Product Name: **ZX050C-SOT23-C (SC-59 – TO-236AB) SOT23 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-SOT23-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 SOT23 (TO-236AB SC-59) package such as ESD diode, MOSFET, Load Switch, LDO, and more, using SOT23 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.

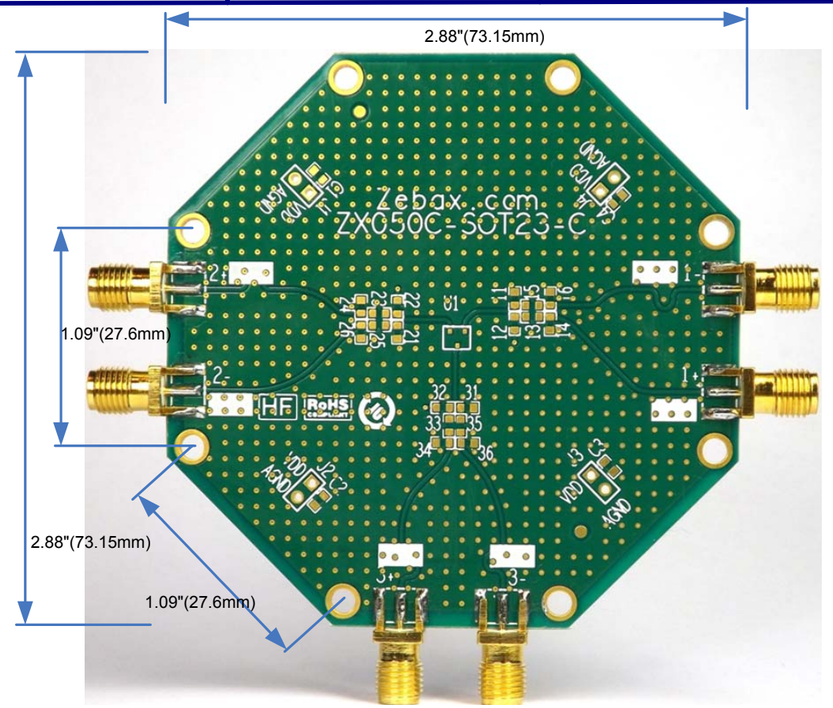
Application: Bringup, Characterization, testing, development, modular design evaluations

Target DUT : Designed specifically for any SOT23 (TO236AB, SC-59) SMD device with SMA connector access to all pins of the SOT23 device.

Pitch: Standard SOT23 (TO-236AB SC-59) SMD package or equivalent

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

DUT landing pads: Surface Mount, 3 pin package – Body 2.9x1.3mm (Length Width) or equivalent



Block Diagram:
See Page 2

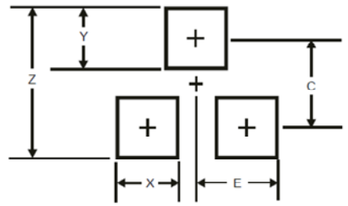
SMA:

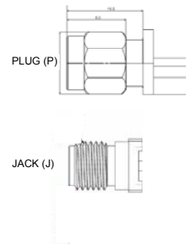
Impedance:	50Ω
Temp Range:	-65°C +165°C
Vibration:	MIL-STD-202, Method 213
Frequency Range:	DC – 12GHz
Working Voltage:	335V max
Withstand Voltage:	1000V rms
Center Contact:	≤3mΩ
Outer Contact:	≤2mΩ
Insulation resistance:	≥5000MΩ
VSWR Straight:	≤1.15 (0.8-2.5G)

DIMENTIONS (mm)

UNIT		C	E	X	Y	Z
mm	max Typical min	2.00	1.35	0.80	0.900	2.900

OUTLINE Version	REFERENCES			
	IEC	JEDEC	JEITA	
SOT23		TO236AB	SC-59	





Ordering INFO:

Part Number
ZX050C-SOT23-C-J SMA Jack Connector type (**standard**)
ZX050C-SOT23-C-P SMA Plug connector type

NOTE: ZX050C-SOT23-C module is shipped without DUT and headers. All SMA connectors are installed.

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: ZX050C-SOT23-C (SC-59)

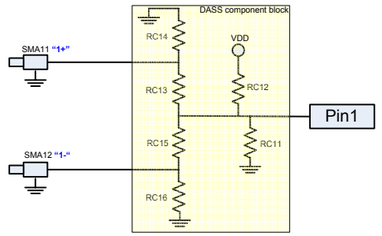
DESCRIPTION: **SOT23 (SC-59 TO-236AB) characterization testing bringup breakout adapter SMA**

CHECKED: M. MARINA
DRAWN: SLAVIK
REVISSION: **1.0**
SHEET **1 OF 2**

Product Name: **ZX050C-SOT23-C (SC-59 – TO236AB) SOT23 Characterization testing bringup breakout module**

DUT Application Specific Stuffing options, DASS:

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



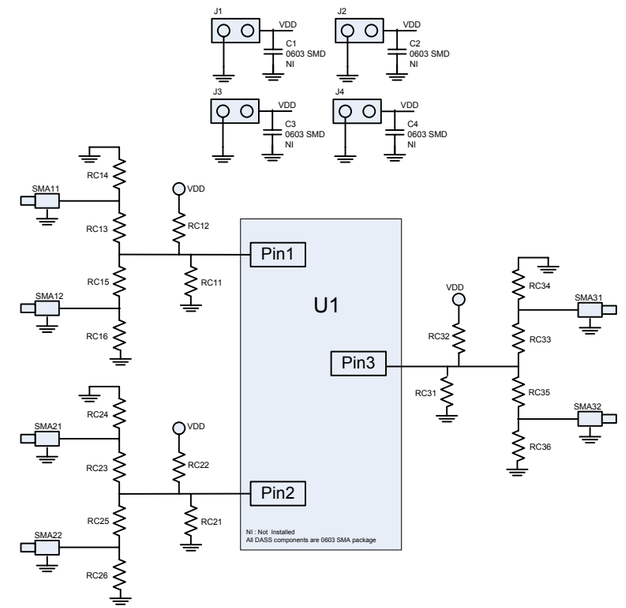
Note:
1- RCxx: 0603 SMD landing Pad. Reserved for installing any resistor, capacitor, Inductor, bead, diode, or etc
2- RC12 is referenced as U1.Pin **1** , **2nd** component – each pin has stuffing option for 6 component (referred as DASS) where the RC13 and RC15 are REQUIRED for interfacing with the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

Simplified Block Diagram:



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**
	RCx6	**Unused open**		**2K Ω**	**499 Ω**
Application Specific	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					

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ASSEMBLY DRAWING

ITEM: ZX050C-SOT23-C (SC-59)

DESCRIPTION: SOT23 (SC59 TO236AB) characterization testing bringup breakout adapter SMA

CHECKED: M. MARINA
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SHEET: 2 OF 2