

Product Name: ZX050C-MSOP8-C (TSSOP8) MSOP-8EP MS8E DGN Characterization testing bringup breakout module

Product Description: High Speed characterization module meeting 10GHz signal bandwidth with < 0.3dB insertion loss. Each pin of the device under test- DUT, U1, is accessible as described below:

- 1- Selectable stuffing option serving any ASIC design configuration- see table on **page 2**
- 2- Two dedicated SMA connectors for each ASIC pin, U1, 1- External stimulus 2- Measurement interface, probe.
- 3- ZX50C-MSOP8-C is designed with 50 Ω (Ohms) trace impedance using 4 layers PCB ensuring PCB+Connector insertion loss <0.3dB
- 4- Designed with 1oz copper ensuring today's design requirements. Please allow thermal calculations based on 1oz copper.

Ideal for ASIC Integrated Circuit (IC) characterization, bringup, functional testing of ANY MSOP-8 (TSSOP8) MSOP-8EP (with Exposed Pad) packages such as ESD diode, MOSFET, Load Switch, LDO, and more, using MSOP-8 (TSSOP8) MSOP-8EP MS8E and DSN footprint package.

Available 2 pin headers (with associated decoupling capacitor) for interfacing to any standard Power Supply (J1, J2, J3 and J4). The Capacitors, C1, C2, C3 and C4 are the headers' associated decoupling capacitors – 0.1 μF or similar.

AGND pin of the 2 pin headers is the module's GND reference. It is connected to the module GND plane. Please note ; MSOP-8 package has identical footprint to MSOP8-EP. TSSOP8, MSOP8-TP, 8pin e-MSOP MS8E, DGN and more please verify footprint for verification.

Application: Bringup, Characterization, testing, development, modular design evaluations

Target DUT : Designed specifically for any MSOP-8 TSSOP8 MSOP-8EP MS8E, DGN ASIC SMD device with SMA connector accessing all pins of the DUT device.

Pitch: Standard MSOP-8 MSOP-8EP (exposed pad) meets other standard packages such as TSSOP8 MS8E DGN SMD package or equivalent

Headers: 2 pin test point (VDD - GND) - 0.025" SQ with 0.32" (5.6mm) post height

DUT landing pads: MSOP8 (EP) surface mount, 8 pin package – see table below

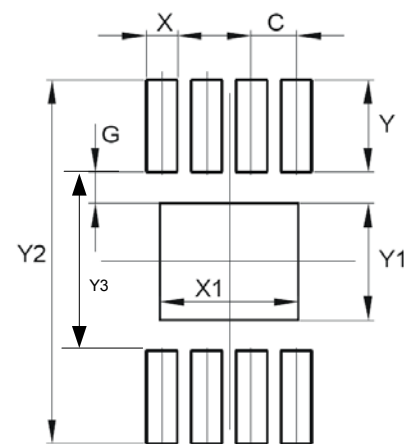
DUT landing with EXPOSED Pad, EP: Two 0603 SMD devices are reserved connecting the EP to GND or VDD as required.

DUT footprint compatibility: ZX050C-MSOP8-C footprint is compatible with most ASIC, U1, such as TSSOP8 MSOP8-EP, 8pin eMSOP MS8E, DGN and more.

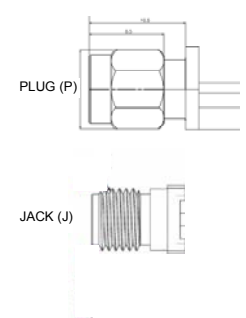
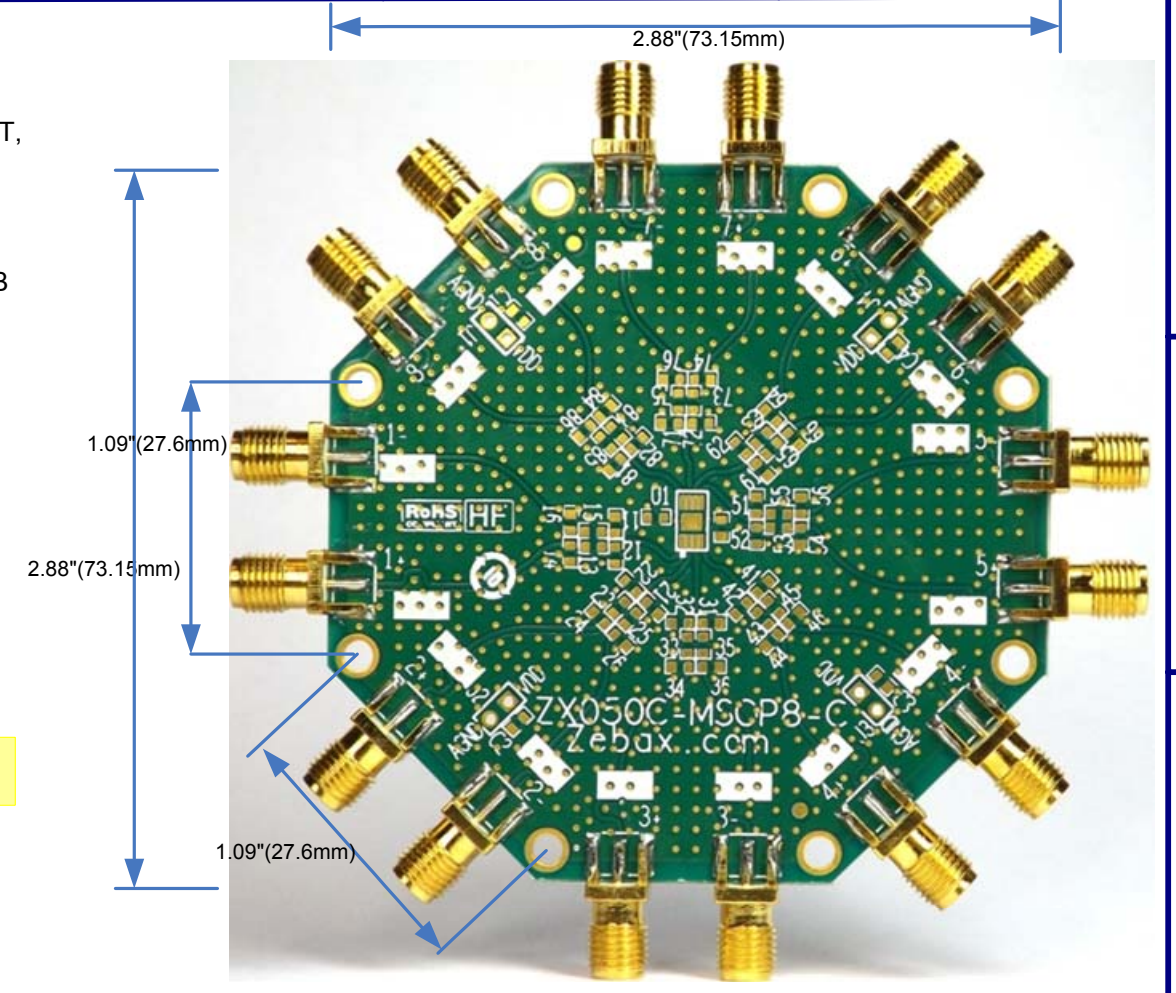
SMA:
 Impedance: 50Ω
 Temp Range: -65°C +165°C
 Vibration: MIL-STD-202, Method 213
 Frequency Range: DC – 12GHz
 Working Voltage: 335V max
 Withstand Voltage: 1000V rms
 Center Contact: ≤3mΩ
 Outer Contact: ≤2mΩ
 Insulation resistance: ≥5000MΩ
 VSWR Straight: ≤1.15 (0.8-2.5G)

MSOP8 DIMENTIONS (mm)									
UNIT		Y3	Y2	Y1	Y	X1	X	G	C
mm	max Typical min	2.60	5.30	1.70	1.35	2.000	0.45	0.45	0.65

OUTLINE Version	REFERENCES		
	IEC	JEDEC	JEITA
SOT505-1		MO-187 AA	
SOT505-2		MO-187 AA	



Block Diagram:
See Page 2



Ordering INFO:
 Part Number
 ZX050C-MSOP8-C-J SMA Jack Connector type (standard)
 ZX050C-MSOP8-C-P SMA Plug connector type

NOTE: ZX050C-MSOP8 is shipped without DUT and headers. All SMA connectors are installed.

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

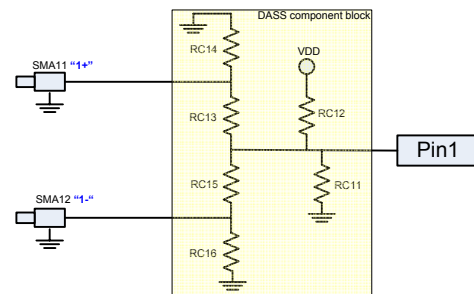
ZEBAX TECHNOLOGIES SANTA CRUZ, CA U.S.A (831) 2 2 2 - 0717 WWW.ZEBAX.COM		
SPECIFIED DIMENSIONS ARE INCHES (MM). ROHS COMPLIANT		ASSEMBLY DRAWING ITEM: ZX050C-MSOP8-C
DESCRIPTION: MSOP8 (TSSOP8) MSOP-8EP characterization testing bringup breakout adapter SMA		
CHECKED: M. MARINA	DRAWN: SLAVIK	REVISION: 1.0 SHEET 1 OF 2

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DUT Application Specific Stuffing options, DASS:

Figure below outlines the DUT Application Specific Stuffing, DASS, components comprising of six 0603 SMD package devices.



- Note:**
- 1- RCxx: 0603 SMD landing Pad. Reserved for installing any resistor, capacitor, inductor, bead, diode, or etc.
 - 2- RC12 is referenced as U1.Pin 1, 2nd component – each pin has stuffing option for 6 component (referred as DASS) where the RC13 and RC15 are REQUIRED for interfacing with the SMA connectors.
 - 3- "1-" and "1+" are silkscreen at the SMA connectors referenced to the U1.pin1.
 - 4- "1-" is referenced to RC11 since it references to GND.
 - 5- "1+" is referenced to RC12 since it references to VDD.

DASS: DUT Application Specific Stuffing

General 2pin header, description:

VDD and AGND:

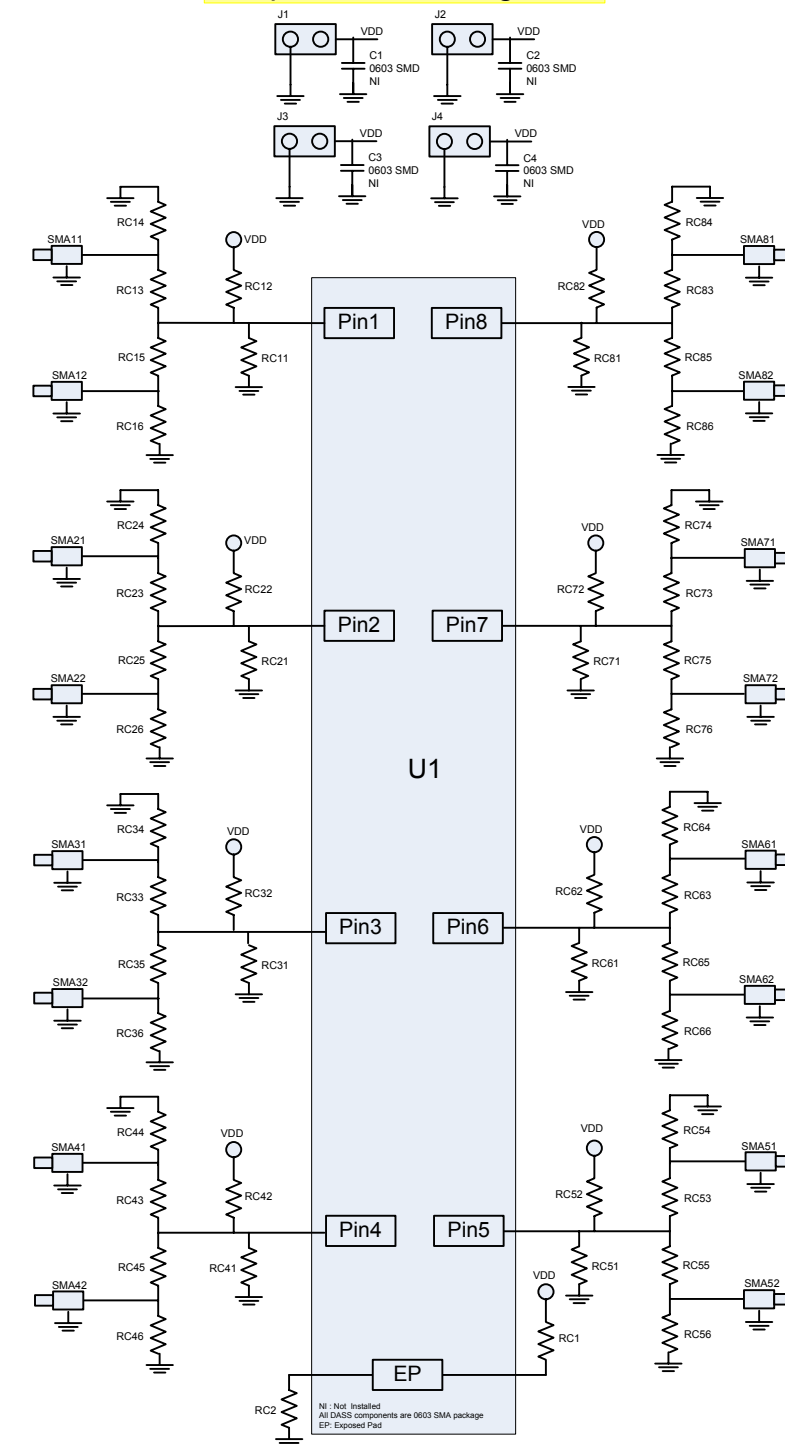
- 1- Available onboard standard 0.1" (2.54mm) pitch headers.
- 2- VDD pin is connected to the VDD PCB plane - 3rd layer
- 3- AGND is connected to the AGND PCB plane - 2nd layer
- 4- Each header is accompanied by 0603 SMD package for 0.1uF decoupling capacitor, if required.

Stuffing option, Matrix : Table below provides suggested stuffing options for the DASS components for push-pull, and open drain devices for INPUT, OUTPUT, supply and the GND signal interfaces.

DUT Pin configuration	Stuffing options	push-pull devices		open drain devices	
		Low voltage devices	High Voltage devices	Low voltage devices	High Voltage devices
Supply, VDD	RCx2	0.1 μF	0.1 μF	0.1 μF	0.1 μF
Supply GND	RCx1	0 Ω	0 Ω	0 Ω	0 Ω
INPUT	RCx1	50 Ω	50 Ω	50 Ω	50 Ω
OUTPUT	RCx1	5 pF	40 pF	5 pF	40 pF
	RCx5	1050 Ω	453 Ω	1050 Ω	453 Ω
Application Specific	RCx6	Unused open		2K Ω	499 Ω
	RCx3, RCx5	DUT Application Specific Suffing (DASS) - Must install with 0 Ω, if Not used.			

Note: Each pin of U1 has identical stuffing options. RCx1 where the x is the U1.pin number

Simplified Block Diagram:



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DESCRIPTION: MSOP8 (TSSOP8) MSOP-8EP characterization testing bringup breakout adapter SMA		
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