

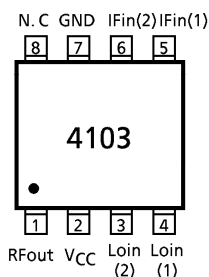
# TA4103F

## 1.9GHz BAND UP CONVERTER APPLICATION

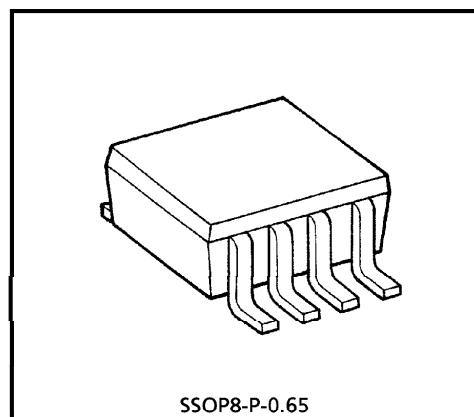
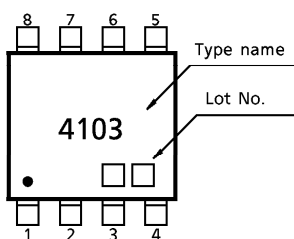
### FEATURES

- Built in Lo and IF buffer amplifiers.
- Double balanced MIX circuit
- High conversion gain :  $G_C = 3\text{dB}$  (Typ.)
- Recommended operating voltage :  $V_{CC} = 2.7\sim 3.3\text{V}$

### PIN ASSIGNMENT (Topview)



### MARKING



SSOP8-P-0.65  
Weight : 0.02g (Typ.)

### MAXIMUM RATING (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	$V_{CC}$	5	V
Total Power Dissipation	$P_D$ (*)	300	mW
Operating Temperature	$T_{opr}$	- 40~85	°C
Storage Temperature Range	$T_{stg}$	- 55~125	°C

(\*) When mounted on the glass epoxy board of 2.5cm<sup>2</sup> × 1.6t.

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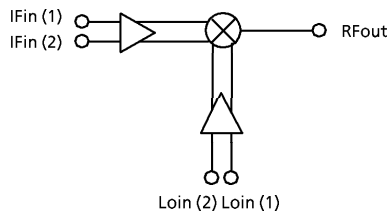
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**ELECTRICAL CHARACTERISTICS** ( $V_{CC} = 3V$ ,  $T_a = 25^\circ C$ ,  $Z_g = Z_l = 50\Omega$ )

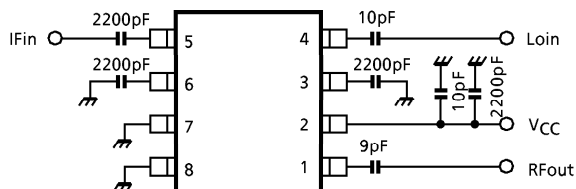
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
RF Frequency Range	$f_{RFout}$	—		1895	—	1918	MHz
IF Frequency Range	$f_{IFin}$			220	—	250	MHz
Lo Frequency Range	$f_{Loin}$			1645	—	1698	MHz
Circuit Current	$I_{CC}$	—	Non Carrier	23	26.5	33	mA
Conversion Gain	$G_C$	1	$P_{Loin} = -20dBmW$	1	3	—	dB
Output Power At 1dB Gaing Compression	$P_{O1dB}$			-19	-17	—	dB
Lo-RF Leakage Power	$P_{RFLo}$			—	—	-20	dBmW
Lo-IF Leakege Power	$P_{IFLo}$			—	—	-33	dBmW
Adjacent Channel Leakage Power Ratio	$Padj$			$P_{RFout} = -18dBmW$ $P_{IFin} = \text{Adjusted}$ $\Delta f = 600kHz$ (Note)	—	-63	—

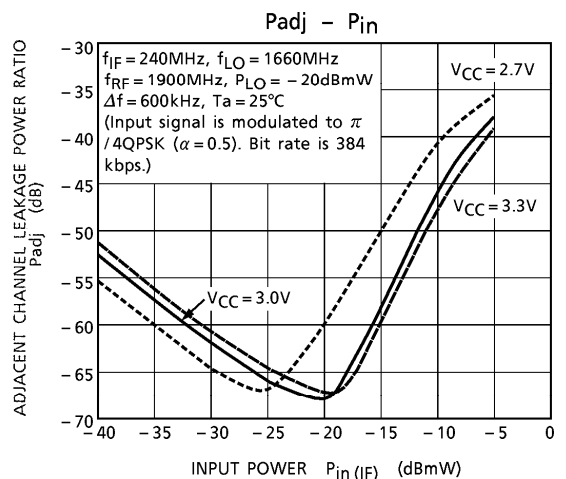
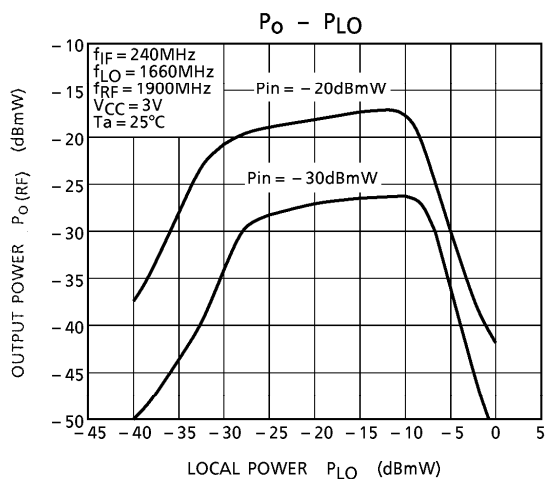
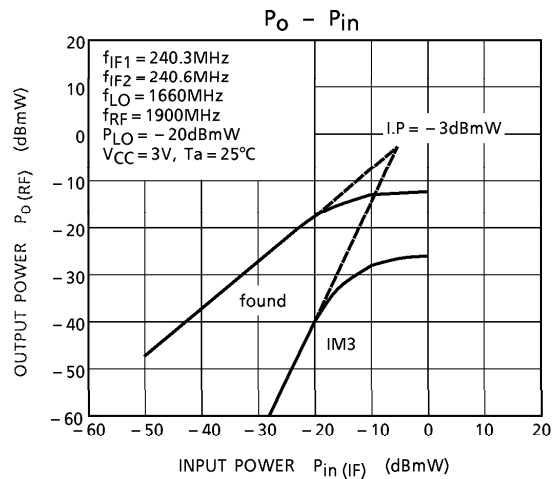
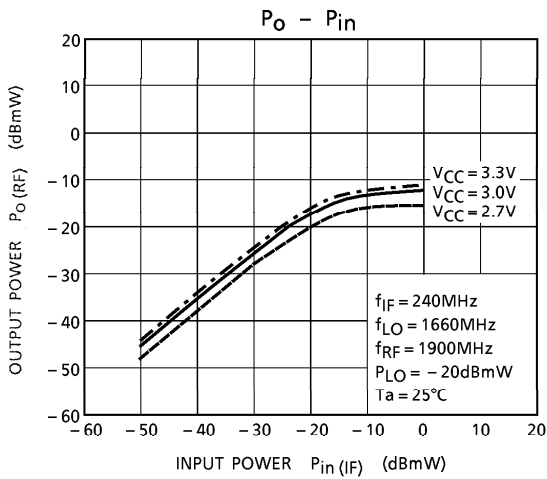
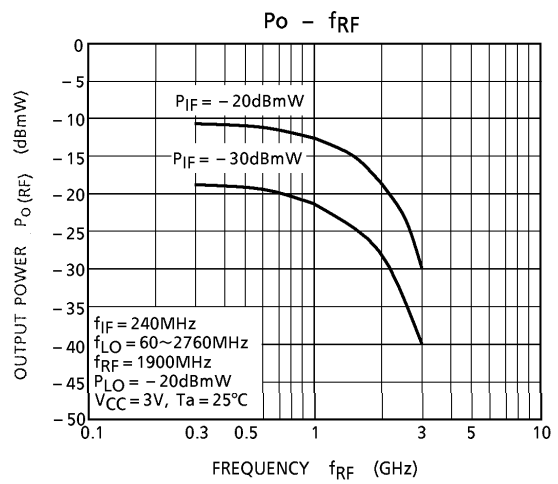
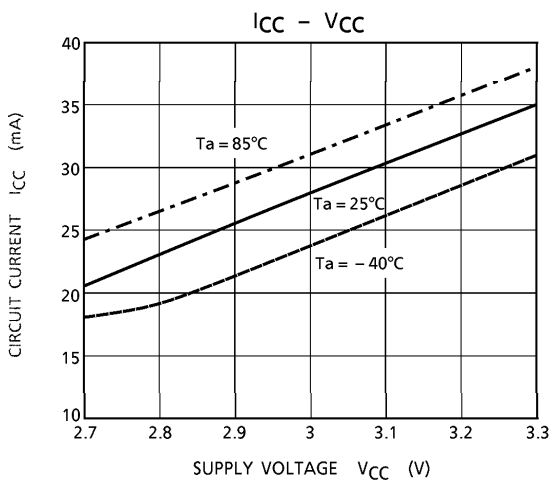
(Note) Input signal is modulated to  $\pi/4QPSK$  ( $\alpha = 0.5$ ). Bit rate is 384 kbps.

**BLOCK DIAGRAM**



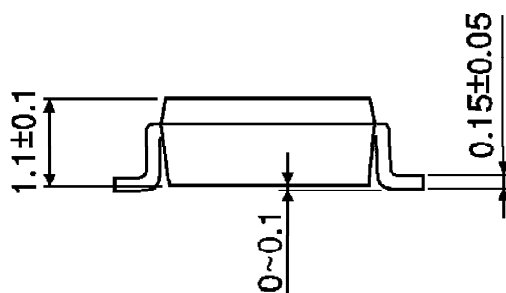
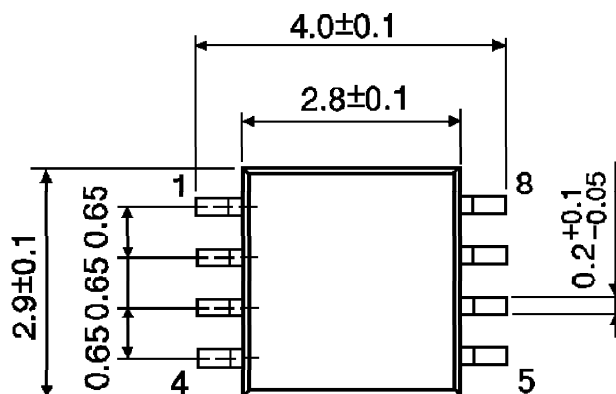
**TEST CIRCUIT 1**





OUTLINE DRAWING  
SSOP8-P-0.65

Unit : mm



Weight : 0.02g (Typ.)