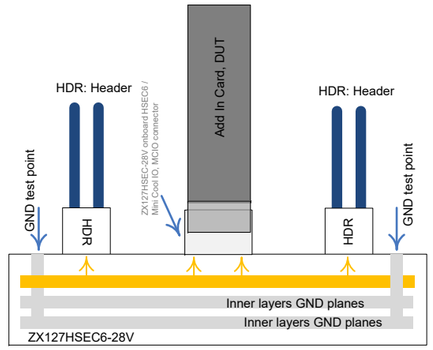
Product Name: ZX127HSEC6-28V Samtec GENERATE HSEC6 / Mini Cool Edge IO , MCIO, breakout adapter– Page 1 OF 2

Product Description: ZX127HSEC6-28V is Samtec HSEC6 0.6mm pitch also referred as Mini Cool Edge IO , MCIO / SFF-TA-1002 , breakout adapter.
ZX127HSEC6-28V is designed for test & measurements of Add-In-Card, AIC, in real-time electrical test & measurements, signal integrity , characterization, manufacturing loopback test applications.

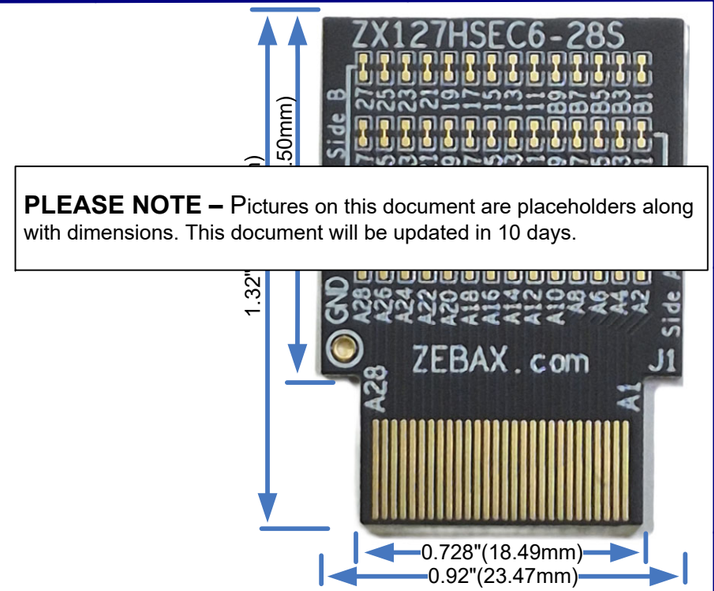
ZX127HSEC6-28V is breakout adapter, supporting Samtec GENERATE HSEC6 / MCIO edge card 0.6mm pitch connectors using 1.6mm PCB thickness. It provides full access to all HSEC6 / MCIO connector's signals via onboard headers for purpose of test & measurement of AIC.

1- Provides access to all Samtec HSEC6 / MCIO signals via onboard headers.
2- The headers are standard 0.1" (2.54mm) pitch.
3- Listed number adjacent to each header's pin is in reference to the Samtec HSEC6 / MCIO connector's pin.
4- All traces are impedance controlled.
5- Four, 4, layers PCB design, inner layers are GND planes.
6- Accessible GND test point, The test point is connected to inner GND planes.
7- Ease of interface with single channel and differential scope probes.
8- Facilitates Add in Card, AIC, testing & development.
9- Flying lead wire assembly or similar is recommended – See ordering information

ZX127HSEC6-28V simplified cross section diagram



Note:
Signal layers
Ground layers, Please note – The GND test point is connector to:
1- Top/Bottom GND fill
2- The inner layers ground planes
HSEC6 / MCIO signals path to headers.



PLEASE NOTE – Pictures on this document are placeholders along with dimensions. This document will be updated in 10 days.

Electrical: Insertion loss > -2dB @6GHz
Trace impedance: 50 Ω
Operating Temperature: -55°C to +125°C
Connector: Samtec HSEC6 / MCIO 0.60mm pitch
Mates with: Add in Card, edge card test board
Pitch: 0.60mm pin to pin pitch
Thickness: 1.6mm (0.062")
Plating: 10µ" (0.25µm)
Header:
Pitch: 0.1" (2.54mm) pin to pin pitch
Pin: Square 0.025" (0.635mm)
Height: 0.24" (6mm)
Plating: Gold Flash

Application: Manufacturing test measurement & re-use, design, testing , debugging loopback test, characterization , pre-bringup , bringup , interface

Mates with : Samtec GENERATE High Speed Edge Card Add in card HSEC6 & GC6 cable assembly
Industry standard Mini Cool Edge IO , MCIO , SFF-TA-1016, SFF-TA_1002, GEN-Z 1C
Amphenol G97, GH01 series. ACES Electronics, LOTES
MET005610101011 ME1005610203071 ME1005610201091 ME1005611201041
ME1005611202041 ME1005610211081 ME1005610205081 ME1005613401101
ME1005634478101

Industry Standard : HSEC6 & MCIO connectors have been adopted by industry standards such as:
SFF-TA_1002, SFF-TA-1016, PCI Express Gen 3.0, 4.0, 5.0, 6.0, OCP DC-MHS (HSIO recommended)
Supporting Up to 64 Gbps PAM4 performance. PCIe , NVMe , SAS ,SFP(+) ,SFP 28

ZX100ACC-SS
Flying leads wire assembly

ZX127HSEC6-28V package includes:

Part number	Quantity	Description
ZX127HSEC6-28V	1	Breakout Adapter
ZX100ACC-SS	0	Flying lead wire assembly

Compliance:
ISO2001 certified
RoHs - Lead Free
EU RoHS2
UL E111594 document
ELV- Vehicle Directive (Directive 2000/EC)
European Union Directive (203/11/EC)
Halogen Free per IEC-61249-2.21 : 2003
RoHs Directive 2011/65/EU
WEEE Directive (2012/12/EU)

Certificate of Compliance for Radioactive substances
Certificate of Compliance for Asbestos
Certificate of Compliance for Ozone Depleting Substances, ODS
Certificate REACH SVHC
Certificate of Compliance RoHS_EN_CoC

Note
ALL ZEBAX products are **RoHS** compliant and **Lead Free** unless otherwise indicated.

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SPECIFIED DIMENSIONS ARE INCHES (MM).
ROHS COMPLIANT

ASSEMBLY DRAWING
ITEM: ZX127HSEC6-28V
DESCRIPTION: Samtec HSEC6 / Mini Cool IO , MCIO , Breakout Adapter
CHECKED: M. MAHIN
DRAWN: KADIJEH
REVISSION: 1.0
SHEET: 1 OF 2

Product Name: **ZX127HSEC6-28V Samtec GENERATE HSEC6 / Mini Cool Edge IO , MCIO, breakout adapter– Page 2 OF 2**

Ground : ZX127HSEC6-28V is 4 layers PCB design where the inner layers are Ground layers. They are connected to the GND test point as well as top & bottom GND fills. For improved signal integrity, please connect the GND test point to system GND reference point. See Cross Section diagram for details.

Typical Application: ZX127HSEC6-28V is designed for purpose of test and debugging at full connector's bandwidth. It provides new approach in usage of breakout adapters by :

1- Utilizing single or differential scope probe.
2-Test and measurement, manufacturing loopback test, validation, pre-bringup applications.

Scope Probe wire Installation:

1- It is recommended to keep the probe wire length at 0.5" (1.2cm) long.
2- In order to avoid ground loop problems, please use the shortest Ground probe wire interfacing to the nearest GND reference point. ZX127HSEC6-28V provides GND test point to be utilized as GND reference interface with host.

SFF-TA-1002 1C (2 rows x 28 pins/row) 56 pins standard- Below are listed signals and Ground pins assignments for the SFF-TA-1002 standard, please refer to the standard for formal signals map naming. This table denotes "SIG" or "GND" PIN geometry locations. The Grounds are not bussed together in the connector or the ZX127HSEC6-28V breakout adapter. The listed GND signals are routed similar to the SIG signals, they are all individually routed signals.

ZX127HSEC6-28V Pin Geometry Pattern (1C) SFF-TA_1002 Standard

Side A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Name	GND	SIG	SIG	GND	SIG	SIG	GND	SIG	SIG	GND	SIG	SIG	GND	SIG	SIG	GND	SIG	SIG	GND	SIG	SIG	GND	SIG	SIG	GND	SIG	SIG	GND
Side B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28

Header pin access configuration: Table below is header's pin configuration

ZX127HSEC6-28V header pin assignments

A-Side	Headers	J2	1	5	9	13	17	21	25
			2	6	10	14	18	22	26
		J3	3	7	11	15	19	23	27
			4	8	12	16	20	24	28
B-Side	Headers	J5	3	7	11	15	19	23	27
			4	8	12	16	20	24	28
		J4	1	5	9	13	17	21	25
			2	6	10	14	18	22	26

Header pin numbers refer to the HSEC6 / MCIO connector's pin numbers.

HSEC6 / MCIO footprint: ZX127HSEC6-28V mates with industry standard footprint for SFF-TA-1002 1C (2rows x 28 pins per row) 56 pins connectors.

Note

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ASSEMBLY DRAWING

ITEM: ZX127HSEC6-28V

DESCRIPTION: Samtec HSEC6 / Mini Cool IO , MCIO , Breakout Adapter

CHECKED: M. MAHIN

DRAWN: KADIJEH

REVISSION: 1.0

SHEET: 2 OF 2