

TOSHIBA**TA7358P**

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

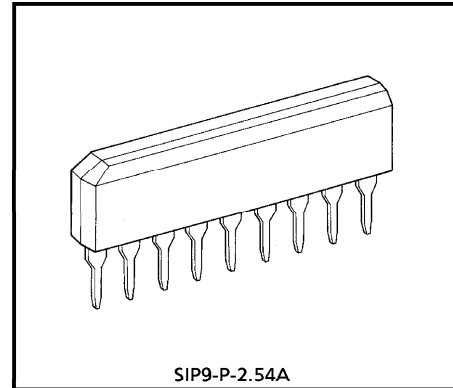
TA7358P

FM FRONT-END

The TA7358P 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.

FEATURES

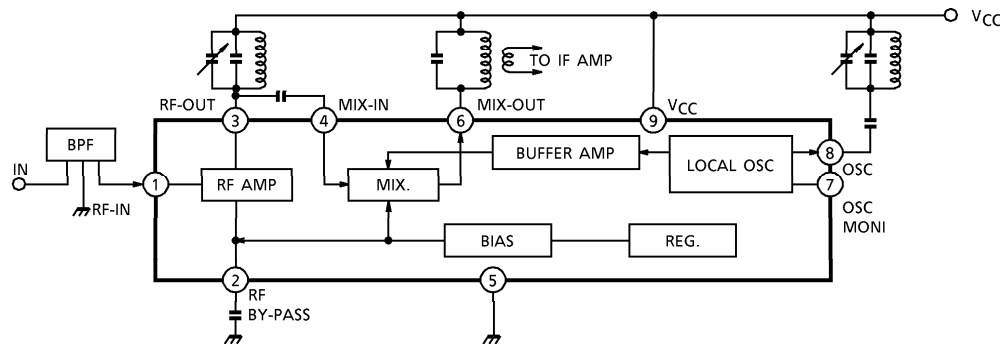
- Wide supply voltage range : $V_{CC} = 1.6 \sim 6.0V$
- Excellent supply voltage dependence of local oscillator : Oscillation stop $V_{CC} = 0.9V$ (Typ.)
- Improved inter-modulation characteristics by double balanced type mixer circuit.
- Low spurious radiation.
- Build-In clamping diode for the local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



SIP9-P-2.54A

Weight : 0.92g (Typ.)

BLOCK DIAGRAM



961001EBA2

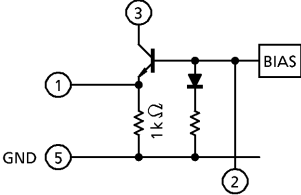
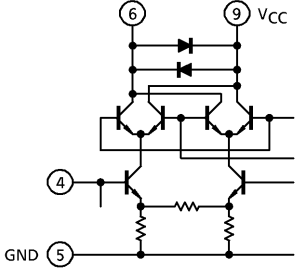
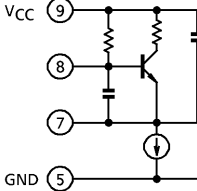
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TOSHIBA

TA7358P

EXPLANATION OF TERMINALS (Terminal voltage is DC voltage at Ta = 25°C, VCC = 5V, 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. pin④	5.0
7	OSC MONITOR		4.3
8	OSC		5.0
9	VCC	—	5.0

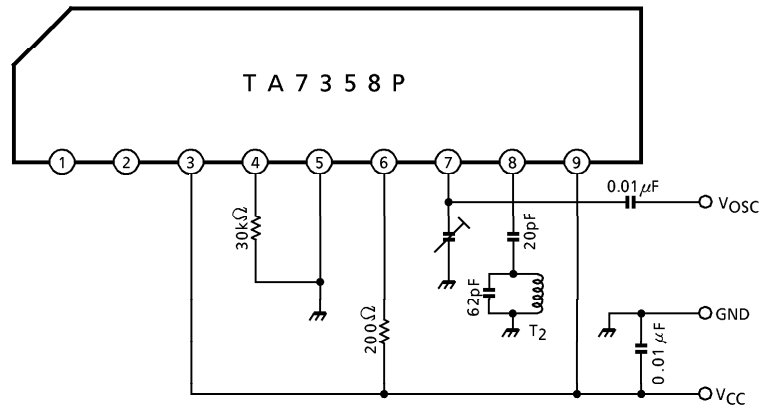
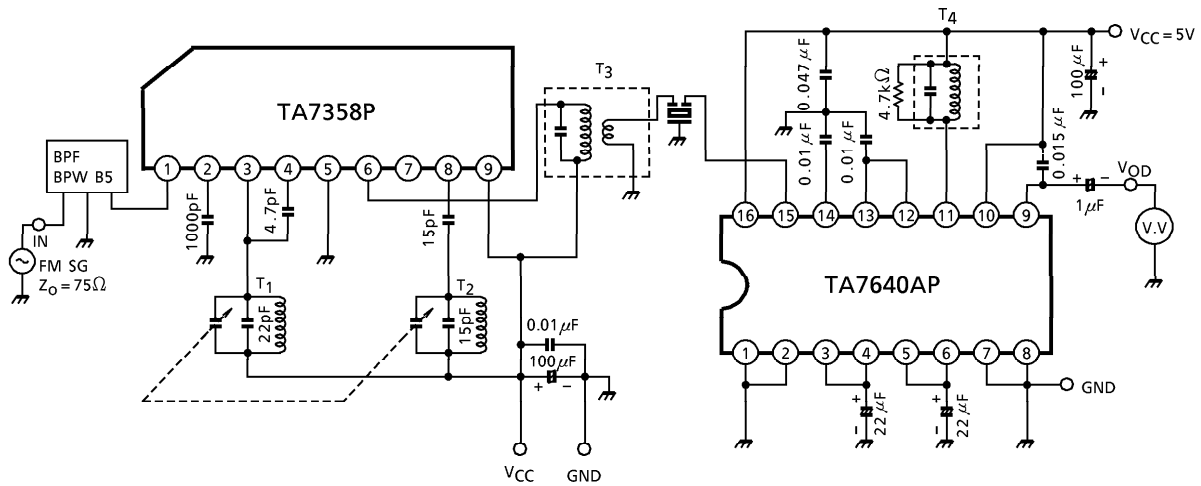
TOSHIBA**TA7358P****MAXIMUM RATINGS** (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V _{CC}	8	V
Power Dissipation	P _D (Note)	500	mW
Operating Temperature	T _{opr}	– 25~75	°C
Storage Temperature	T _{stg}	– 55~150	°C

(Note) Derated above 25°C in the proportion of 4mW / °C.

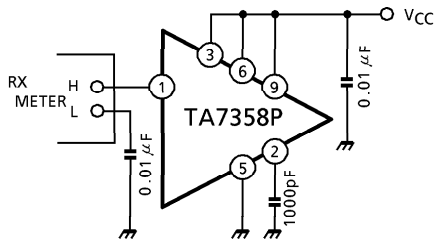
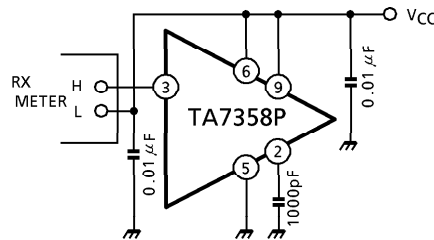
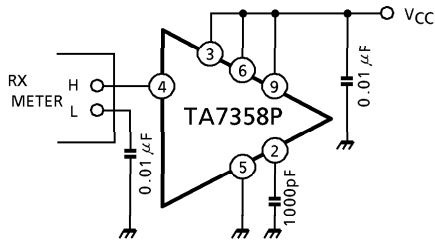
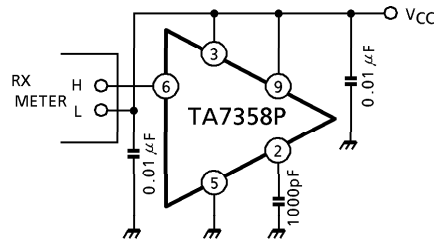
ELECTRICAL CHARACTERISTICS (V_{CC} = 3V, f = 83MHz, f_m = 1kHz, Δf = ± 22.5kHz, Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Current		I _{CC}	2	V _{in} = 0	—	5.2	8.0	mA
– 3dB Limiting Sensitivity		V _{in} (lim)	2	—	—	3.0	7.0	dB _μ V EMF
Quiescent Sensitivity		Q _S	2	—	—	11.0	—	dB _μ V EMF
Conversion Gain		G _C	—	—	—	31	—	dB
Local OSC Voltage		V _{OSC}	1	f _{OSC} = 60MHz	150	230	350	mV _{rms}
Pin① Impedance	Parallel Input Resistance	r _{ip1}	3	f = 83MHz	—	57	—	Ω
Pin③ Impedance	Parallel Output Resistance	r _{op3}	3		—	25	—	kΩ
	Parallel Output Capacitance	c _{op3}			—	2.0	—	pF
Pin④ Impedance	Parallel Input Resistance	r _{ip4}	3		—	2.7	—	kΩ
	Parallel Input Capacitance	c _{ip4}			—	3.3	—	pF
Pin⑥ Impedance	Parallel Output Resistance	r _{op6}	3	f = 10.7MHz	—	100	—	kΩ
	Parallel Output Capacitance	c _{op6}			—	4.8	—	pF
Local OSC Stop Voltage		V _{stop}	1	—	—	0.9	1.3	V

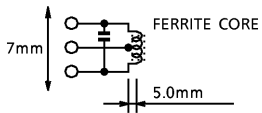
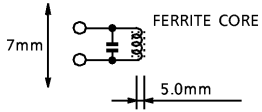
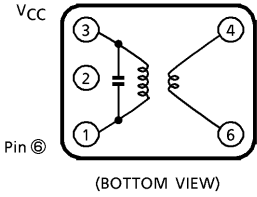
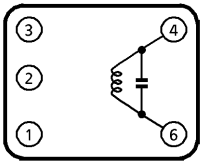
TOSHIBA**TA7358P****TEST CIRCUIT 1****TEST CIRCUIT 2**

TOSHIBA**TA7358P****TEST CIRCUIT 3**

INPUT, OUTPUT IMPEDANCE

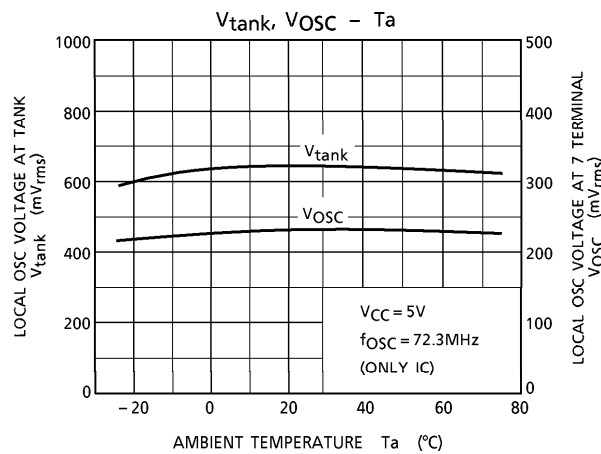
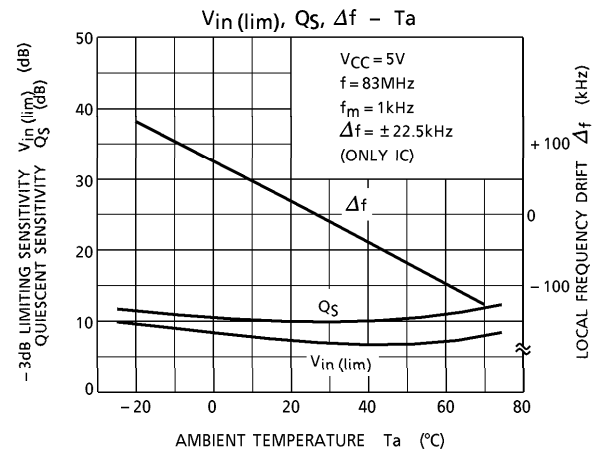
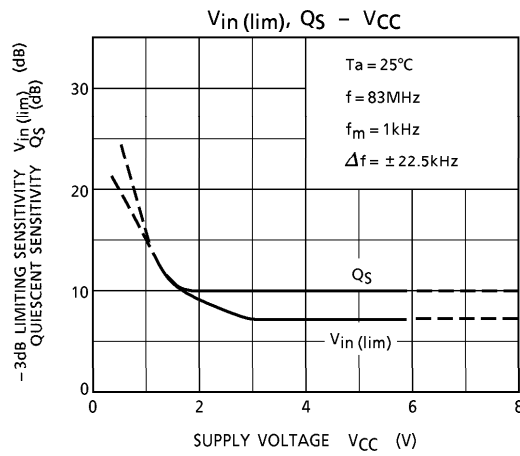
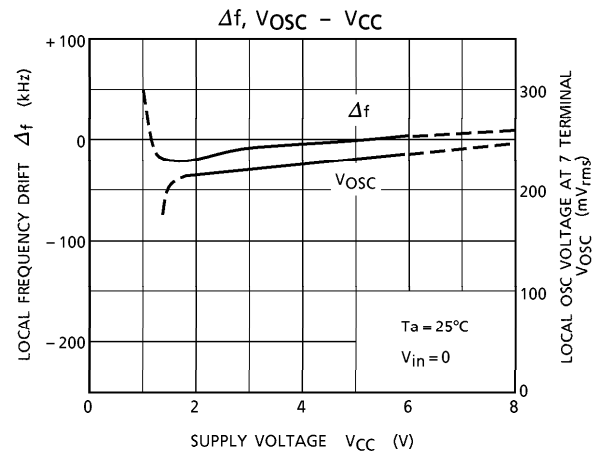
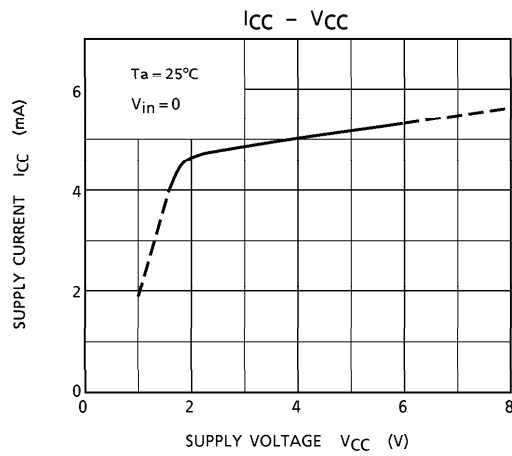
(1) r_{ip1} (2) r_{op3} , c_{op3} (3) r_{ip4} , c_{ip4} (4) r_{op6} , c_{op6} 

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

COIL	f _o	Q _o	URNS	CAPACITANCE	
T ₁ RF Coil	100MHz	100	0.7mmϕ 2 $\frac{1}{4}$ T Center Tap (Japan Band)	15pF (External)	
T ₂ OSC Coil	100MHz	100	0.7mmϕ 2 $\frac{1}{2}$ T (Japan Band)	15pF (External)	
T ₃ IFT	10.7MHz	115	①-③ 12T ④-⑥ 1T Wire 0.12mmϕ UEW SUMIDA ELECTRIC Co., LTD. 5764 or Equivalent	75pF	 (BOTTOM VIEW)
T ₄ Quad Coil	10.7MHz	150	④-⑥ 14T Wire 0.12mmϕ UEW SUMIDA ELECTRIC Co., LTD. 44M-933A or Equivalent	47pF	 (BOTTOM VIEW)

Band Pass Filter (BPF)
SOSHIN ELECTRIC CO., LTD. BPWB5

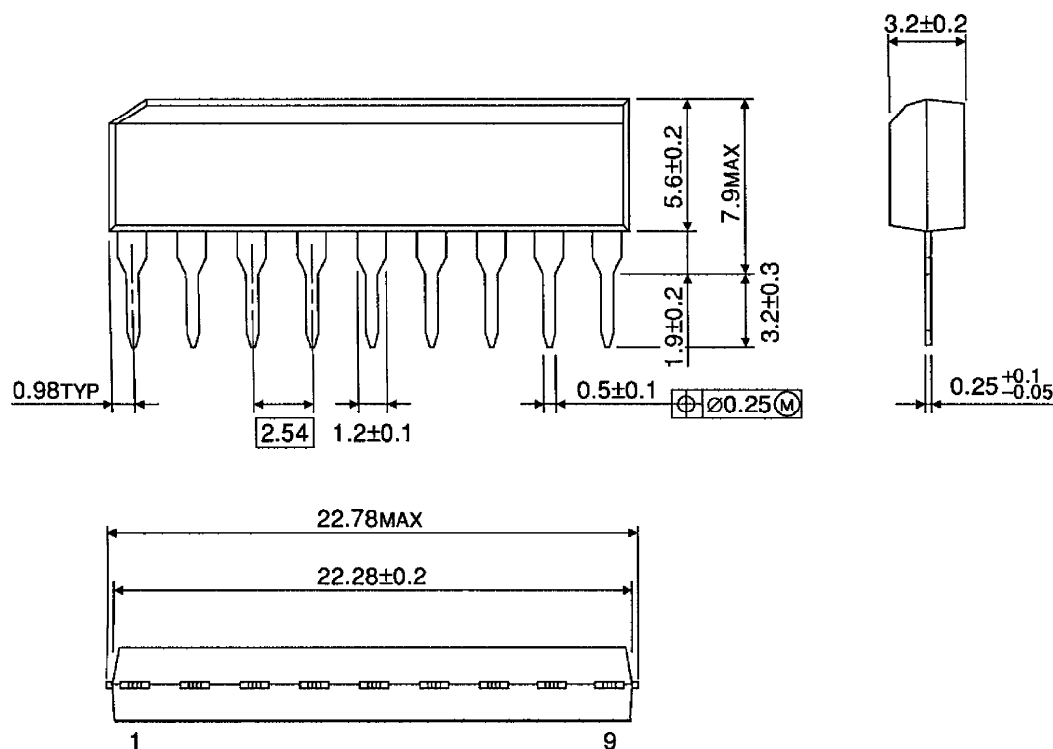
Tuning Capacitor
ALPS ELECTRIC CO., LTD. CB41EL933

TOSHIBA**TA7358P**

TOSHIBA**TA7358P****OUTLINE DRAWING**

SIP9-P-2.54A

Unit : mm



Weight : 0.92g (Typ.)