



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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<http://onsemi.com>

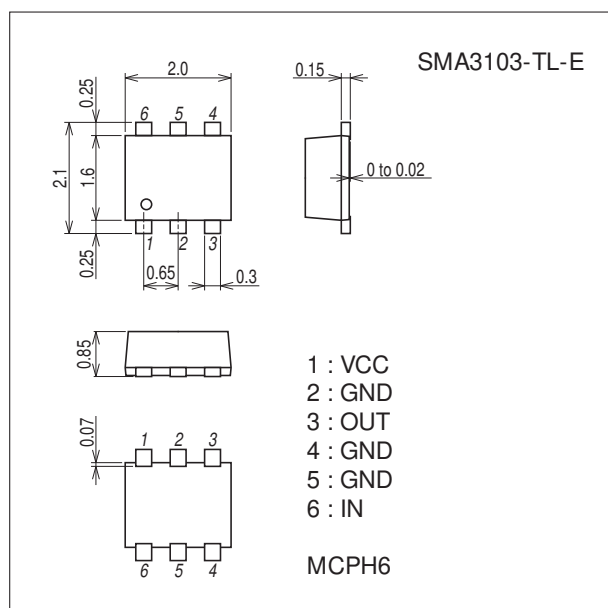
Amplifier, 5V, 19mA, 0.1 to 3.3GHz, MCPH6

- High Gain : Gp=26.5dB typ. @1GHz
- Wideband response : fu=3.3GHz
- Low current : ICC=19mA typ
- High output power : Po(1dB)=5dBm
- Port impedance : input/output 50Ω

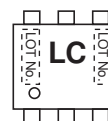
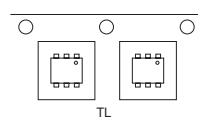
Parameter	Symbol	Conditions	Ratings	Unit
Supply Voltage	V _{CC}		6	V
Circuit Current	I _{CC}		40	mA
Allowable Power Dissipation	P _D		280	mW
Operating Temperature	T _{opr}		–40 to +85	°C
Storage Temperature	T _{stg}		–55 to +150	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

7022A-018



- Package : MCPH6
- JEITA, JEDEC : SC-88, SC-70-6, SOT-363
- Minimum Packing Quantity : 3,000 pcs./reel



SMA3103

Recommended Operating Condition at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Supply Voltage	VCC		4.5	5	5.5	V
Operating Ambient Temperature	Topr		-40	+25	+85	°C

Note) Pay attention to handling since it is liable to be affected by static electricity due to the high frequency process adopted.

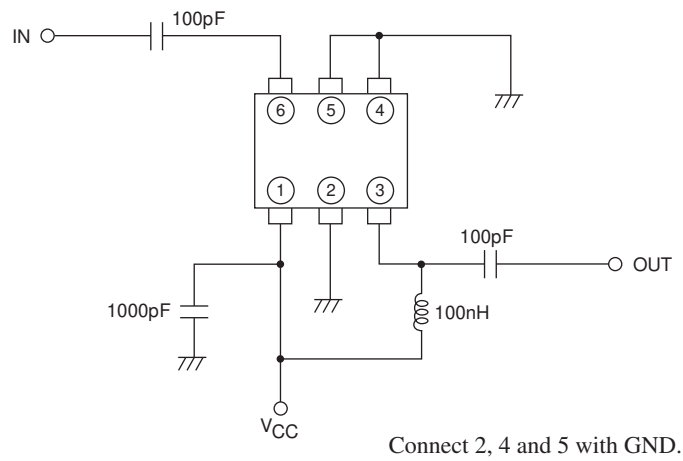
Electrical Characteristics at Ta=25°C, VCC=5V, Zs=ZL=50Ω

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Circuit Current	ICC		14.0	19.0	25.0	mA
Power Gain	Gp	f=1GHz	24.0	26.5	29.0	dB
		f=2.2GHz	24.0	27.0	30.0	
Isolation	ISL	f=1GHz	31.0	33.0		dB
		f=2.2GHz	31.0	33.0		
Input Return Loss	RLin	f=1GHz	12.0	20.0		dB
		f=2.2GHz	10.0	14.0		
Output Return Loss	RLout	f=1GHz	12.0	20.0		dB
		f=2.2GHz	10.0	16.0		
Noise Figure	NF	f=1GHz		4.7	5.3	dB
		f=2.2GHz		4.7	5.3	
Gain 1dB Compression Output Power	Po(1dB)	f=1GHz	6.0	8.2		dBm
		f=2.2GHz	4.0	5.7		
Upper Limit Operating Frequency	fu	3dB down below flat gain at f =1GHz		3.3		GHz

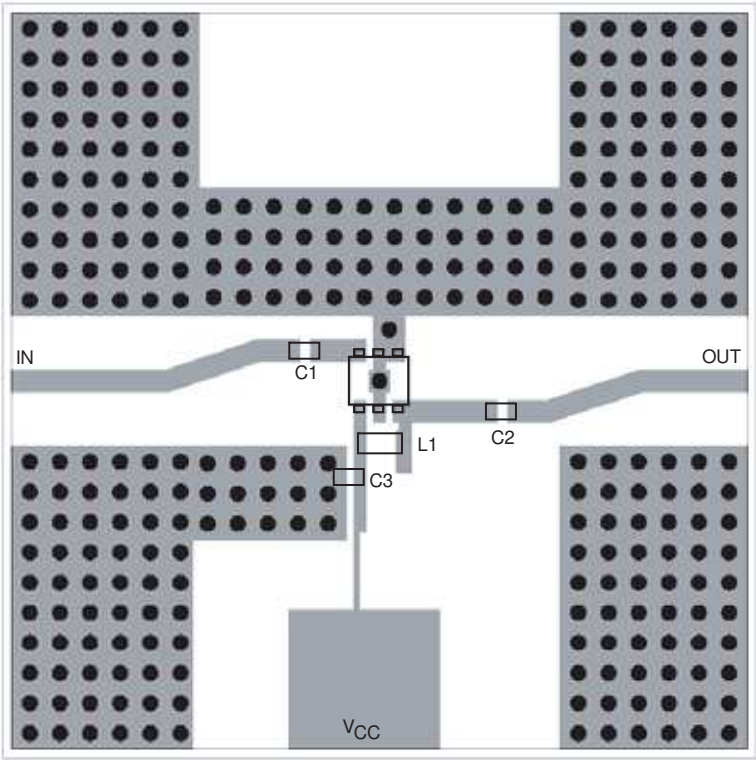
Ordering Information

Device	Package	Shipping	memo
SMA3103-TL-E	MCPH6	3,000pcs./reel	Pb Free

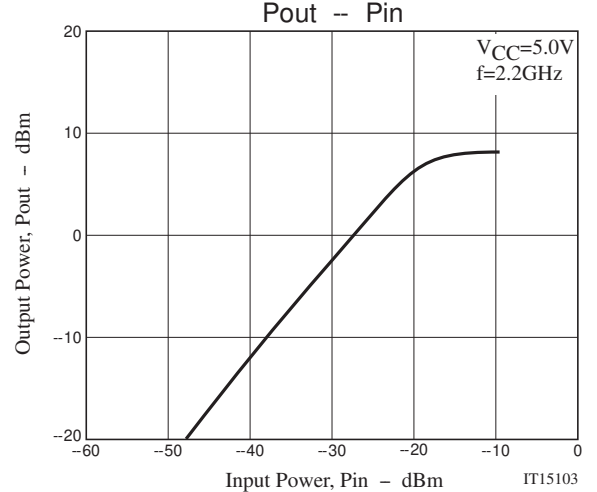
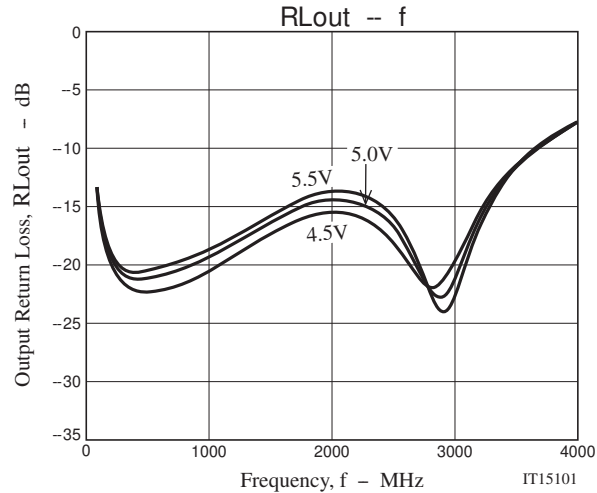
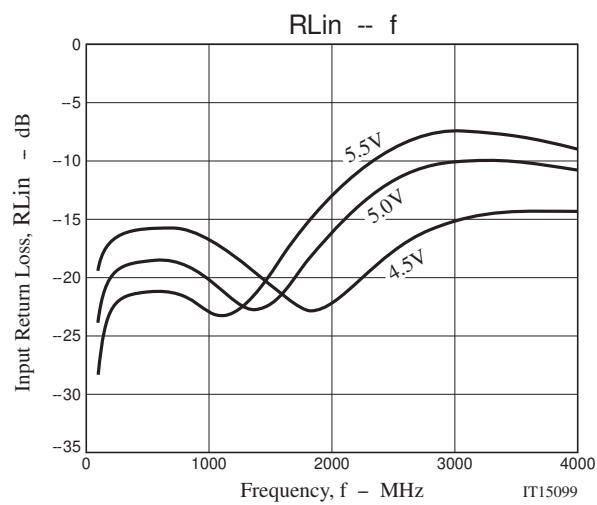
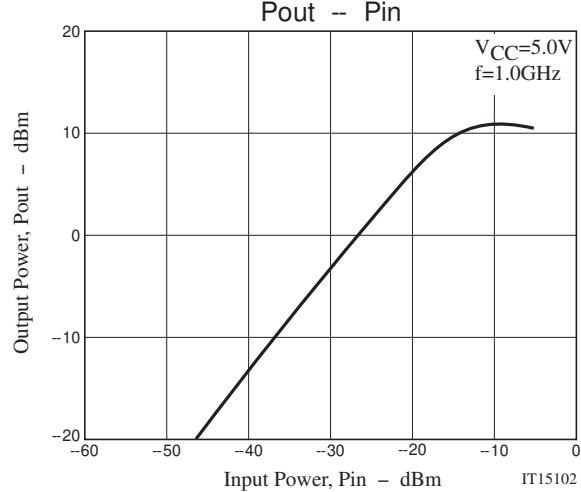
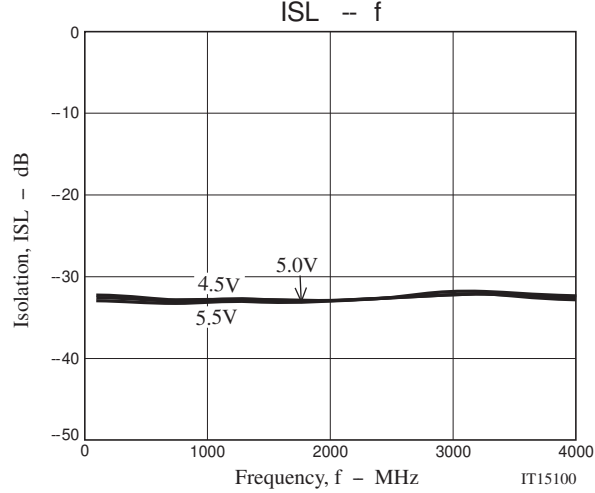
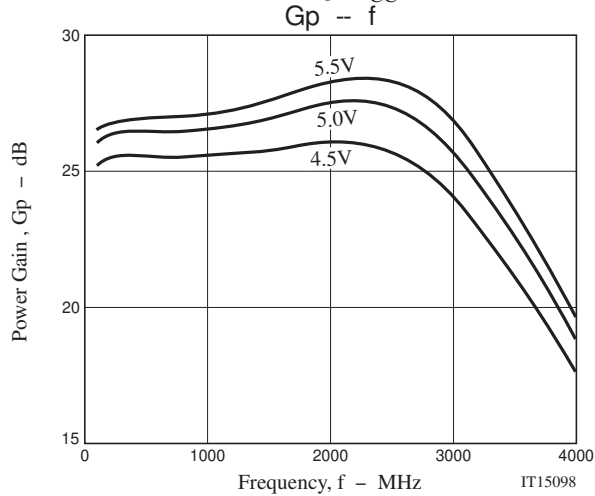
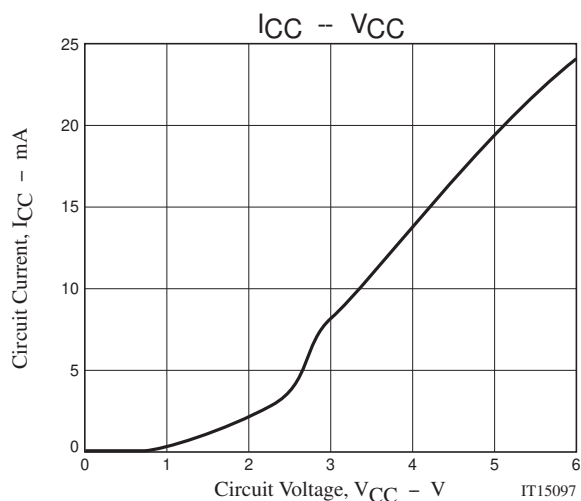
Test Circuit



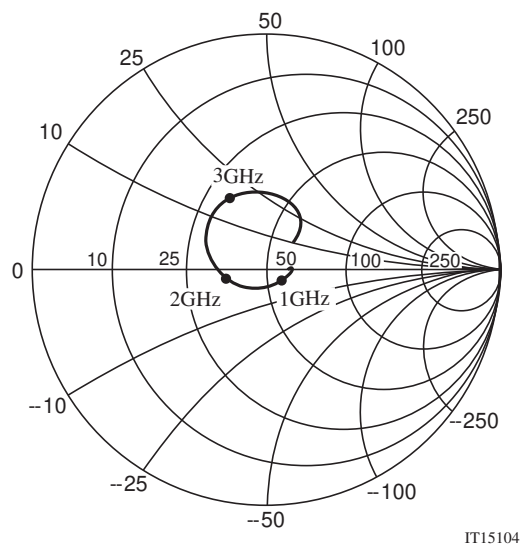
Design of the Evaluation Board



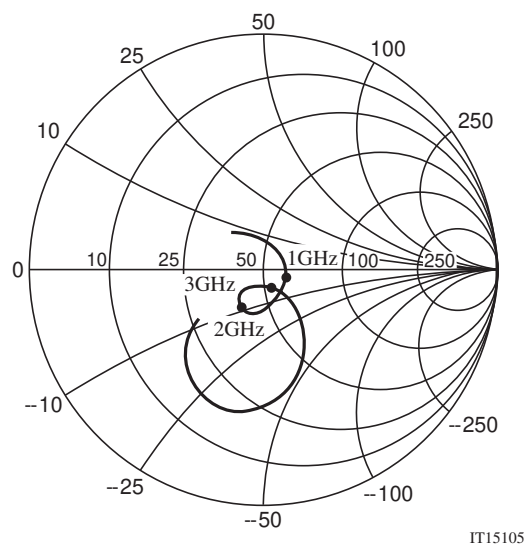
Symbol	Value
C1, C2	100pF
C3	1000pF
L1	100nH



S Parameter
S11



S22



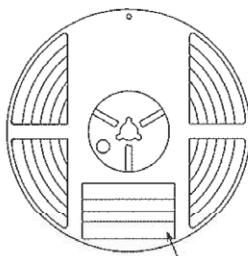
Embossed Taping Specification

SMA3103-TL-E

1. Packing Format

Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
MCPH6	MCP4	3,000	15,000	90,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

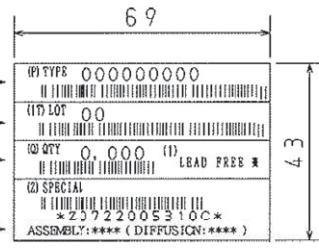
Packing method



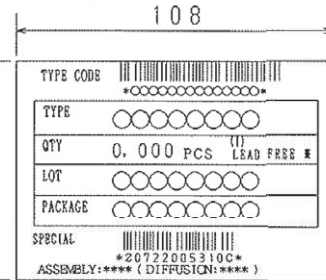
Reel label

Type No.
LOT No.
Quantity
Origin

Reel label, Inner box label
(unit:mm)



Outer box label
It is a label at the time of factory shipments.
The form of a label may change in physical
distribution process.



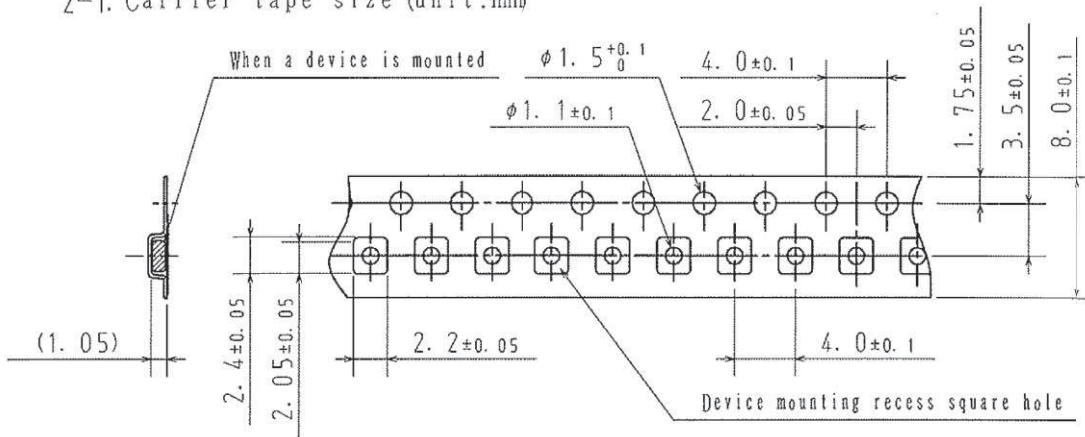
NOTE (1)

The LEAD FREE * description shows that the surface treatment of the terminal is lead free.

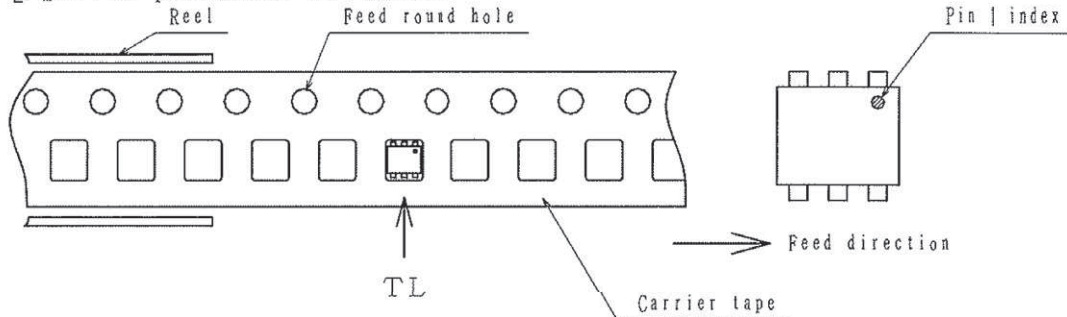
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

2-1. Carrier tape size (unit:mm)



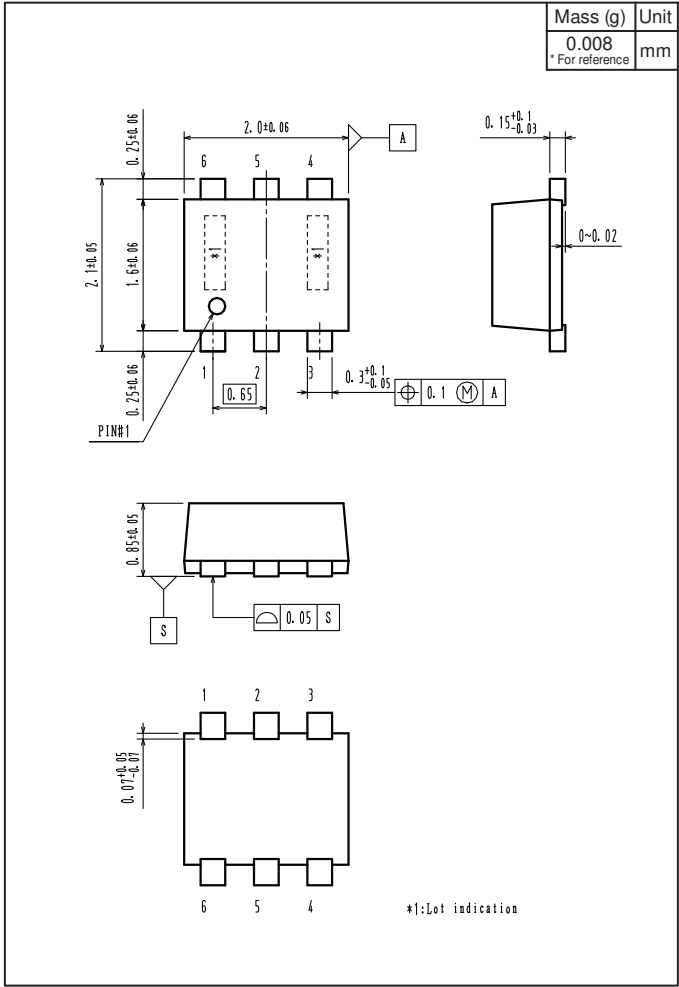
2-2. Device placement direction



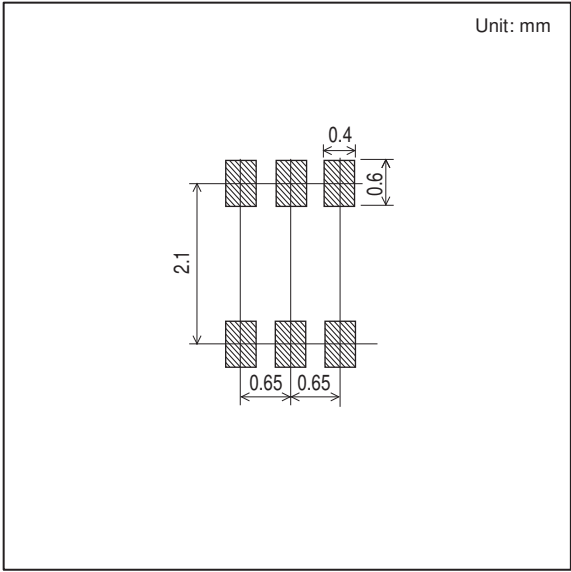
Those with pin 1 index on the feed hole side.....TL

SMA3103

Outline Drawing
SMA3103-TL-E



Land Pattern Example



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