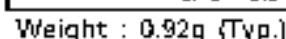


The TA7358AP is designed for a FM front-end application, which is suitable to a portable radio or a radio cassette.

Comparing with conventional types, supply voltage dependence, overload characteristics and spurious radiation characteristics are improved.

- Wide supply voltage range : $V_{CC} = 1.6 \sim 6.0V$
- Excellent supply voltage dependence of local oscillator : Oscillation stop
 $V_{CC} = 0.9V$ (Typ.)
- Improved inter modulation characteristics by double balanced type mixer circuit.
- Low spurious radiation.
- Built-in clamping diode for the local oscillator output.



EXPLANATION OF TERMINALS (Terminal voltage is DC voltage at $T_a = 25^\circ\text{C}$, $V_{CC} = 5\text{V}$, and no signal)

PIN No.	SYMBOL	INTERNAL	TERMINAL VOLTAGE (V)
1	FM-RF IN		0.8
2	BY PASS		1.5
3	FM-RF OUT		5.0
4	MIX IN		1.5
5	GND	—	0
6	MIX OUT	cf. pin 4	5.0
7	OSC MONITOR		4.3
8	OSC		5.0
9	V_{CC}	—	5.0

MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

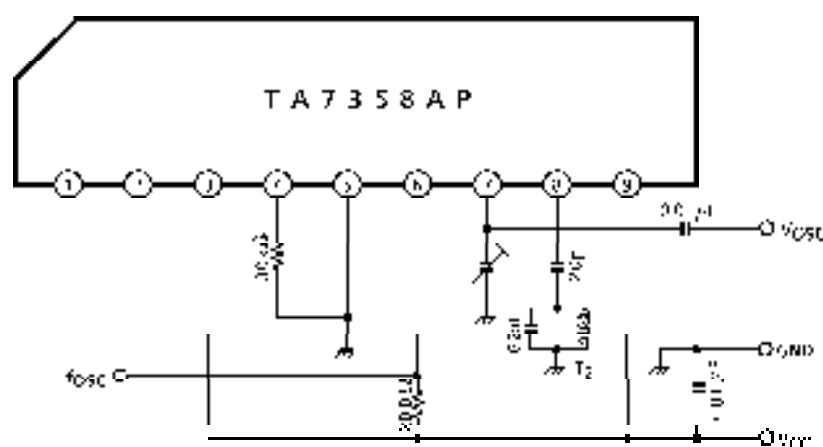
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	8	V
Power Dissipation	P_D (Note)	500	mW
Operating Temperature	T_{opr}	$-25 \sim 75$	$^\circ\text{C}$
Storage Temperature	T_{stg}	$-55 \sim 150$	$^\circ\text{C}$

(Note) Derated above 25°C in the proportion of $4\text{mW}/^\circ\text{C}$.

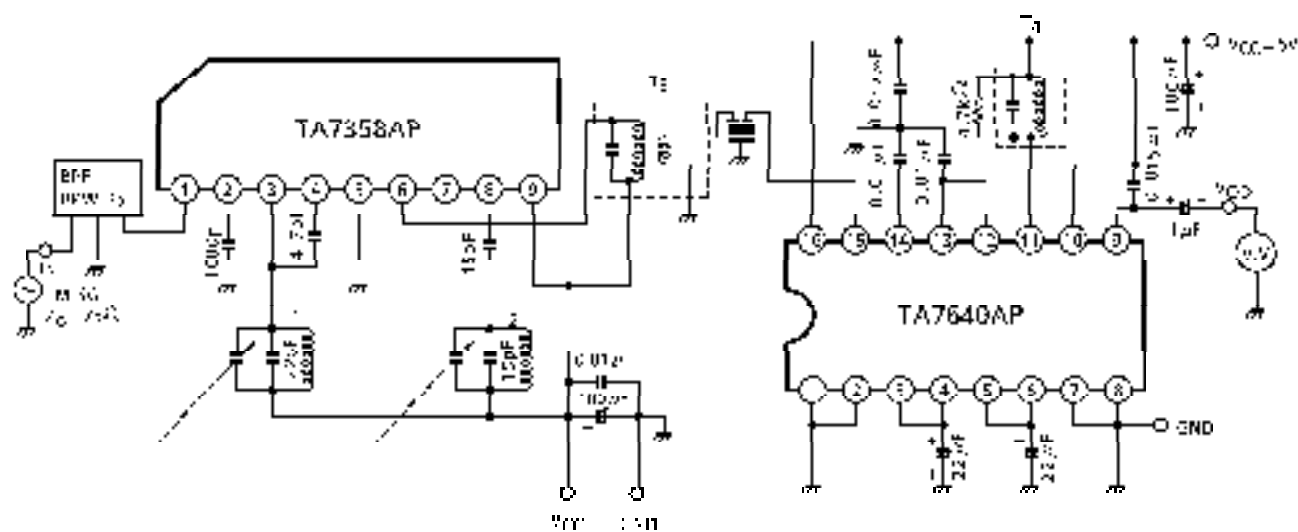
ELECTRICAL CHARACTERISTICS ($V_{CC} = 3\text{V}$, $f = 83\text{MHz}$, $f_m = 1\text{kHz}$, $\Delta f = \pm 22.5\text{kHz}$, $T_a = 25^\circ\text{C}$)

CHARACTERISTIC		SYMBOL	TEST CIR CUI	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Current		I_{CC}	2	$V_{in} = 0$	—	5.2	8.0	mA
- 3dB Limiting Sensitivity		$V_{in}(\text{lim})$	2	—	—	3.0	7.0	dB/ μ V EMF
Quiescent Sensitivity		Q_5	2	—	—	11.0	—	dB/ μ V EMF
Conversion Gain		G_C	—	—	—	31	—	dB
Local OSC Voltage		V_{OSC}	1	$f_{OSC} = 60\text{MHz}$	90	165	220	mV _{rms}
Pin ① Impedance	Parallel Input Resistance	r_{i01}	3	$f = 83\text{MHz}$	—	57	—	Ω
Pin ③ Impedance	Parallel Output Resistance	r_{op3}	3		—	25	—	k Ω
	Parallel Output Capacitance	C_{op3}			—	2.0	—	pF
Pin ④ Impedance	Parallel Input Resistance	r_{i04}	3		—	2.7	—	k Ω
	Parallel Input Capacitance	C_{ip4}			—	3.3	—	pF
Pin ⑥ Impedance	Parallel Output Resistance	r_{op6}	3	$f = 10.7\text{MHz}$	—	100	—	k Ω
	Parallel Output Capacitance	C_{op6}			—	4.8	—	pF
Local OSC Stop Voltage		V_{stop}	1	—	—	0.9	1.3	V

TEST CIRCUIT 1

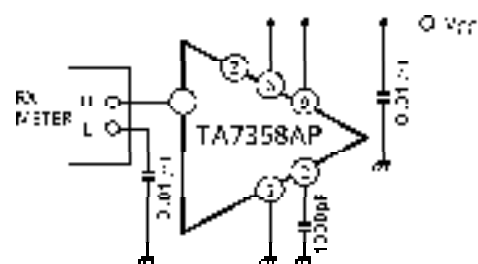
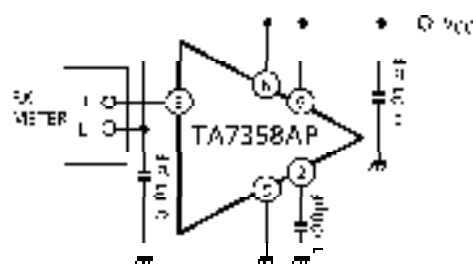
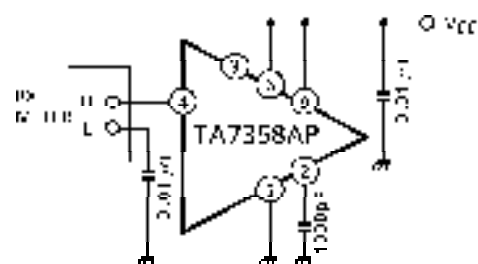
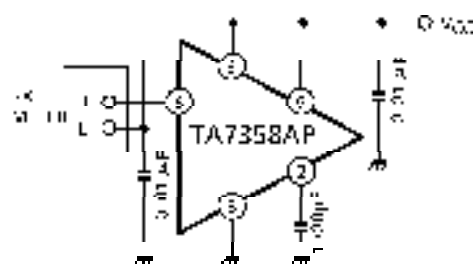


TEST CIRCUIT 2


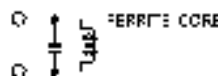
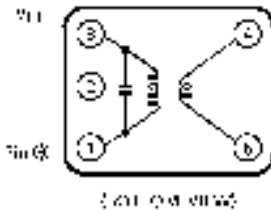
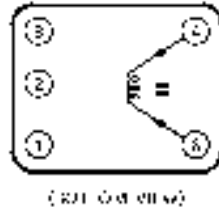


TEST CIRCUIT 3

Input/output impedance

(1) r_{ip1} , c_{ip1} (2) r_{op3} , c_{op3} (3) r_{ip4} , c_{ip4} (4) r_{op6} , c_{op6} 

TEST CIRCUIT COIL DATA (Japan band for 76.0MHz to 108.0MHz)

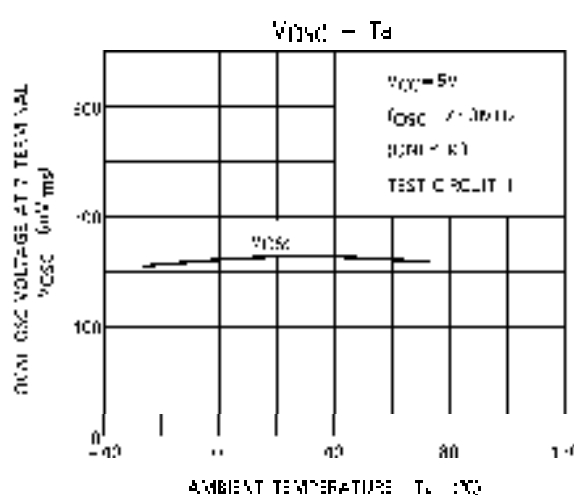
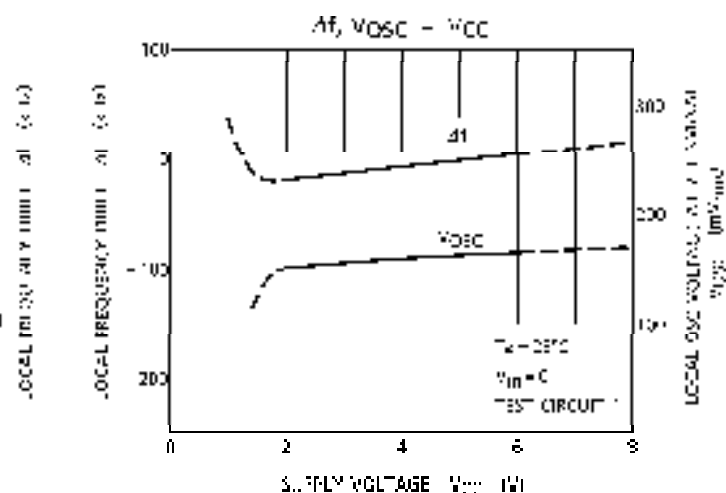
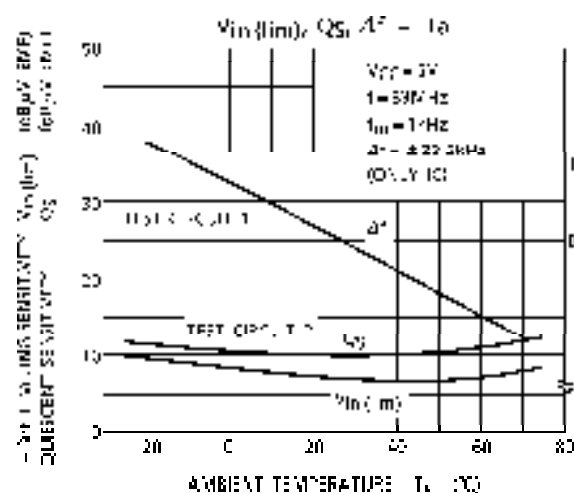
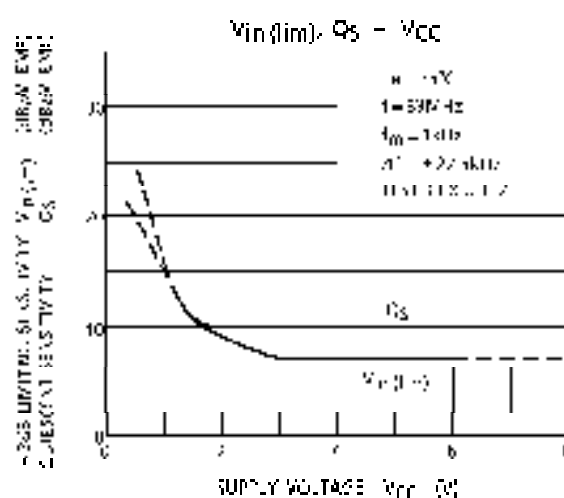
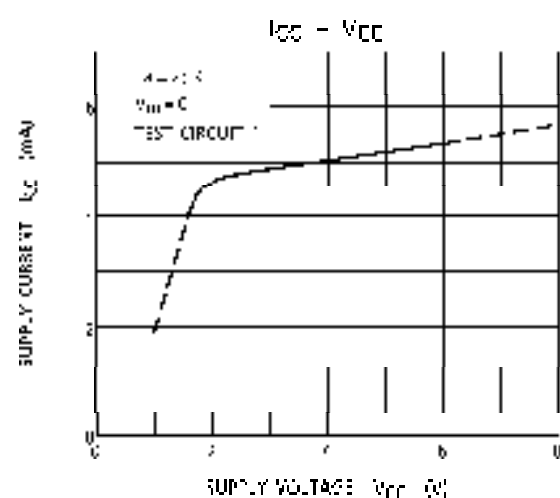
COIL	f_0	Q_0	TURNS	CAPACITANCE	
T ₁ RF Coil	100MHz	100	0.5mmφ $2\frac{1}{4}$ T Center Tap (Japan Band)	15pF (External)	
T ₂ OSC Coil	100MHz	100	0.5mmφ $2\frac{1}{2}$ T (Japan Band)	15pF (External)	
T ₃ IFT Coil	10.7MHz	115	①-③: 12T ④-⑤: 1T Wire 0.12mmφ UFW SUMIDA ELECTRIC Co., LTD. 5764 or equivalent	75pF	
T ₄ Quad Coil	10.7MHz	150	①-③: 14T Wire 0.12mmφ UFW SUMIDA ELECTRIC Co., LTD. 44M 933A or equivalent	47pF	

Band Pass Filter (BPF)

SOSHIN ELECTRIC Co., LTD. BPWB5

Tuning Capacitor

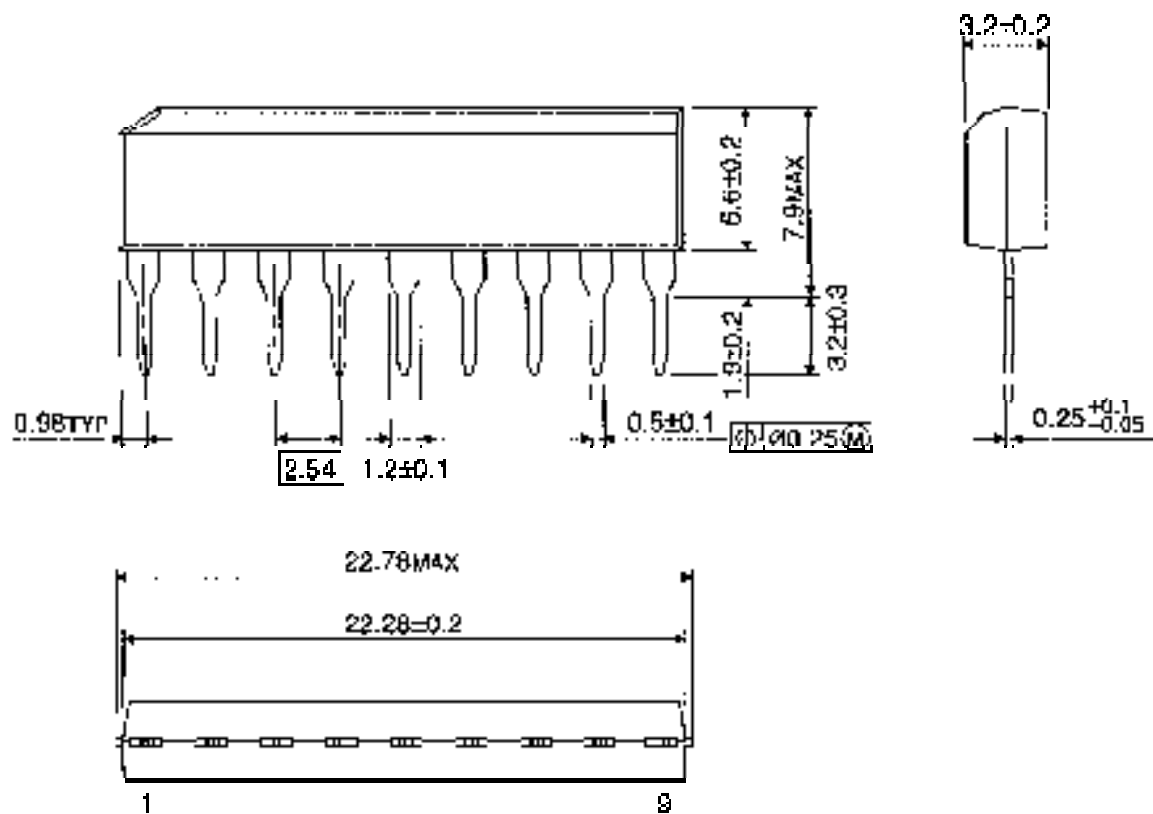
ALPS ELECTRIC Co., LTD. CB41EL933



PACKAGE DIMENSIONS

SIP9-P-2.54A

Unit : mm



Weight : 0.92g (Typ.)

RESTRICTIONS ON PRODUCT USE

C00000100

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