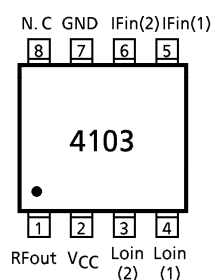
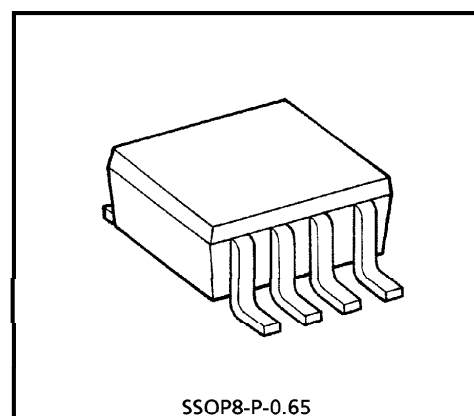
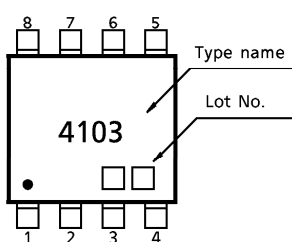


TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

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 $2.5\text{cm}^2 \times 1.6\text{t}$.

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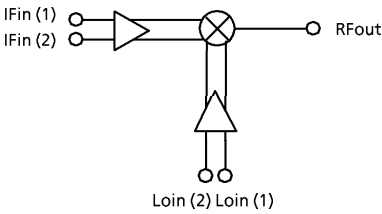
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- The information contained herein is subject to change without notice.

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

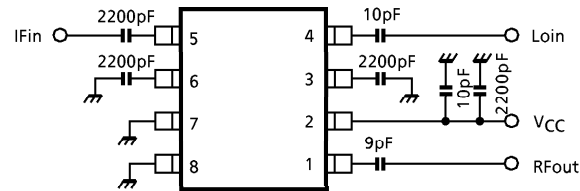
CHARACTERISTIC	SYMBOL	TEST CIR- CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
RF Frequency Range	f _{RFout}	—		1895	—	1918	MHz
IF Frequency Range	f _{IFin}			220	—	250	MHz
Lo Frequency Range	f _{LoIn}			1645	—	1698	MHz
Circuit Current	I _{CC}	—	Non Carrier	23	26.5	33	mA
Conversion Gain	G _C	1	P _{LoIn} = – 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	P _{adj}			P _{RFout} = – 18dBmW P _{IFin} = Adjusted Δf = 600kHz (Note)	—	– 63	—

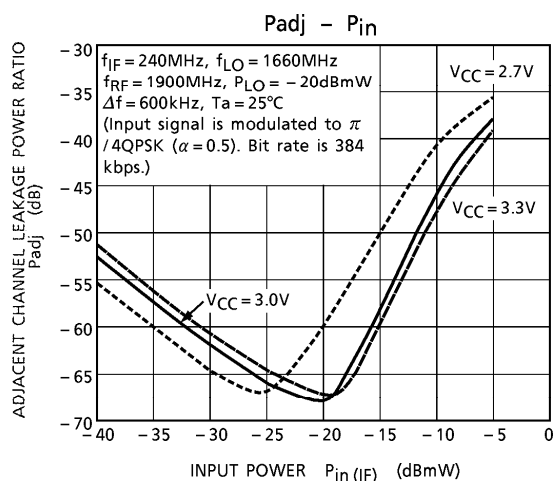
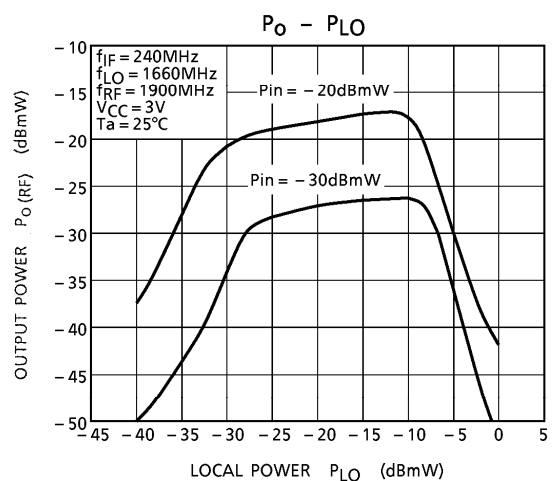
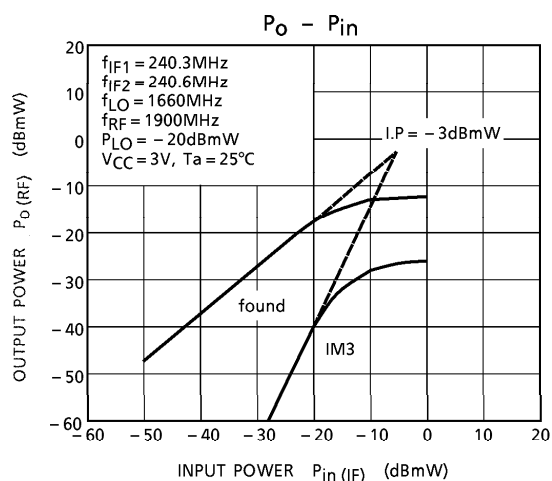
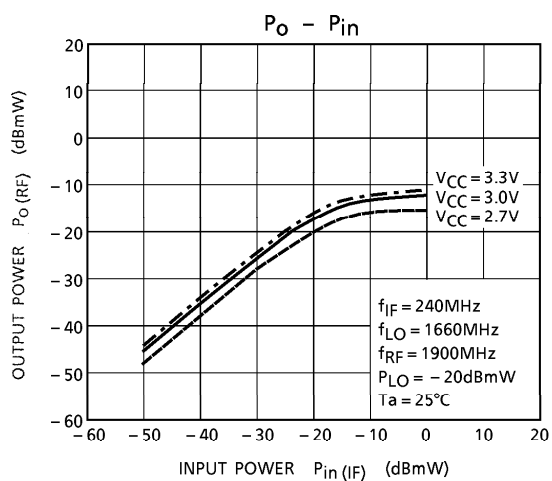
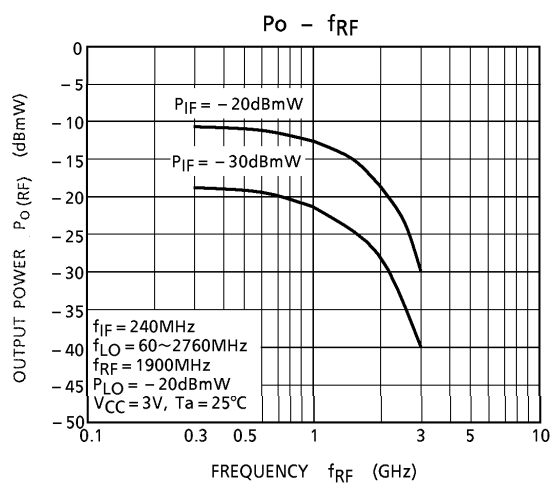
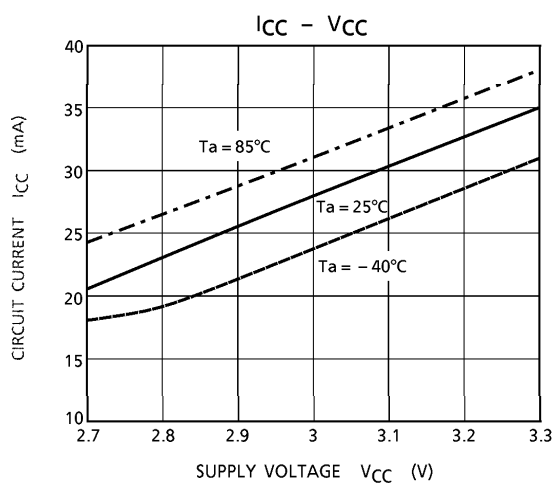
(Note) Input signal is modulated to $\pi/4QPSK$ ($\alpha = 0.5$). Bit rate is 384 kbps.

BLOCK DIAGRAM



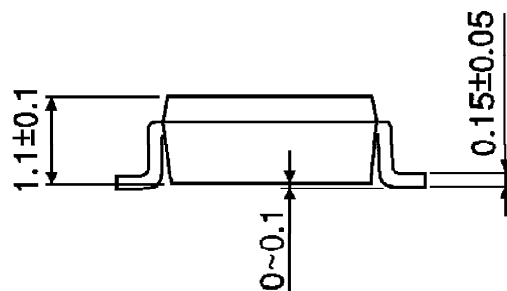
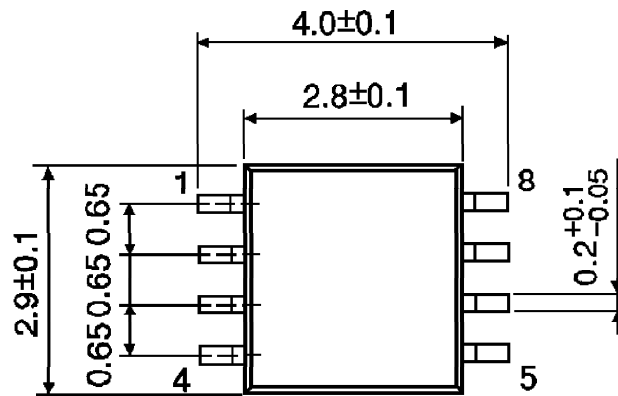
TEST CIRCUIT 1





OUTLINE DRAWING
SSOP8-P-0.65

Unit : mm



Weight : 0.02g (Typ.)