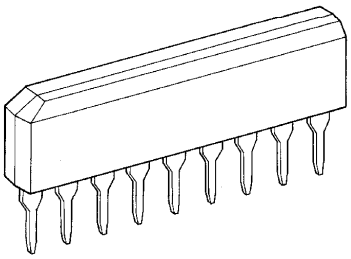
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA8136S

RADIO CONTROL TRANSMITTER IC

The TA8136S is designed for a 1 chip transmitter IC including pulse generator, duty control mixer, carrier oscillator, and RF power amplifier.
This IC has 7 control modes by combination of external switches (SW1 and SW2). A modulation frequency (pulse wave) is set arbitrarily by capacitance C_1, resistance R_1 and R_2.



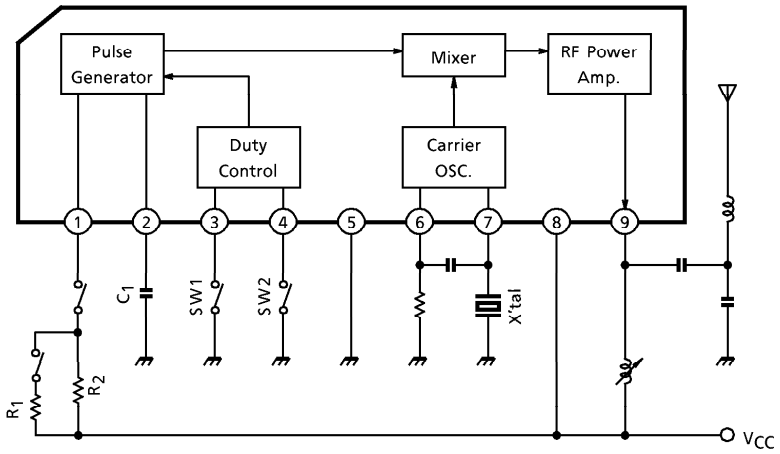
SIP9-P-2.54A

Weight : 0.92g (Typ.)

FEATURES

- Very few external parts
- Square wave frequency can be freely set.
- Square wave duty cycle can be controlled keeping fixed frequency.
- Wide supply voltage range : $V_{CC\,(opr)} = 6 \sim 11V$ (Recommended $V_{CC} = 9V$)

BLOCK DIAGRAM



961001EBA2

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	12	V
Power Dissipation	P_D (Note)	600	mW
Operating Temperature	T_{opr}	−25~75	°C
Storage Temperature	T_{stg}	−55~150	°C

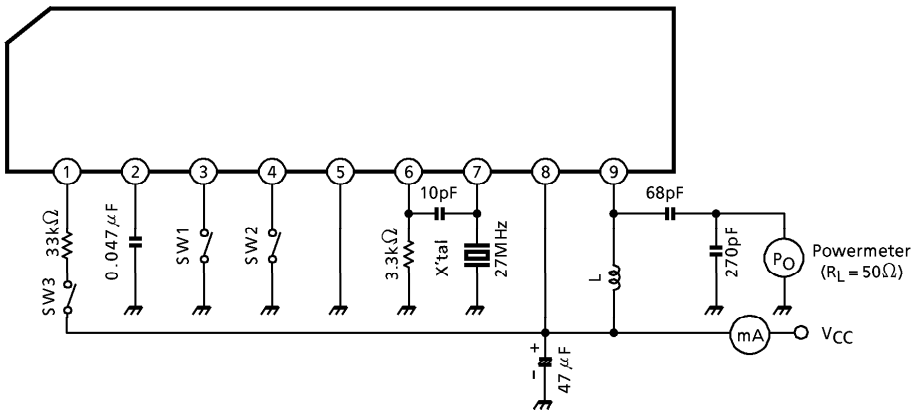
(Note) Derated above 25°C in the proportion of 4.8mW / °C.

ELECTRICAL CHARACTERISTICS (Unless otherwise specified, Ta = 25°C, V_{CC} = 9V, f_{OSC} = 27MHz)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Supply Current	I_{CC} (1)	1	A Mode		—	20	27	mA
	I_{CC} (2)		B Mode		—	22	—	
	I_{CC} (3)		C Mode		—	18	—	
Transmitter Output Power	P_O (1)	1	f_{OSC} = 27MHz	SW3 : OFF (Note)	16	30	—	mW
	P_O (2)	2	f_{OSC} = 40MkHz		—	30	—	
Modulation Frequency	f_m	3	A, B, C Mode		—	2.3	—	kHz

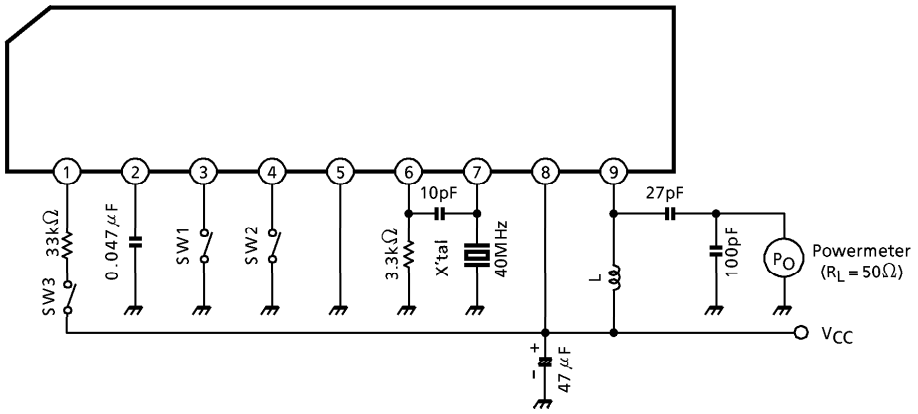
A Mode→SW1, SW2 : OFF
B Mode→SW1 : ON, SW2 : OFF
C Mode→SW1 : OFF, SW2 : ON
(Note) Non Moduration Mode

TEST CIRCUIT 1



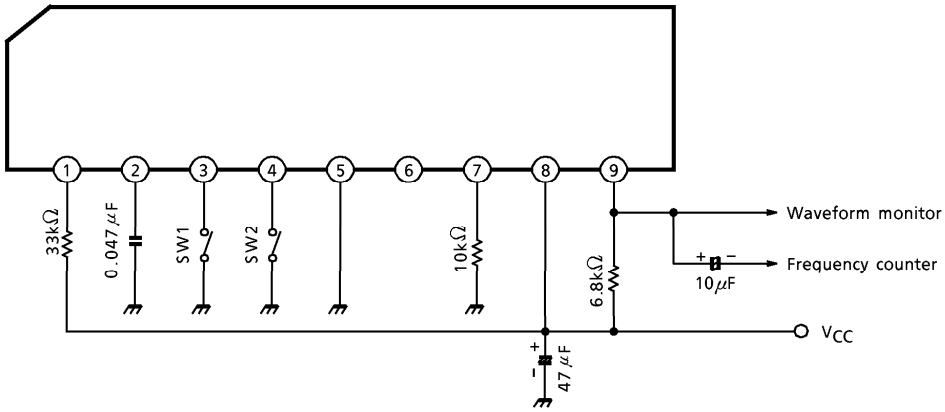
L : KY-6008 (Mitsumi)
10 1/2T, φ0.5mm UEW
Bobbin with Ferrite Core

TEST CIRCUIT 2

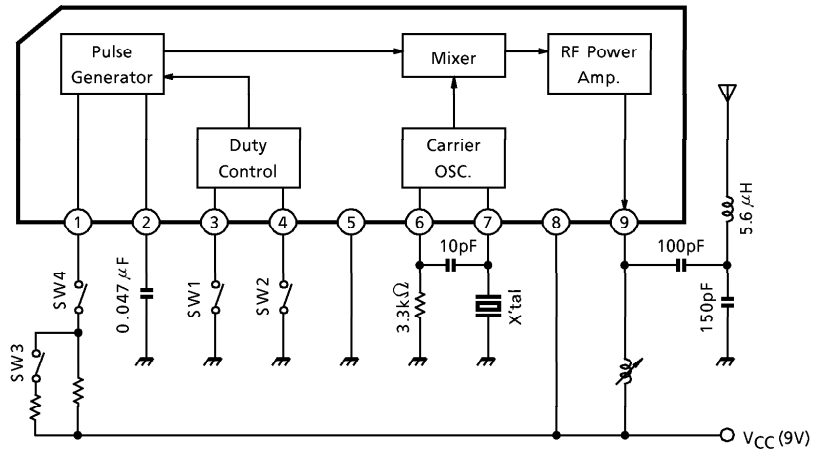


L : KY-6008 (Mitsumi)
10 1/2T, ϕ0.5mm UEW
Bobbin with Ferrite Core

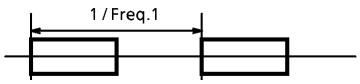
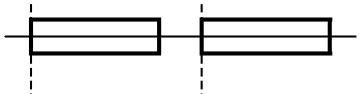
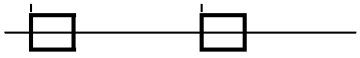
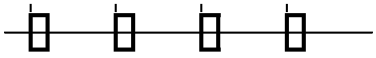
TEST CIRCUIT 3



27MHZ APPLICATION CIRCUIT



TRANSMITTER OUTPUT WAVE FORM

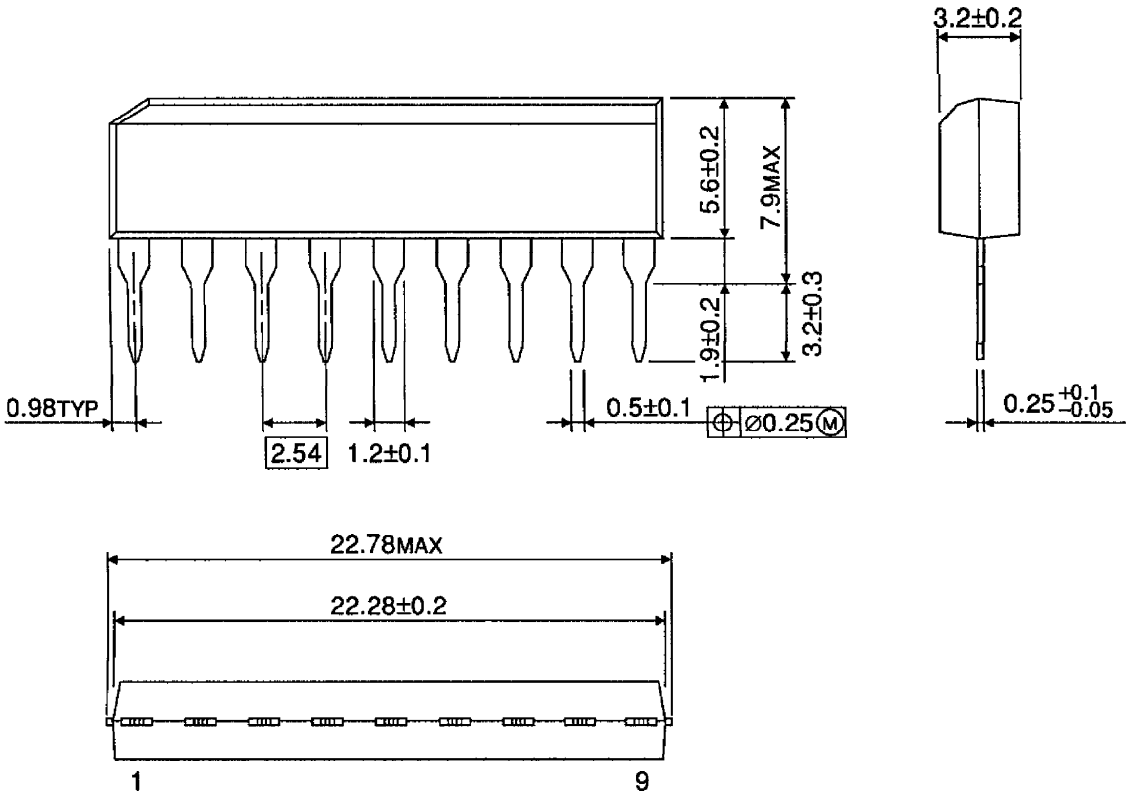
SW4	SW1	SW2	SW3 OFF	SW3 ON	DUTY CYCLE (%)
OFF	—	—			Non-Modulation Mode
ON	OFF	OFF			50
	ON	OFF			75
	OFF	ON			25

(Freq.1 < Freq.2)

OUTLINE DRAWING

SIP9-P-2.54A

Unit : mm



Weight : 0.92g (Typ.)