

**Headers & Connectors for Door Junction System**

**DESIGN OBJECTIVES**

The product described in this document has not been fully tested to insure conformance to the requirements outlined below. Therefore AMP Incorporated makes no representation or warranty, expressed or implied, that the product will comply with these requirements.

Further, AMP Incorporated may change these requirements based on the results of additional testing and evaluation.

Contact AMP Engineering for further details.

Il prodotto descritto in questa specifica non è stato ancora completamente provato per garantire la conformità ai requisiti indicati nel documento. Perciò l'AMP non può al momento fornire assicurazione sulla conformità del prodotto a questi requisiti.

L'AMP si riserva inoltre la facoltà di modificare i requisiti della specifica sulla base dei risultati di addizionali prove e valutazioni.

Per ulteriori informazioni si prega di contattare l'Ufficio Tecnico.

**SCOPE**

The specification describes the product performances defining the functional limits. Any test not mentioned here following, will not be considered by Tyco Electronics for the product validation.

**REFERENCE DOCUMENTS**

Enclosed to the present specification, the following documents must be considered:

- Drawing 284438 – 36 Pos. Frame assembly Kit (Crimp version)
- Drawing 284439 – 36 Pos. Frame assembly Kit (Crimp/IDC version)
- Drawing 284524 - 6+6 Pos. JPT/070 Header assembly, 90° version
- Drawing 284522 - 18 Pos. MQS Header assembly, 90° version
- Drawing 284520 - 36 Pos. MQS Header assembly, 90° version
- Fiat spec. 9.90110 – Rev. July 1999

**PRODUCT PROFILE- PRODUCT DESCRIPTION**

The product sold by Tyco is composed of the following Pin Headers, to be mounted and soldered to Printed Circuit Board (board lock for retention to PCB before soldering are included in the header design):

- P/N 284524-1      6+6 Pos. JPT/070 Header assembly, 90° version**
- P/N 284522-1/-2    18 Pos. MQS Header assembly, 90° version**
- P/N 284520-1      36 Pos. MQS Header assembly, 90° version**

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0.	Preliminary issue	O.CANUTO	APRIL 2000	A.GENTA	APRIL 2000
1.	Up-dated	O.CANUTO	JAN 2001	A.GENTA	JAN. 2001

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The Pin Headers are suitable to be mated with the following Receptacle Connectors mounted on Frame, respectively:

P/N 284159-1/-2	12 Pos. Receptacle Housing
P/N 284134-1/-2/-3/-4/-5/-6	9 Pos MQS Crimp module
P/N 284126-1/-2	9 Pos MQS IDC module
P/N 953599-1	9 Pos MQS Crimp module
P/N 284136-1/-2	18 Pos Frame (Crimp/IDC)
P/N 284360-1/-2	18 Pos Frame (Crimp/Crimp)
P/N 284647-2	18 Pos Frame (IDC/Crimp)
P/N 284137-1	36 Pos Frame (Crimp/IDC)
P/N 284438-1	36 Pos Frame (Crimp)
P/N 284439-1	36 Pos Frame (Crimp/ IDC)

The connector assembly operations are made by different users: BITRON , producer of the electronic, is responsible for the application of the Pin Headers connectors into the electronic BOX , which will be then assembled on the car and mated with the relevant counterpart Receptacle Connectors under the responsibility of the OEM ( FIAT ). Tyco is not responsible for misfunctions caused by an uncontrolled process during the assembly operations in BITRON or in FIAT.

#### OPERATING CONDITIONS AND RATINGS

Maximum Voltage: 24 V d.c. ; for application ta higher voltage please contact AMP.

Current: I = 20 A max with 2,5 mm<sup>2</sup> wire for JPT contact

I = 14 A max with 1,5 mm<sup>2</sup> wire for Multilock 070 contact

I = 6 A max with 0,75 mm<sup>2</sup> wire for MQS contact

Operating temperature 85°C max ; -30°C min.

Test temperature: +105°C max; -30°C

#### TEST CONDITIONS

If not specified, tests must be performed under the following conditions:

Ambient temperature: 23°C ± 5°C

Relative Humidity: 45 – 70%

Room pressure: 860-1060 mbar

**TEST DESCRIPTION**

All test below mentioned are on the device fully assembled with housing + cover + mated connector

TEST TYPE	TEST CONTROLS	TEST PARAMETERS
1) VISUAL EXAMINATION	Any cracking or deformation allowed on the specimen at new ad after mechanical and environmental test	Visual examination of the specimen by eyes or by lens
2) THERMAL CYCLING	No deformation or cracking of plastic parts Voltage drop: ≤10mV/A for MQS ≤6mV/A for .070 ≤4.5mV/A for JPT	5 cycles composed of: 4 hours at + 105°C±2°C 4 hours at - 30°C±2°C 5 cycles composed of: 4 hours at + 105°C±2°C 4 hours at + 40°C±2°C and 90±95%r.h. 4 hours at - 30°C±2°C
3) ACCELERATED AGEING	No deformation or cracking of plastic parts Discoloration are admitted Voltage drop: ≤10mV/A for MQS ≤6mV/A for .070 ≤4.5mV/A for JPT	200h at 125°C
4) VOLTAGE DROP	≤10mV/A for MQS ≤6mV/A for .070 ≤4.5mV/A for JPT	Between a point of wire at 1cm from the conn. Edge and pin length up to the pcb Termination resistance is obtained after deducing the mV drop of wire length used for termination. Current rating according to FIAT spec. 91107
5) INSULATION RESISTANCE	≥10MΩ	Between two adjacent contacts >500V ac. , t= 60 s
6) DIELECTRIC BREAKDOWN RESISTENCE	No breakdown	Between two adjacent contacts ≥1000V ac. , t= 60 s

7) VIBRATION TEST (Random passenger compartment)	-Any electrical discontinuity greater than per $t > 1\mu s$ -Millivolt drop within limits indicated a new -visual examination	Random vibration test as diagram fig.1 enclosed ) Duration: 16 hrs on the direction of mating axis Test current : 1mA
8) CONNECTOR MATING FORCE	6+6 Pos JPT/070 : $F \leq 115 N$ 18 Pos MQS : $F \leq 40 N$ 36 Pos MQS : $F \leq 75 N$	-connector fully loaded -operating speed 25 mm / min.
9) CONNECTOR UNMATING FORCE	6+6 Pos JPT/070 : $F \leq 100 N$ 18 Pos MQS : $F \leq 40 N$ 36 Pos MQS : $F \leq 65 N$	-connector fully loaded ( # 8 contacts )  -operating speed 25 mm / min.
10) CONNECTOR INSERTION FORCE TO PRINTED CIRCUIT BOARD (BOARD LOCK)	36 Pos MQS $F \leq 75 N$ 18 Pos MQS $F \leq 40 N$ 6+6 Pos JPT/070 $F \leq 40 N$	Applied a force on header perpendicular to PCB -operating speed 25 mm/ min.
11) CONNECTOR RETENTION FORCE TO PRINTED CIRCUIT BOARD (BOARD LOCK)	36 Pos MQS $F \geq 15 N$ 18 Pos MQS $F \geq 8 N$ 6+6 Pos JPT/070 $F \geq 8 N$	Applied a force on header perpendicular to PCB -operating speed 25 mm/ min.
12) PIN RETENTION FORCE IN HEADER	$F \geq 25 N$ for MQS tab $F \geq 40 N$ for .070 tab $F \geq 50 N$ for JPT tab	-operating speed 25 mm/ min.
13) SALT SPRAY RESISTANCE	-Visual examination Any corrosion spot on contacts - Millivolt drop within the limits at new	Na Cl 5% Duration: 96 hrs
14) KESTERNICH	-Visual examination -Millivolt drop 100% more than the values at new	# 4 cycles as follows: -8 hrs under industrial atmosphere -16 hrs ambient temperature

For additional performances on counterpart connectors and contacts see Product Specifications 108-20182, 108-20198 and 108-18030.

TEST SEQUENCE

TEST TYPE	A	B	C	D	E	F	G						
1) VISUAL EXAMINATION	1,6	1,4	1,5	1,6	1,5	1,5	1,5						
2) THERMAL. CYCLES	3												
3) ACCELERATED AGEING	4												
4) VOLTAGE DROP	2,5		2,4		2,4	2,4	2,4						
5) INSULATION RESISTENCE		2											
6) DIELECTRIC BREAKDOWN		3											
7)RANDOM VIBRATION			3										
8)CONN.MATING FORCE				4									
9)CONN.UNMATING FORCE				5									
10)INSERT. FORCE TO PCB				2									
11)RETENT. FORCE TO PCB				3									
12)- SALT SPRAY					3								
13) KESTERNICH						3							
14) CORROSION RESIST.							3						

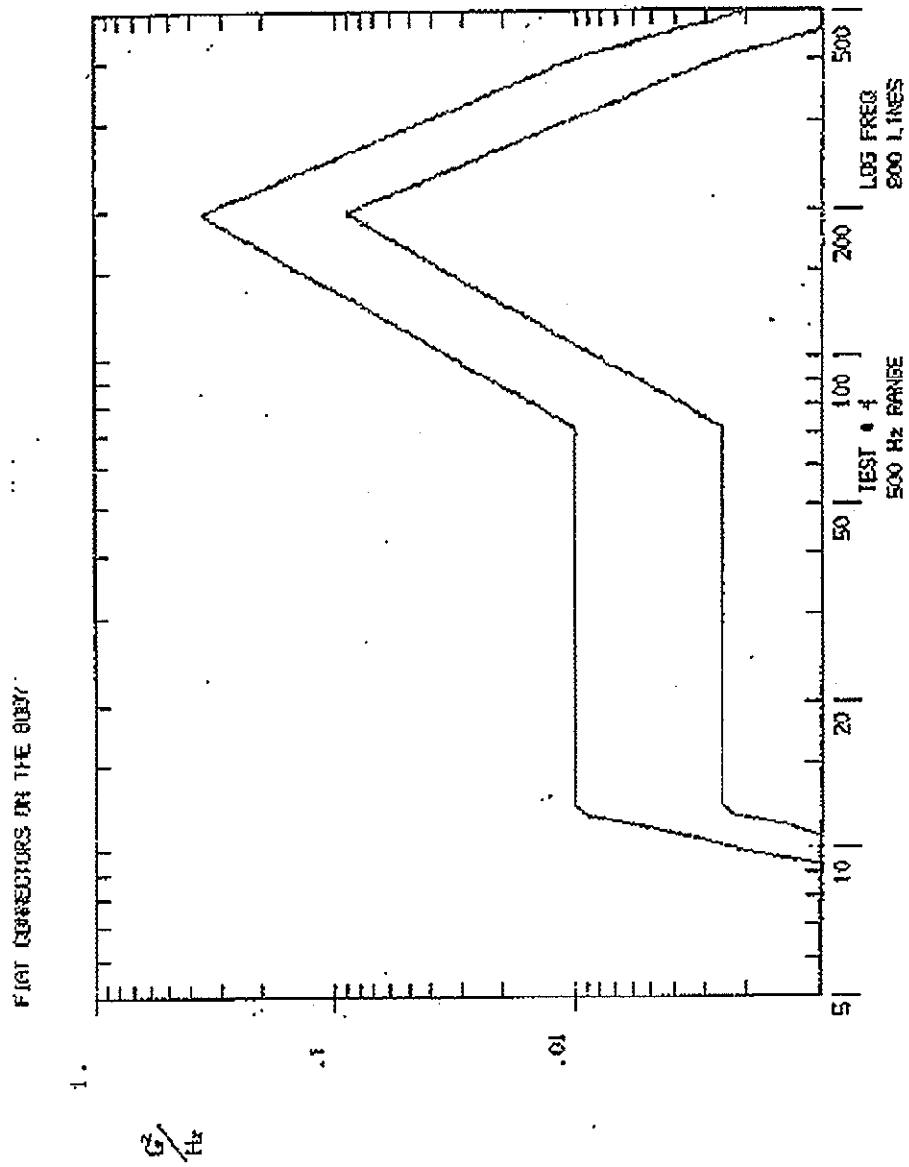


FIGURE 1

Random vibration test for car body