV/mm	IEC 60243-1
Oxygen index (산소지수로의 난연성)		45	%	ISO 4589-1/-2
Other properties (기타 특성)	Value		Unit (단위)	Test Standard (시험기준)
Humidity absorption (흡습성)	0.18	0.03	%	Sim. to ISO 62
Density (밀도)	1370	1610	kg/m ³	ISO 1183