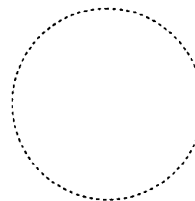


REFERENCE DATA

SPECIFICATION

TABLE OF CONTENTS

1. Purpose
2. TOKO Part Number
3. Function
4. Applications
5. Structure
6. Package Outline
7. Absolute Maximum Ratings
8. Electrical Characteristics
9. Test Circuit
10. Pin Assignment
Block Diagram
11. Package Outline Dimensions/Marking
12. Cautions
13. Others



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1. Purpose

This part drawing defines the requirements for TK14590V.
(FM IF System)

2. TOKO Part Number

TK14590V

3. Function

FM IF IC

4. Applications

Pager , Low-Voltage FN Narrow-Band Receiver

5. Structure

The structure is a silicon monolithic bipolar circuit

6. Package Outline

24Lead - Shrink Small Outline Package :SSOP-24 (VSOP24)

7. Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit	Condition
Supply Voltage	VCC MAX	5.0	V	
Power Dissipation	PD	400	mW	※
Operating Voltage Range	VOP	1.1 ~ 4.5	V	
Storage Temperature Range	Tstg	-55 ~ +150	°C	
Operating Temperature Range	TOP	-10 ~ +50	°C	
Operating Frequency Range	fMAX	~ 30	MHz	

※ PD must be derated at rate of 3.2mW/°C for operation at 25°C.

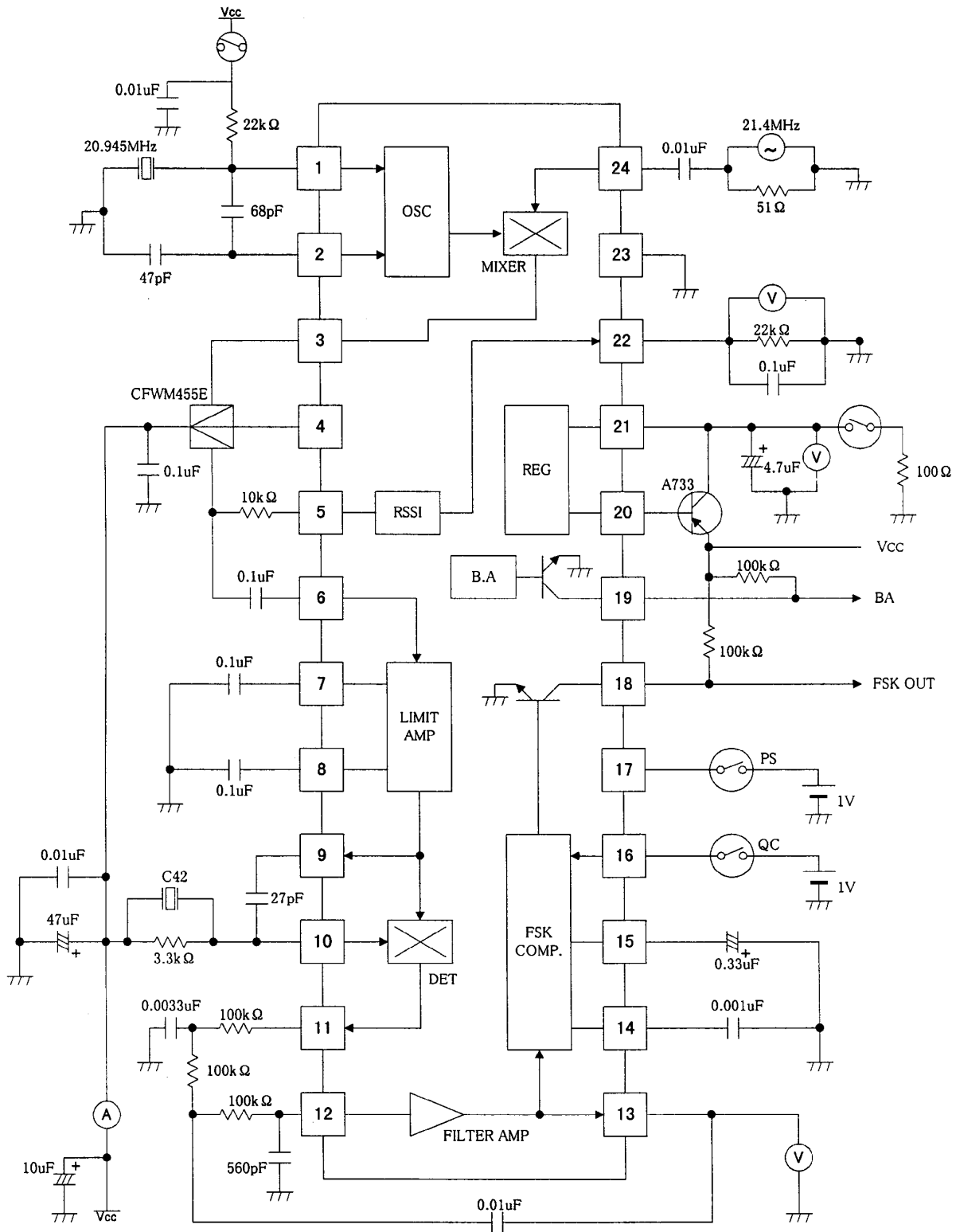
8. Electrical Characteristics

Condition: Ta=25°C , Vcc=1.3V , fosc=20.945MHz ,
 fin=21.4MHz , fm=400Hz , Mod=± 4.5kHz

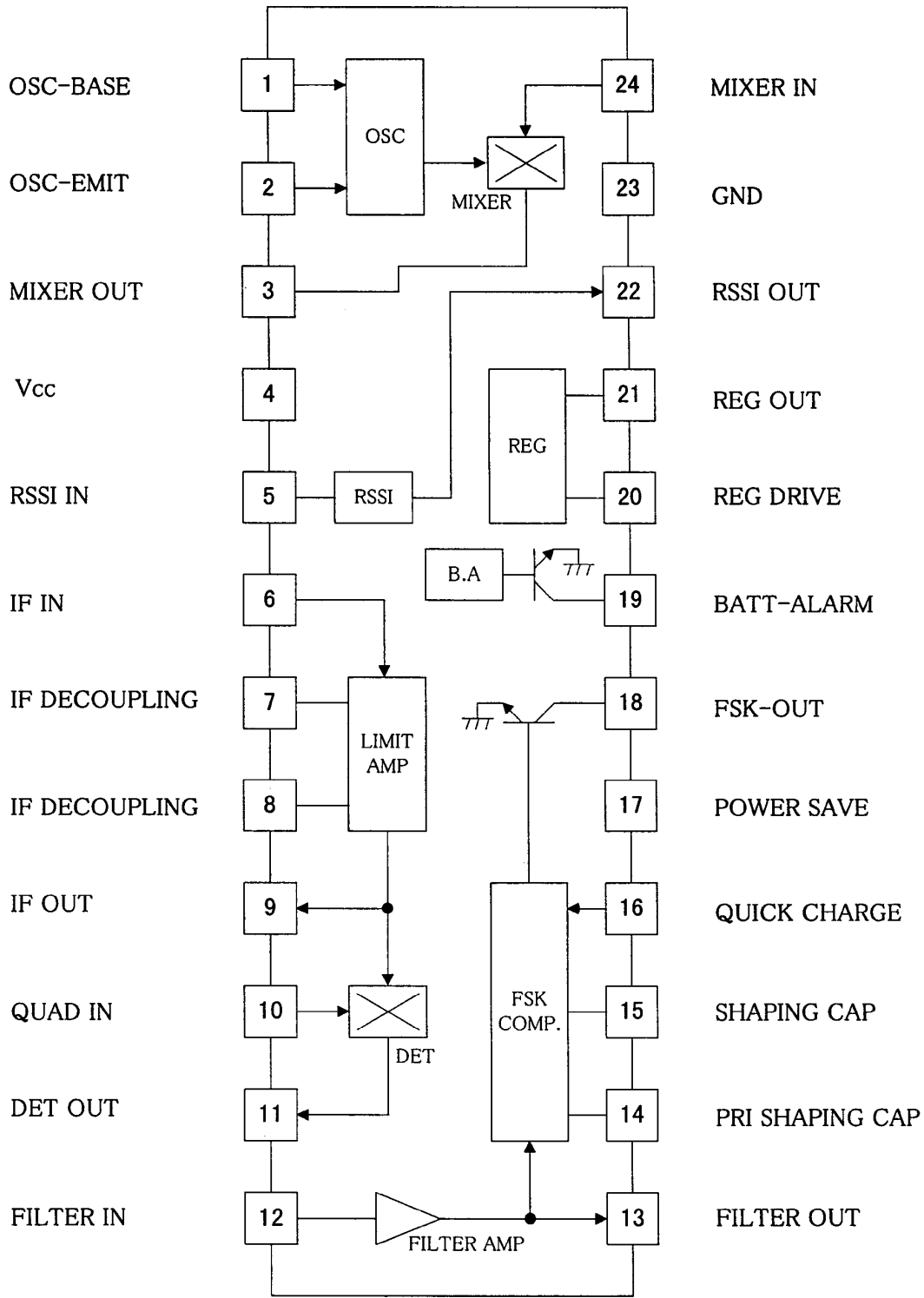
Parameter	Symbol	Value			Unit	Condition
		MIN	TYP	MAX		
Supply Current 1	Icc 1	1.25	1.60	1.95	mA	Vcc=1.4V, Non input
Supply Current 2	Icc 2		10	25	uA	Vcc=1.4V, PS=ON, Non input
Mixer+IF+Detector						
Limiting Sense	Limit	6	12	18	dBuEMF	-3dB Point
Output Voltage	Vo	-29	-23	-18	dBm	80dBuEMF input
Signal to Noise Rate	S/N	45	60		dB	80dBuEMF input
DC Voltage at Output Terminal	VODC	0.8	0.92	1.05	V	80dBuEMF input
Battery Alarm						
Battery Alarm Sensing Voltage	VA	1.05	1.10	1.15	V	Non input
Battery Alarm Output High Level	VAH	Vcc-0.15	Vcc-0.05	VCC	V	Non input Vcc=Battery Alarm OFF~4.5V
Battery Alarm Output Low Level	VAL	0.00	0.03	0.25	V	Non input, Io=10mA
Regulator						
Regulator Output Voltage 1	VOR 1	0.95	1.00	1.05	V	Non input Output port is not terminated
Regulator Output Voltage 2	VOR 2	0.95	1.00	1.05	V	Non input, Io=10mA
FSK-Comparator						
Comparator Output High Level	CLH	1.15	1.28	1.30	V	80dBuEMF input
Comparator Output Low Level	CLL	0.00	0.03	0.25	V	80dBuEMF input
Duty Ratio	DR	45	50	55	%	80dBuEMF input
Quick Charge Current	IQC	50	80	120	uA	Non input
RSSI						
RSSI Output Voltage 1	VRSSI 1	0.00	0.05	0.20	V	0dBuEMF Non-mod input
RSSI Output Voltage 2	VRSSI 2	0.60	0.95	1.30	V	80dBuEMF Non-mod input
Input Voltage	Vin	25	35	45	dBuEMF	RSSI Output Voltage=(VRSSI2)/2

REFERENCE DATA

9. Test Circuit



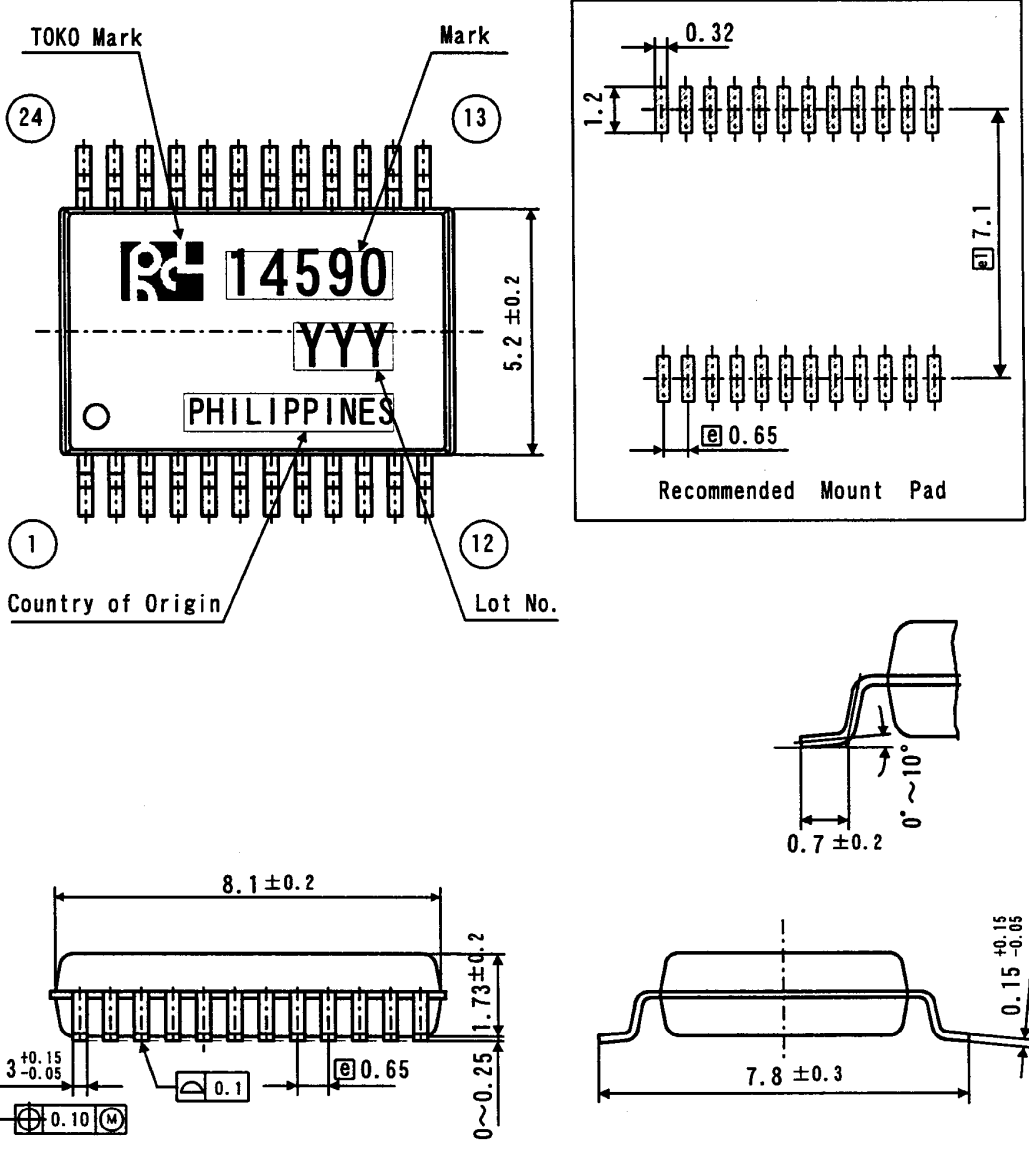
10. Pin Assignment / Block Diagram



REFERENCE DATA

11. Package Outline Dimensions/Marking

SSOP-24 (VSOP24)



- Molded Resin : Epoxy Resin
- Lead Frame : Copper Alloy
- Terminal Treatment : Solder Plating(5~15 μ m)
- Mark Method : Ink
- Country of Origin : Philippines
- Weight : 0.17 g

Unit : mm
 General Tolerance : ± 0.2

Drawing No.

REV

REFERENCE DATA12. Cautions

12-1. WARNING - Life support applications policy

TOKO,INC. products shall not be used within any life support systems without the specific written consent of TOKO,INC. A life support system is a product or system intended to support or sustain life which, if it fails, can be reasonably expected to result in a significant personal injury or death.

12-2. Examples of characteristics given here are typical for each product and being technical data, these do not constitute a guarantee of characteristics or conditions of use.

The circuits shown in this specification are intended to explain typical applications of the products concerned. Accordingly, TOKO is not responsible for any circuit problems, nor for any infringement of third party patents or any other intellectual property rights that may arise from the use of these circuits. Moreover, this catalog does not signify that TOKO agrees implicitly or explicitly to license any patent rights or other intellectual property rights which it holds.

12-3. This part is not designed for anti-nuclear radiation structure.

Please do not use this part in an environment where nuclear radiation may occur.

12-4. We may not accept the return of parts damaged by careless handling.

13. Others

13-1. No Ozone Depleting Substances were used in the manufacture of these parts.

13-2. No material used in this part contains brominated PBBs or PBBs as the flame-retardant.

13-3. In the event of any confusion concerning this "Specifications", both parties shall settle such confusion through reasonable discussions.

13-4. The announcement number of CISTEC list is as follows.

TK1459***** No. : 0002500010000299 Announcement time : January 1995

13-5. For the cautions to storage and device mounting, please refer to the Quality Specification No. QH7-B008.

13-6. For the package, please refer to the Package Specification No. DP3-F021.