REFERENCE DATA

SPECIFICATION

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SIGNATURE	DATE
DRAWN BY Hiroshi Sakazume	7 Oct. 1997
CHECKED BY Hiroshi Kondo	8 Oct. 1997
APPROVED M. Tanaka	13. Oct. 1997
QC. APPROVED BY Hideo Wakasugi	13 Oct. 1997

1. Purpose

This part drawing defines the requirements for TK14583V. (FM IF System)

2. TOKO Part Number

TK14583V

3. Function

FM IF IC

4. Applications

Communication Apparatus

5. Structure

Silicon Monolithic BIP IC

6. Package Outline

24Lead－Thin Shrink Small Outline Package　　: TSSOP-24

7. Absolute Maximum Ratings　(Ta = 25℃)

Parameter	Symbol	Rating	Unit	Conditions
Supply Voltage	$V_{CC\,MAX}$	6.0	V	
Power Dissipation	P_D	230	mW	※
Operating Voltage Range	V_{OP}	2.5 ~ 5.5	V	
Storage Temperature Range	T_{STG}	-55 ~ +150	℃	
Operating Temperature Range	T_{OP}	-30 ~ +75	℃	
Operating Frequency Range	f_{OP}	6 ~ 500 (MIXER) 6~12 (IF) ~100(Demodulation)	MHz MHz kHz	

※ Note : P_D must be derated at rate of 1.84mW/℃ for operation at 25℃.

8. Electrical Chacteristics

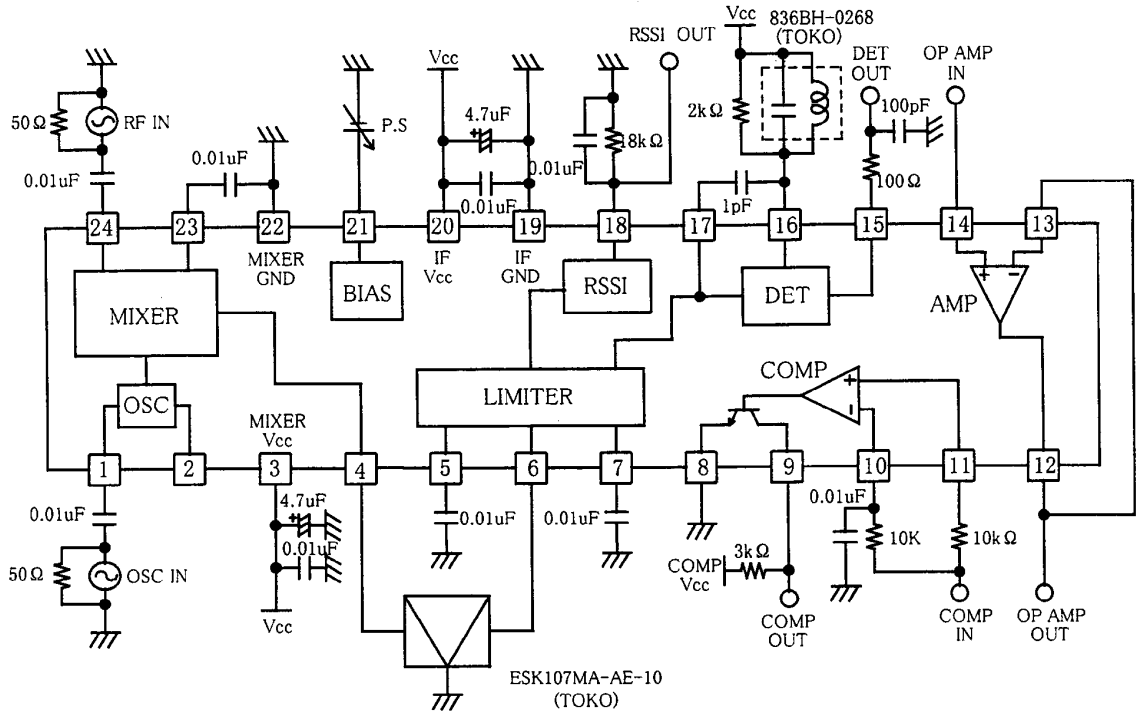
Ta=25℃, Vcc=3.0V, fin=250MHz, fm=1kHz

OperatingConditions :

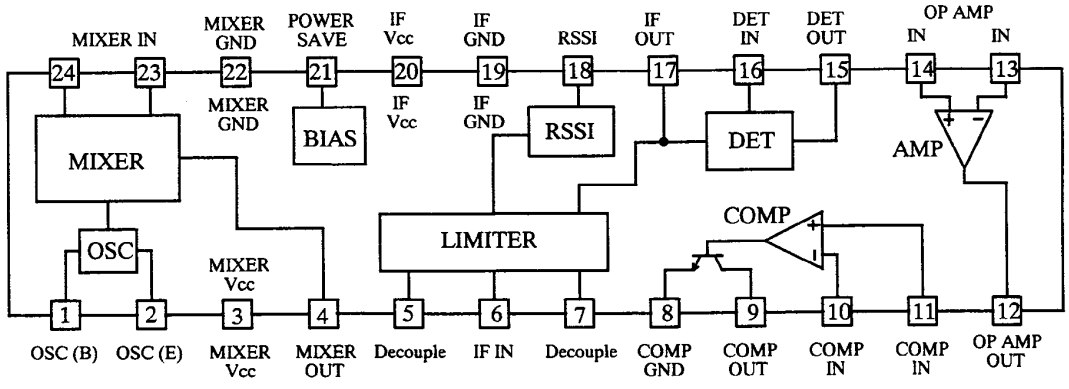
Mod.=±100kHz, fosc=239.3MHz, Vosc=-10dBm

Parameter	Symbol	Value			Unit	Condition
		MIN	TYP	MAX		
Supply Current 1	$I_{CC}1$	3.5	5.6	7.8	mA	None input
Supply Current 2	$I_{CC}2$	0	10	25	μA	PS=ON , None input
MIXER + IF						
Output Voltage 1	$V_{O}1$	60	100	180	mVrms	-30dBm input
Distortion	THD	0	1	3	%	-30dBm input
Signal to Noise Ratio	S/N	54	60	70	dB	-30dBm input
12dB SINAD	SINAD	-100	-91	-85	dBm	
MIXER						
Mixer Trnsfer Gain	G_M	23	29	35	dB	
Mixer 3rd Order Intercept	V_{ICP}	-10	-4	+2	dBm	
Mixer Input Resistance	R_{IM}	2.5	3.3	4.1	kΩ	
Mixer Output Impedance	Z_{OM}	250	330	410	Ω	
LIMITER						
Limiter Input Resistance	R_{IFIN}	250	330	410	Ω	
Gain	G	69	75	82	dB	
Output Voltage 2	$V_{O}2$	350	500	650	mV_{P-P}	
RSSI						
RSSI Output Voltage 1	$V_{RSSI}1$	0.00	0.20	0.40	V	none input
RSSI Output Voltage 2	$V_{RSSI}2$	0.45	0.60	0.75	V	-75dBm none-mod input
RSSI Output Voltage 3	$V_{RSSI}3$	1.05	1.20	1.35	V	-50dBm none-mod input
RSSI Output Voltage 4	$V_{RSSI}4$	1.35	1.55	1.80	V	-25dBm none-mod input
Comparator						
Duty Ratio	D_R	45	50	55	%	
Output Current	I_O	1	3	6	mA	
AMP						
Frequency Band Width	B	1.5	2.5	5.0	MHz	Gain = 1 , -3dBpoint
Output Amplitude	vo	1.0	1.5	2.8	V_{P-P}	Gain = 1 , fin = 50kHz , sin wave input

9. Test Circuit

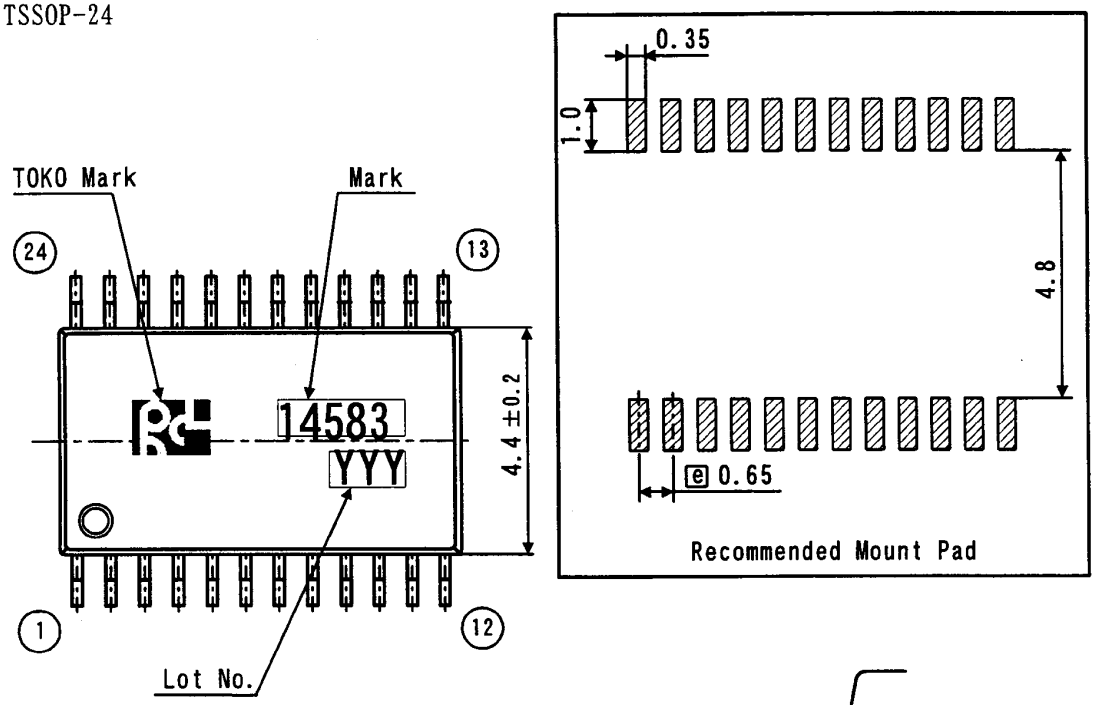


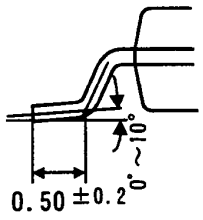
10. Pin Assignment / Block Diagram

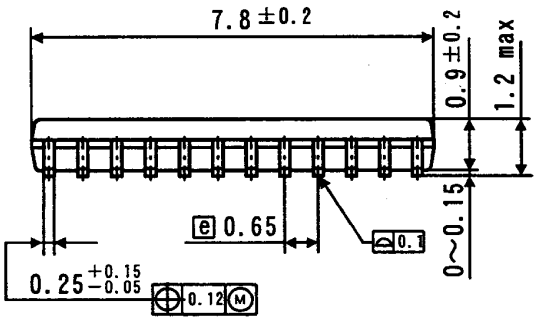


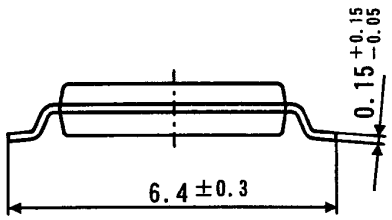
11. Package Outline Dimensions/Marking

TSSOP-24









			Molded Resin	: Epoxy Resin
			Lead Frame	: Copper Alloy
			Terminal Treatment	: Solder Plating(5～15 μm)
			Mark Method	: Ink or Laser
Unit	:	mm	Country of Origin	: Philippines
General Tolerance	:	±0.2	Weight	: 0.085g

REFERENCE DATA

12. 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 dose 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 theses parts.

13-2. No material used in this part contain brominated PBBOs 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.
TK14583****** No. : 0002500010000369 Announcement time : August 1997

13-5. For the cautions to storage and device mounting, please refer to the Quality Specification No. QH7-B120.

13-6. For the package, please refer to the Package Specification No. DP3-K005.