VITA 67

RF COAXIAL INTERCONNECT SYSTEM VPX COMPATIBLE

VITA 67 is a VPX standard for blindmate coax connectors that allows **high density, high performance RF connections** to be made **between a backplane and plug-in modules.**

VITA 67 components are connector blocks that utilize SMPM RF interfaces and cables to make the electrical connection between circuit boards.

Designed to accommodate 0.086" or 0.047" diameter cables, the rugged VITA 67 blocks are perfectly complemented by their pairing with Teledyne Storm's Storm Flex® 086 and 047 cables.

These Storm Flex® cables have the **flexibility to handle tight bends**, and are known for their **durability** and **superior electrical performance**.

The VITA 67–Storm Flex® combination is ideally suited for not only commercial applications, but also the often harsh requirements of military and aerospace applications.

FEATURES

- *Available in 4 position and 8 position formats*
- *Mother card and daughter card versions*
- *Standard MIL-STD-348 SMPM interface*
- *Works beyond the VITA 67 minimum operation frequency of 26.5 GHz*
- *Utilizes Storm Flex® 086 and 047 cable*

BENEFITS

- *Layout flexibility*
- *Works with standard VPX parts*
- *Saves time by enabling quick connect/disconnect*
- *No special adapters required*
- *Broader use across multiple applications*
- *Offers the flexibility needed to handle high density configurations*
- *Withstands multiple flexures immediately behind the connectors without breaking or degrading*
- *High compression resistance*

TELEDYNE
STORM MICROWAVE
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High value microwave and electronic interconnect solutions

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SPECIFICATIONS

Operating Frequency	DC to 40 GHz* (performance based on connector selection)
VSWR (max)	1.45:1 DC to 40 GHz* (performance based on connector selection)
Insertion Loss	See calculator on Storm website (TYP. 12" Storm Flex® 086 max IL: 2.13 dB)
Dielectric Withstanding Voltage	325 Vrms (min) tested per MIL-STD-202, Method 301
Mating Characteristics	Force to engage and disengage: 3.5 lbs (typical) Spring force at full deflection: 4.25 lbs (typical)
Insulation Resistance	5000 Mohms (min) tested per MIL-STD-202, Method 302, Condition B
Corrosion	Tested per MIL-STD-202, Method 101
Durability	More than 500 mate/demate cycles
Contact Resistance – Initial (milliohms, max)	Center contact 6.0 and outer contact 5.0, tested per MIL-PRF-39012, para. 4.6.13
Vibration	Tested per MIL-STD-202, Method 214, Test Condition I, Curve D
Shock	Sawtooth pulse of 100 g 6ms per Mil-STD-202, Method 213, Condition I
Thermal Shock	Tested per MIL-STD-202, Method 107, Test Condition A
Moisture Resistance – Humidity	1,000 megohms within 5 minutes after removal from humidity, tested per MIL-STD-202, Method 106
Power Handling	RF power CW average: 20 dBm min. from 30 MHz to 27 GHz and 30 dBm min. from 3 MHz to 30 MHz
Channel to Channel Isolation	>100 dB 3–26.5 GHz >120 dB 30 MHz–3 GHz >140 dB 3–30 MHz
Intermateability	Connector blocks and SMPM contacts can not always be mixed between manufacturers.

** The VITA specification lists electrical requirements through 26.5 GHz. In practice, cables will operate above this frequency.*

CONFIGURATION

Direct Attach Connector Block	Available in 4 and 8 Positions
Connector Block	Available in 4 and 8 Positions
Cable Type	StormFlex® 086 & StormFlex® 047 available
Connectors	Connectors vary, see page 3 for options

MATERIALS

CONNECTOR BLOCKS

SMPM Block	*OPTION 1:* Aluminum 6061-T6 with chemical conversion coat, Type 1, Class 3 per MIL-DTL-5541 *OPTION 2:* Corrosion resistant steel per ASTM A 582, S30300, Cond. A with passivate per SAE-AMS-2700, Method 2, Class 4
Direct Attach Block	**Mounting & connector block:** Aluminum 6061-T651 or -T6 per SAE-AMS-4027 with chemical conversion coat, Type 1, Class 3 per MIL-DTL-5541. **Screw & pins:** 18-8 stainless steel, spring steel, with passivate per SAE-AMS-2700, Method 2, Class 4

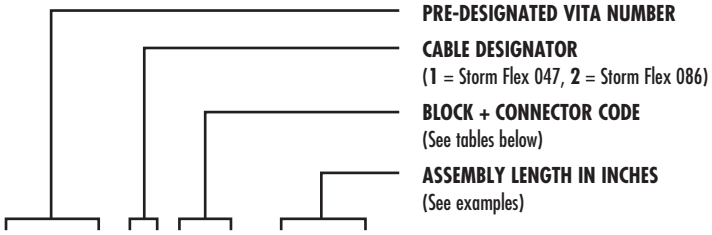
SMPM CONNECTORS

Body, locking ring, contact: Beryllium copper per ASTM B196, C17300, Temper TD04 with gold plate per ASTM B488, Type 2, Class 1.27 on body & contact, and nickel plate per SAE-AMS-QQ-N-290 on locking ring. **Insulator:** Teflon per ASTM D1710, Type 1, Grade 1, Class A. **Spring:** Corrosion resistant steel per SAE-AMS-5678, UNS alloy S17700 with passivate per SAE-AMS-2700

APPLICATIONS

- Robust and rugged high speed cabled solution
- High-reliability, high-density for aerospace & defense applications
- SIGINT, EWR, ground base station & communication systems, avionics, radar systems
- Air Transport Racks (ATRs) without Rear Transition Modules (RTMs) or limited speed through RTM

■ ORDERING INFORMATION: Part Number Designation



EXAMPLES:

717-82A37-012 = VITA 67 assembly with Storm Flex® 086 cables, 4-Position SMPM Block (stainless) to [4] 2.9 mm SP connectors (assembly operates to 40 GHz), **12 inches**

717-81D06-009.5 = VITA 67 assembly with Storm Flex® 047 cables, 8-Position SMPM Block (aluminum) to [8] GPO SJ connectors (assembly operates to 18 GHz, **9.5 inches**

■ STORM FLEX® 086 – CABLE OPTION 2

CONNECTOR COMBINATION PART NUMBERS*

		4-Position Direct Attach Block	4-Position SMPM Block (aluminum)	4-Position SMPM Block (stainless steel)	8-Position Direct Attach Block	8-Position SMPM Block (aluminum)	8-Position SMPM Block (stainless steel)
		40 GHz					
50 GHz	2.4 mm SP	E40	B40	A40	F40	D40	C40
	SMPM female	E70	B70	A70	F70	D70	C70
	SMPM male	E71	B71	A71	F71	D71	C71
40 GHz	2.9 mm SP	E37	B37	A37	F37	D37	C37
	SMPM SJ Float Mount	E72	B72	A72	F72	D72	C72
	SMPM SP Bulkhead Mount	E73	B73	A73	F73	D73	C73
	8-position female	E80	B80	A80	F80	D80	C80
	8-position male	E81	B81	A81	F81	D81	C81
26.5 GHz	SMA SP	E03	B03	A03	F03	D03	C03
18 GHz	SSMA SP	E30	B30	A30	F30	D30	C30
	GPO RAJ	E07	B07	A07	F07	D07	C07
	GPPO SJ	E21	B21	A21	F21	D21	C21
	SMA SP	E02	B02	A02	F02	D02	C02
	SMA SJ	E04	B04	A04	F04	D04	C04
	SMP SJ	E06	B06	A06	F06	D06	C06
4 GHz	BNC SP	E42	B42	A42	F42	D42	C42

NOTE: All non-4 and 8-position connectors will order x4 or x8
** Other connector styles available; consult Storm*

■ STORM FLEX® 047 – CABLE OPTION 1

CONNECTOR COMBINATION PART NUMBERS*

		4-Position Direct Attach Block	4-Position SMPM Block (aluminum)	4-Position SMPM Block (stainless steel)	8-Position Direct Attach Block	8-Position SMPM Block (aluminum)	8-Position SMPM Block (stainless steel)
		40 GHz					
50 GHz	2.4 mm SP	E40	B40	A40	F40	D40	C40
40 GHz	GPPO SJ	E21	B21	A21	F21	D21	C21
	SMPM SJ Float Mount	E70	B70	A70	F70	D70	C70
	SMPM SP Bulkhead Mount	E71	B71	A71	F71	D71	C71
26.5 GHz	SMA SP	E03	B03	A03	F03	D03	C03
18 GHz	GPO RAJ	E09	B09	A09	F09	D09	C09
	GPO SJ	E06	B06	A06	F06	D06	C06
	GPPO RAJ	E22	B22	A22	F22	D22	C22
	SMA SP	E02	B02	A02	F02	D02	C02
14 GHz	SSMA SP	E30	B30	A30	F30	D30	C30

NOTE: All non-4 and 8-position connectors will order x4 or x8
** Other connector styles available; consult Storm*

CONNECTOR CODES	
SP	Straight Plug
SJ	Straight Jack
RAJ	Right-Angle Jack

VITA 67

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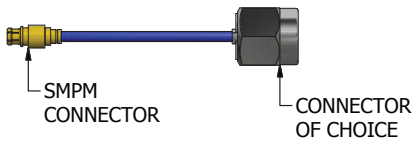
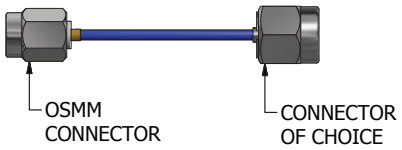
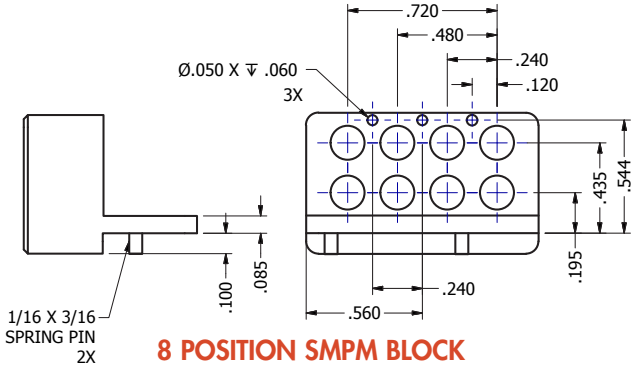
TELEDYNE STORM MICROWAVE CABLE ASSEMBLIES

Pair With Connector Blocks Below For Complete Assembly

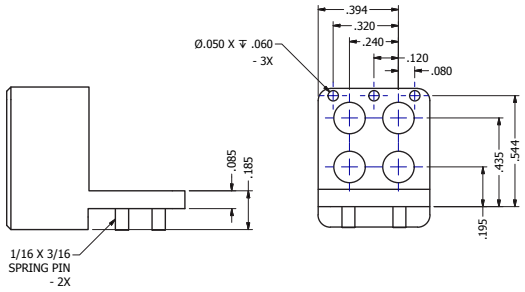






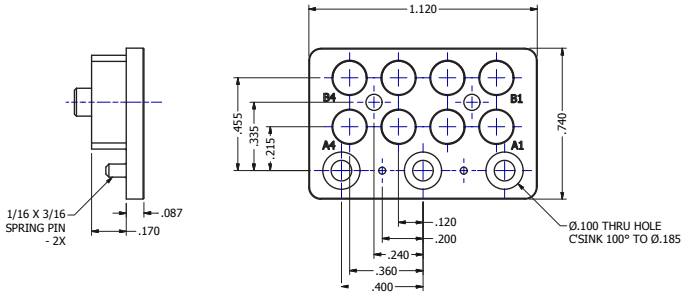
8 POSITION SMPM BLOCK

P/N: 050-3247-001



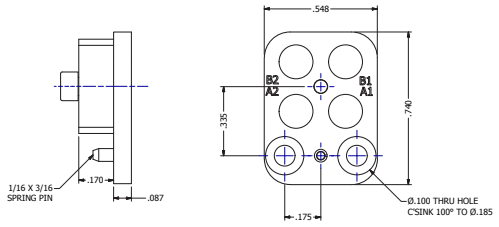
4 POSITION SMPM BLOCK

P/N: 050-3257-001



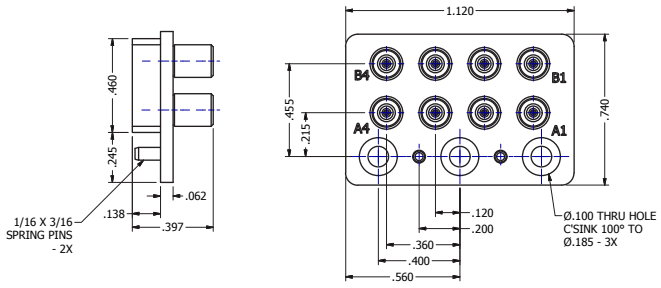
8 POSITION DIRECT ATTACH BLOCK

P/N: 050-3248-001



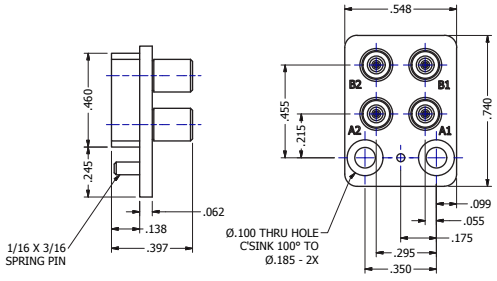
4 POSITION DIRECT ATTACH BLOCK

P/N: 050-3256-001



8 POSITION SMPM MALE TO MALE ADAPTER PLATE

P/N: 050-3262-001



4 POSITION SMPM MALE TO MALE ADAPTER PLATE

P/N: 050-3265-001

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