

DATA SHEET

Part No.	AN6591BFJM
Package Code No.	QFP044-P-0606C

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Maintenance/Discontinued includes following four Product lifecycle stage
Discontinued
planned maintenance type
maintenance type
planned discontinued type
discontinued type
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AN6591BFJM

Sending and receiving PLL single-chip IC for PHS

■ Function

- PLL: Prescaler, Counter, Phase comparator, Charge pump (for two systems)
- Reception: 2nd-MIX, LIM-AMP, RSSI
- Transmission: Quadrature modulator, Phase shifter, UP-MIX, APC

■ Applications

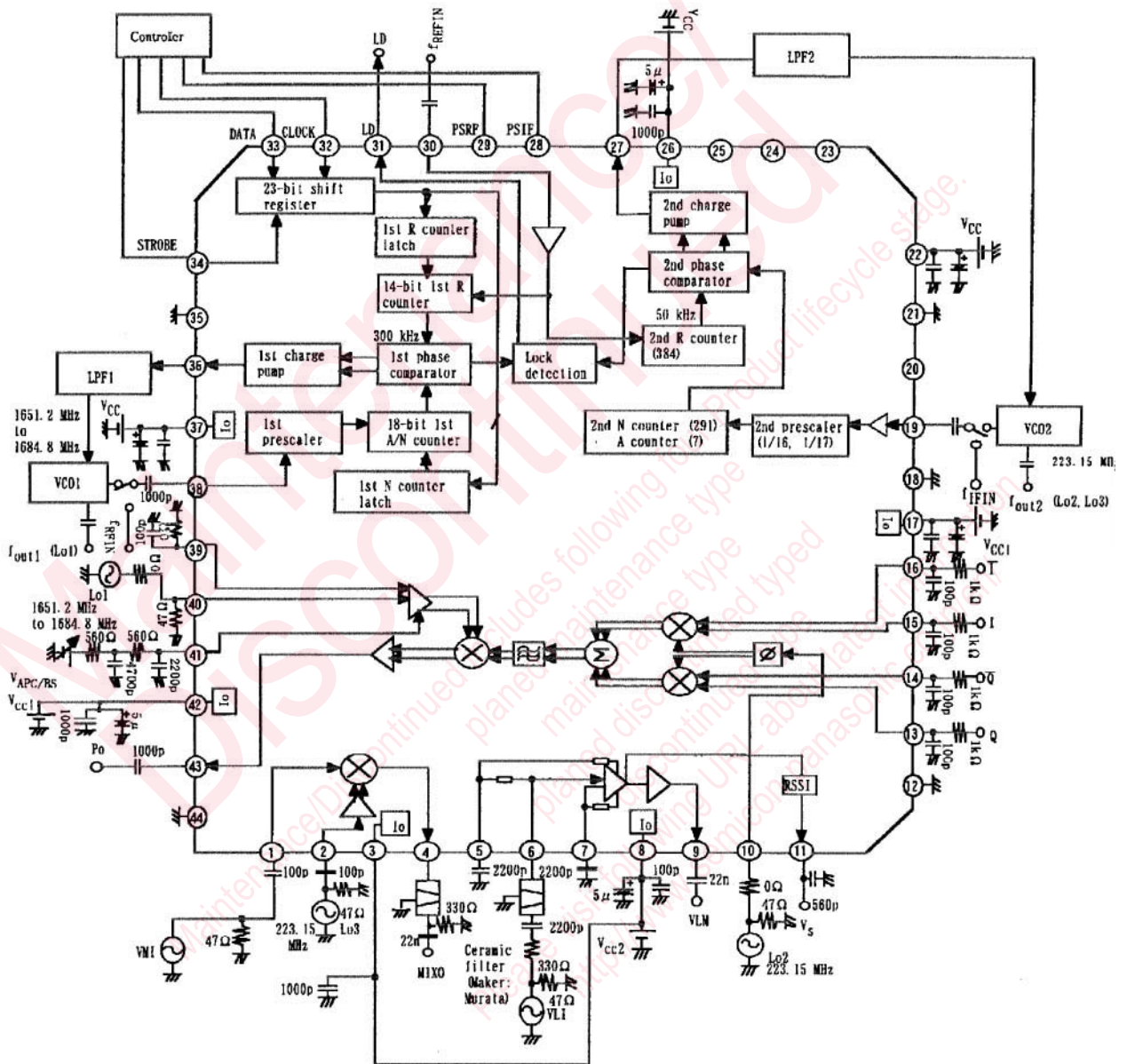
- PHS

■ Package

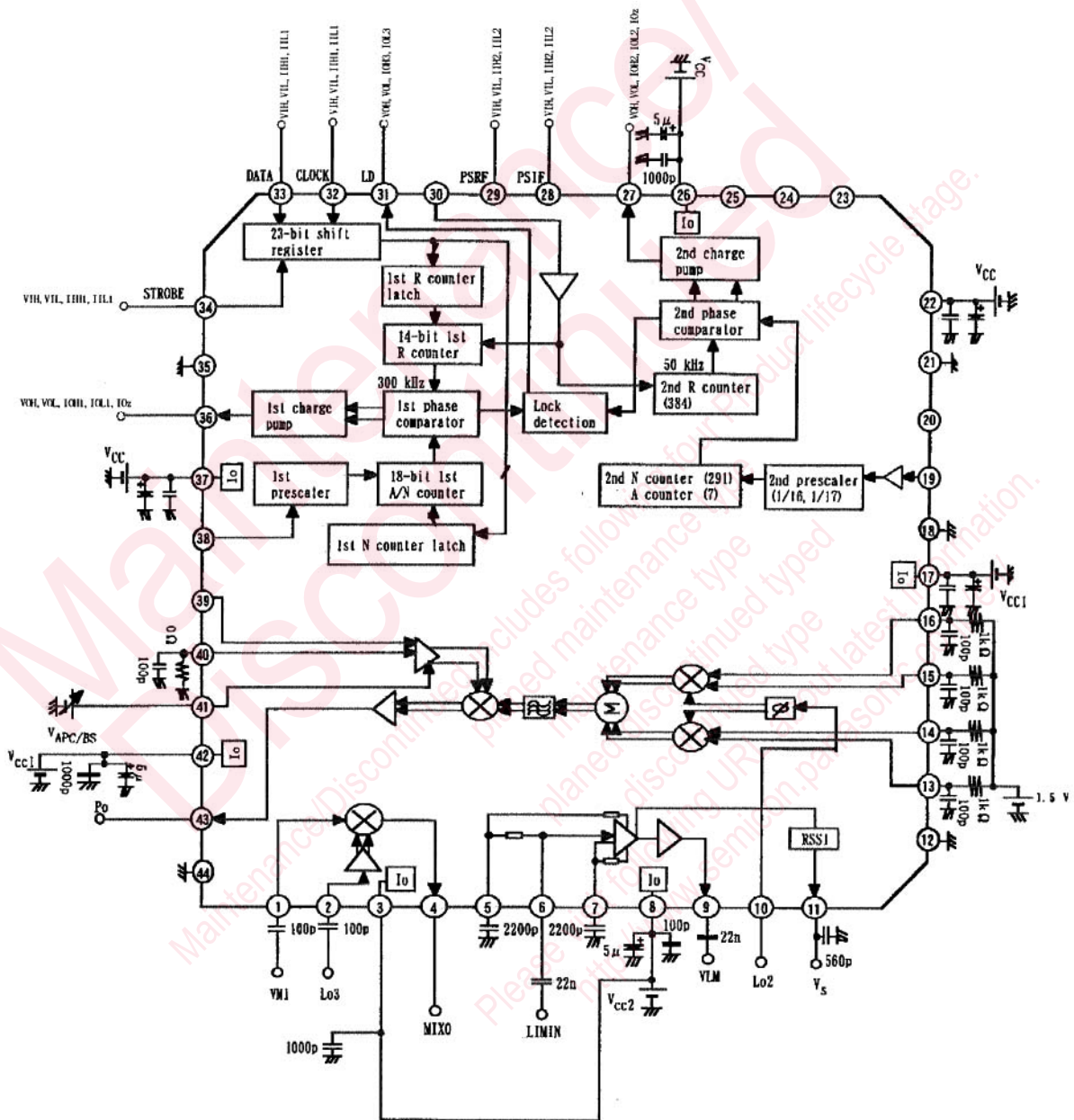
- 4Directions - 44Pin Plastic Quad Flat Non-leaded Package (QFP Type)

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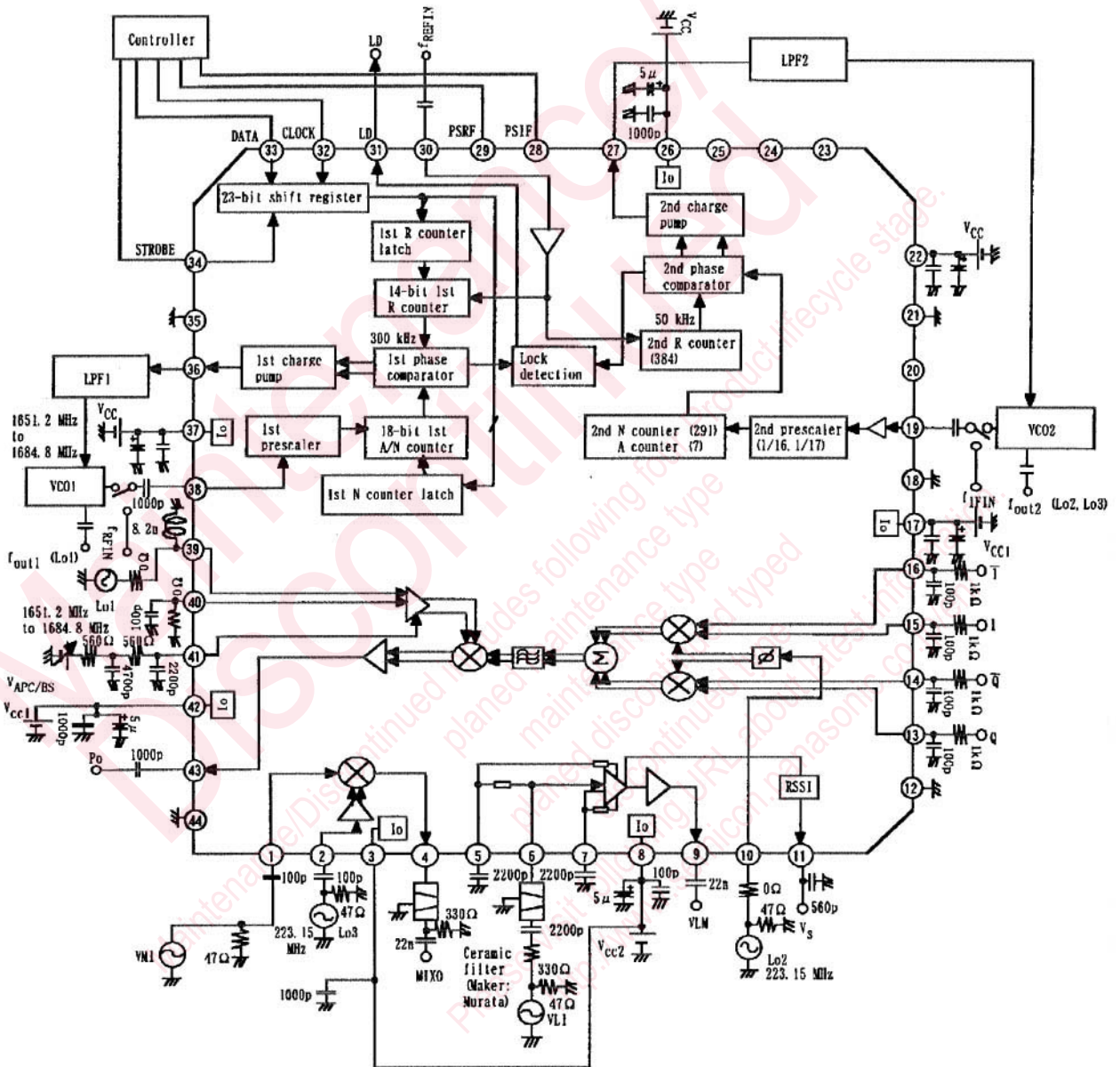
■ Test Circuit Diagram



■ Test Circuit Diagram (continued)



■ Block Diagram



■ Pin Descriptions

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	RXMXIN	RX-MIX-IN	23	N.C.	
2	RXLOIN	RX-LOCAL-IN	24	N.C.	
3	V _{CC2}	V _{CC} -MIX	25	N.C.	
4	MXO	MIX-OUT	26	V _{CC}	V _{CC} -2nd CMOS
5	LMDEC1	LIM-DECOUPLE1	27	CP2	2nd-CHARGE PUMP-OUT
6	LMIN	LIM-IN	28	PSIF	2nd-POWERSAVE-IN
7	LMDEC2	LIM-DECOUPLE2	29	PSRF	1st-POWERSAVE-IN
8	V _{CC2}	V _{CC} -LIN	30	REF	REFERENCE-IN
9	LMO	LIM-OUT	31	LD	LOCK-DETECT-OUT
10	TXLO2	TX-LOCAL2-IN	32	CLOCK	CLOCK-IN
11	RSO	RSSI-OUT	33	DATA	SERIAL-DATA-IN
12	GND	GND	34	STROBE	STROBE-IN
13	Q_IN	Q_INPUT	35	GND	GND-1st / 2nd CMOS
14	Q_IN	\bar{Q} _INPUT	36	CP1	1st-PRESCALER-IN
15	I_IN	I_INPUT	37	V _{CC}	V _{CC} -1st CMOS
16	I_IN	\bar{I} _INPUT	38	RFIN	1st-PRESCALER-IN
17	V _{CC1}	V _{CC} -TX-MOD	39	TXLO1	TX-LOCAL1
18	GNDM	GND-TX-MOD	40	TXLO1R	TX-LOCAL 1REF
19	IFIN	2nd-PRESCALER-IN	41	APC/BS	APC / BS
20	N.C.		42	V _{CC1}	V _{CC} -TX-OUT
21	GND2	GND-2nd CMOS	43	TXO	TX-OUTPUT
22	V _{CC}	V _{CC} -1st / 2nd BIP	44	GNDO	GND-TX-OUT

■ Absolute Maximum Ratings

No.	Parameter	Symbol	Rating		Unit
1	Storage temperature	T_{stg}	-55 to +125	°C	*1
2	Operating ambient temperature	T_{opr}	-20 to +70	°C	*1
3	Operating ambient atmospheric pressure	P_{opr}	$1.013 \times 10^5 \pm 0.61 \times 10^5$	Pa	
4	Operating constant gravity	G_{opr}	9 810	m/s ²	
5	Operating shock	S_{opr}	4 900	m/s ²	
6	Supply voltage	V_{CC}, V_{CC1}, V_{CC2}	3.5	V	*2
7	Supply current	I_{CC}	54	mA	
8	Power dissipation	P_D	194	mW	*2

Note) *1: Expect for the operating ambient temperature and storage temperature, all ratings are for $T_a = 25^\circ\text{C}$

*2: The range under absolute maximum ratings, power dissipation.

■ Operating Supply Voltage Range

Operating supply voltage range	V_{CC}, V_{CC1}, V_{CC2}	2.7 to 3.3	V	
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