

FM IF DETECTION IC FOR PAGER.
(Built-in 2nd MIXER)

TENTATIVE

- Built-in 2nd MIXER for Double Conversion methode.
Mixer Operating Frequency : 10~50MEZ.

- Built-in low-pass filter and waveform shaping circuit enable the extraction of FSK signals from voice signal.

- High transmit rate (1200bps)

- Built-in battery-saving function can reduce the load upon the battery which is functioning as power supply.

- Alarm function (ALM)

Alarm sensitivity : VALM=1.1V (TYP.)

- Constant voltage power supply can be fabricated through externally adding a transistor.
: VREG=1.0V (TYP.)

- Extremely low consumption current
: Iccg=1.1mA (TYP.)

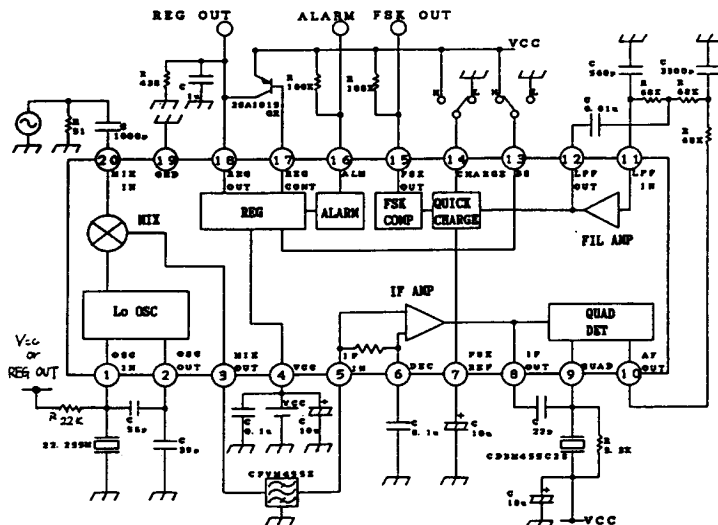
- Power supply voltage : VCC=1.1~3.5V

- Small package : SSOP20PIN (1.00mm)
SSOP20PIN (0.65mm)

TA31142F

TA31142FN

BLOCK DIAGRAM



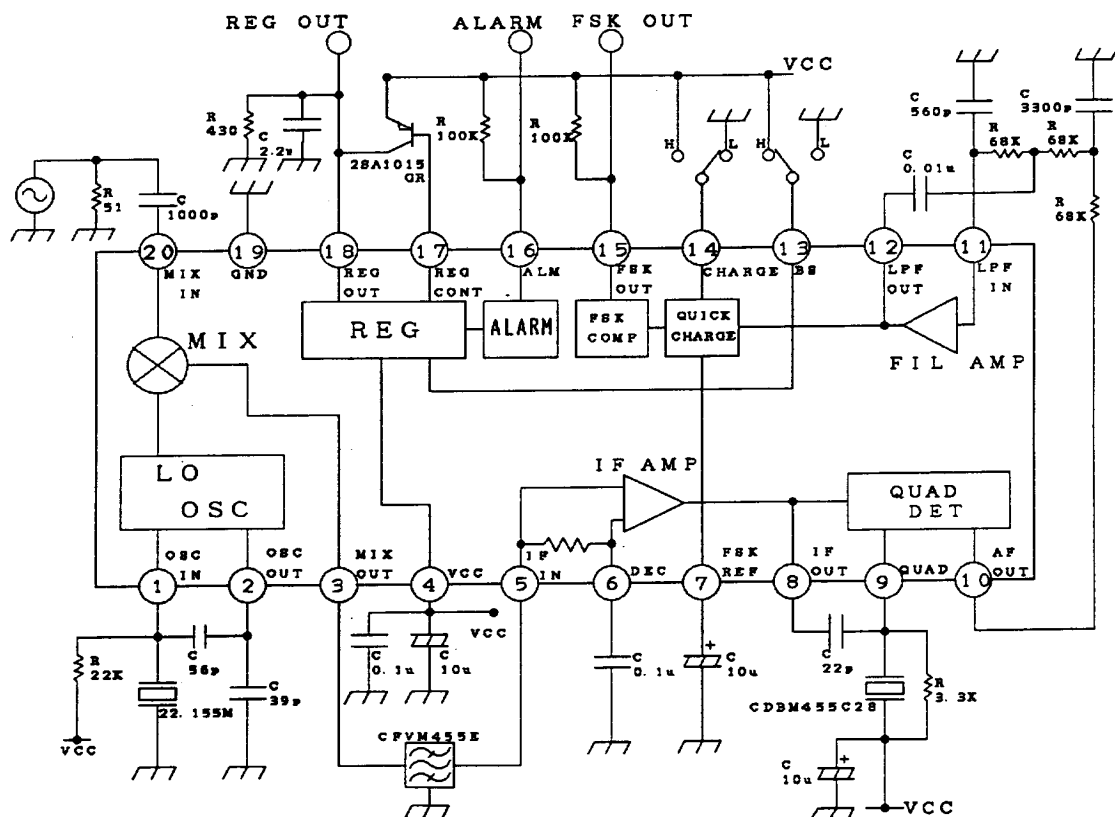
The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA for any infringements of patents or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of TOSHIBA or others.

1992 - 5 - 15

1

TOSHIBA CORPORATION

TEST CIRCUIT



MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Supply Voltage	Vcc	4	V
Power Dissipation	PD	F	mW
		FN	
Operating Temperature	Topr	0~45	°C
Storage temperature	Tstg	-55~150	°C

ELECTRICAL CHARACTERISTICS

(Unless otherwise specified, Vcc=1.4V, Fin(MIX)=21.7MHz, Fin(IF)=455kHz, Fdev=±4kHz, Fm=600Hz, Ta=25°C)

CHARACTERISTICS	SYMBOL	TEST	TEST CONDITION	MIN	TYP	MAX	UNIT
Quiescent Current	Iccq			-	1.1	1.6	mA
Supply Current at Battery Saving	Icco			-	0	5	μA
MIXER Conversion Gain	GMV		FILTER LOSS=-1dB		11		dB
MIXER 3rd Interseptpoint	IP			-	-10	-	dBm
MIXER Input Resistance	Rmin			-	5	-	kΩ
IF Amp Input Resistance	RIFI			-	2	-	kΩ
Signal to Noise Ratio 1	S/N1		MIX IN, VIN(MIX)=60dBuEMF	-	55	-	dB
Signal to Noise Ratio 2	S/N2		IF IN, VIN(IF)=60dBuEMF	-		-	dB
Signal to Noise Ratio 3	S/N3		IF IN, VIN(IF)=20dBuEMF	-		-	dB
-3dB Limiting Sensitivity 1	VI(LIM)1		MIX INPUT	-	14	-	dB μEMF
-3dB Limiting Sensitivity 2	VI(LIM)2		IF INPUT	-	22		dB μEMF
Detected Output Level	VOD		VIN(IF)=60dBuEMF		45		mVrms
AM Rejection Ratio	AMR		VIN(IF)=60dBuEMF, AM=30%	-	40	-	dB
FSK OUT Duty Ratio	DR		VIN(IF)=60dBuEMF		50		%
Alarm detected Voltage	VALM			1.05	1.1	1.15	V
"L" Level Output Voltage (ALM)	VALML		I=100 μA	-	-	0.4	V
"H" Level Output Current (ALM)	IALMH			-	-	2	μA
"L" Level Output Voltage (FSK)	VFSKL		I=100 μA	-	-	0.4	V
"H" Level Output Current (FSK)	IFSKH			-	-	2	μA
Constant voltage Output	VREG			0.95	1.0	1.05	V
Quick charge discharge Current	Io		V7=0V,		70		μA