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PRODUCT SPECIFICATION

PRODUCT SPECIFICATION OF THE 1.00MM CENTER FFC JUMPER CABLE (LOW TEMPERATURE)

Revision List

REVISION	MODIFICATION	SHEETS	DATE
A	First Release	1 - 5	2011/09/29

REVISION: A	ECR/ECN INFORMATION: EC No: USW2012-0078 DATE: 2011/09/29	TITLE: PRODUCT SPECIFICATION 1.00MM CENTER FFC JUMPER CABLE (LOW TEMPERATURE)	SHEET No. 1 of 5
DOCUMENT NUMBER: PC 21039 001	CREATED / REVISED BY: M.M.W.C.	CHECKED BY: D.ENGLEIGH	APPROVED BY: S.FULTON



PRODUCT SPECIFICATION

1 SCOPE

This specification covers the 1.00mm center FFC (Flat Flexible Cable) jumper cable, low temperature style, using tin plated copper conductor.

2 PRODUCT DESCRIPTION

2.1 Product name and series number

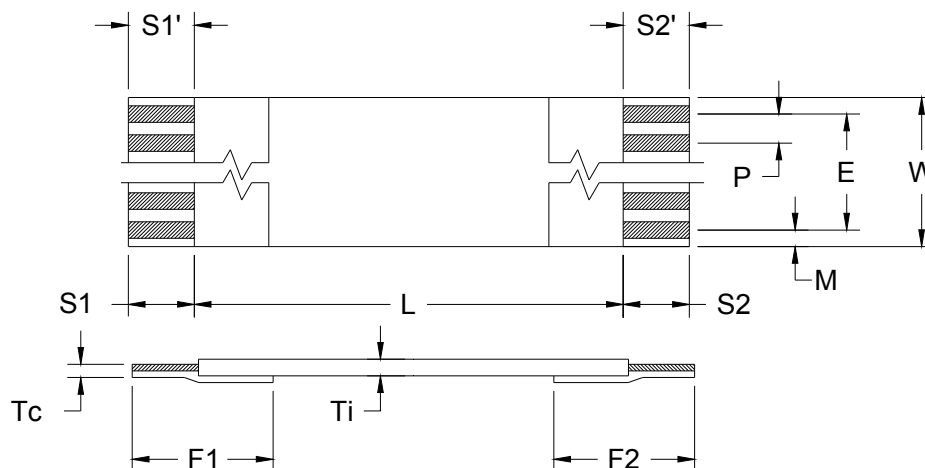
Product name: 1.00MM CENTER FFC JUMPER CABLE (LOW TEMP)

Product material no: 21039-XXXX

2.2 Dimensions, materials and markings

Product dimensions according SD-21039-001.

Number of conductors	N: 4 to 99
Pitch	P: $1.00 \pm 0.08\text{mm}$
Span	E: $1.00 (N-1) \pm 0.15\text{mm}$
Total width	W: $1.00 (N+1) \pm 0.10\text{mm}$
Margin width	M: $1.0 \pm 0.20\text{mm}$
Strip length	S: $2.00 \text{ to } 10.00 \pm 0.80\text{mm}$
End thickness of the connection area ..	Tc: $0.30 \pm 0.05\text{mm}$
Thickness of the insulated area	Ti: $0.32 \pm 0.05\text{mm}$
Insulated length	L: 20 to 60mm $\pm 2.00\text{mm}$ 61 to 100mm $\pm 3.00\text{mm}$ 101 to 200mm $\pm 4.00\text{mm}$ 201 to 3999mm $\pm 5.00\text{mm}$ 4000 to 5999mm $\pm 10.00\text{mm}$ 6000 to 9999mm $\pm 15.00\text{mm}$
Reinforcement length	F: $6.00 \text{ to } 20.00 \pm 2.00\text{mm}$
End squareness	s-s': 0.40mm max.



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DS-21039-001	MJM	BENJAMIN	JEFFREY



PRODUCT SPECIFICATION

2.3 COMPOSITION

- Conductor: Material: Tin plated copper conductor
Thickness: 0.10mm nominal (Standard)
- Insulation tape: Material: Polyester + Flame retardant adhesive
Thickness: 0.115mm typical
Color: white
- Reinforcement tape: Material: Polyester + Adhesive
Thickness: 0.23mm nominal
Color: Blue

2.4 Safety agency approvals

Not applicable.

3 RATINGS

3.1 Current and applicable conductors

Cross section	Amps
0.07mm ²	1.2

3.2 Temperature

Operating temperature: -40°C to +80°C

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DS-21039-001	M.M.W.	D.ENGLEH	G.FULTON



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4 PERFORMANCE

4.1 Electrical requirements

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Conductor resistance	ASTM B 193	280 ohms/km MAXIMUM
2	Insulation resistance cond. to cond.	500 V DC	10 Mohms/km MINIMUM
3	Dielectric test	400 V AC for 1 minute	No disruptive discharge
4	Continuity test	3.0 V DC at 0.1mA	passed
	Voltage rating		30 V AC MAXIMUM
5	Current rating	at 23°C increase in 10°C at the surface (all conductors under load)	1.2 A MIN

4.2 Physical requirements

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
8	Temperature rating		-40°C to +80°C
9	Heat resistance	168 hours at 136°C	Insulation resistance Dielectric test
10	Thermal shock	30 minutes at -55°C 5 minutes at +25°C 30 minutes at +85°C 5 minutes at +25°C	Insulation resistance after 25 cycles
11	Cold coiling	96 hours at -40°C / The sample will be wound on a 3mm dia. Mandrel	Insulation resistance Dielectric test Visual inspection
12	Wear by abrasion	Test following EN3475-503 Weight: 500g Speed: 60 cycles/min Abrasion tool: 0.13mm dia.	10000 cycles (standard) 1000 cycles (shielded) MINIMUM
13	Folding	The specimen shall be folded manually (Bending angle: 180° / Radius: 4mm)	20 times MINIMUM
14	Moisture resistance	96 hours at 60°C, 95% RH	Insulation resistance Dielectric test
15	Flame resistance	UL 758 VW-1	Passed
16	Solderability	Immersion of the area which is intended for soldering into a tin bath at 250 ± 10°C During 30 seconds	No delamination Solder reflow below 1 mm

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DS-210390-001	MUMU	D-ENGU	S-FULTON



PRODUCT SPECIFICATION

5 PACKAGING

According to MOLEX packaging specification: PK-21039-001

6 UL APPROVAL

These products are UL compliant under:

UL style 2896

Temperature rating: 80°C

Voltage rating: 30 V AC

7 ROHS COMPLIANCE

Cable construction is RoHS compliant. This includes base FFC, shielded FFC and painted shielded FFC.

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PK-21039-001	MIMIC	D. ENGLISH	G. HULTON