MIC1551/53

IttyBitty RC 555 Type Timer/Oscillator

Features

- +2.7V to +18V Operation
- Low Current
  - <1 µA Typical Shutdown Mode (MIC1553)
  - 200 µA Typical (TRG and THR Low) at 3V Supply
- Timing from Microseconds to Hours
- “Zero” Leakage Trigger and Threshold Inputs
- 50% Square Wave with One Resistor, One Capacitor
- Threshold Input Precedence Over Trigger Input
- <15Ω Output On-Resistance
- No Output Cross-Conduction Current Spikes
- <0.005%/°C Temperature Stability
- <0.055%/V Supply Stability
- Small SOT-23-5 Surface Mount Package

Applications

- Precision Timer
- Pulse Generation
- Sequential Timing
- Time-Delay Generation
- Missing Pulse Detector
- Micropower Oscillator to 500 kHz
- Charge-Pump Driver
- LED Blinker
- Voltage Converter
- Linear Sweep Generator
- Variable Frequency and Duty Cycle Oscillator

General Description

The MIC1551 IttyBitty CMOS RC timer/oscillator and MIC1553 IttyBitty CMOS RC oscillator are designed to provide rail-to-rail pulses for precise time delay or frequency generation.

These are both 555 type timer/oscillator devices, without a frequency control (FC) pin or an open-collector discharge (D) pin. The threshold pin (THR) has precedence over the trigger (TRG) input, ensuring that the BiCMOS output is off when TRG is high.

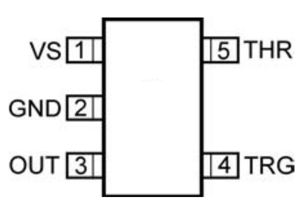
The MIC1551 can be used as an astable (oscillator) or monostable (one-shot) with separate threshold and trigger inputs. In the one-shot mode, the output pulse width is precisely controlled by an external resistor and a capacitor. Time delays may be accurately controlled from microseconds to hours. In the oscillator mode, the output is used to provide precise feedback, with a minimum of one resistor and one capacitor producing a 50% duty cycle square wave.

The MIC1553 is designed for astable (oscillator) operation only, with a chip select/reset (CS) input for low power shut-down. One resistor and one capacitor provide a 50% duty cycle square wave. Other duty cycle ratios may be produced using two diodes and two resistors.

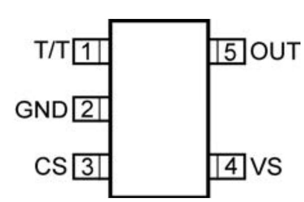
The MIC1551/53 are powered from a +2.7V to +18V supply voltage and are rated for –40°C to +85°C ambient temperature range. The MIC1551/3 are available in a SOT-23-5 package.

Package Types

MIC1551
5-PIN SOT-23 (M5)
(TOP VIEW)

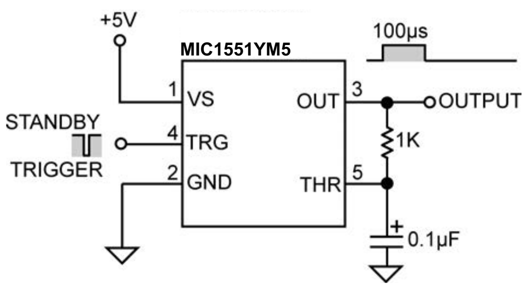


MIC1553
5-PIN SOT-23 (M5)
(TOP VIEW)

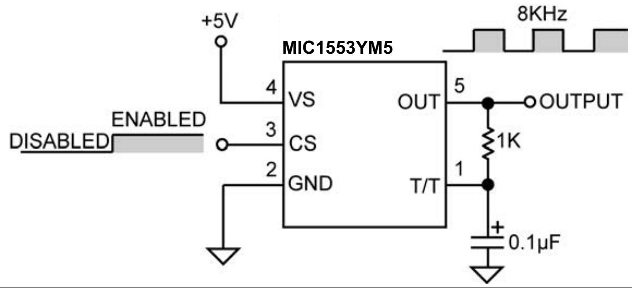


Typical Application Circuits

MIC1551
MONOSTABLE (ONE-SHOT)

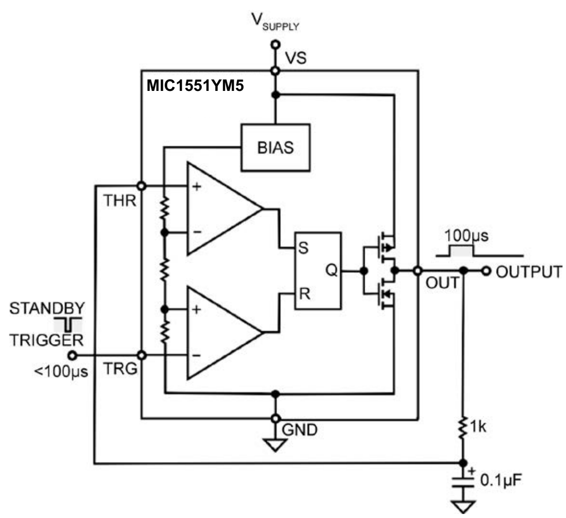


MIC1553
ASTABLE (OSCILLATOR)

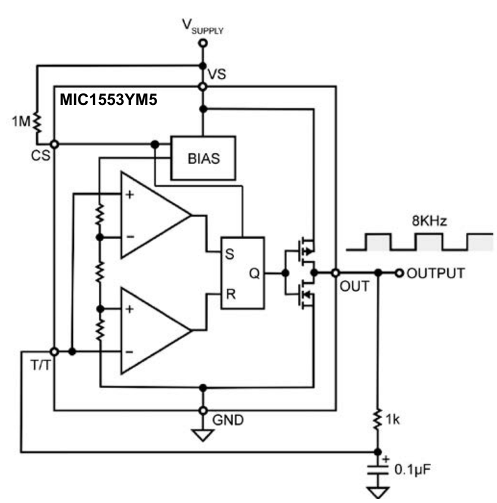


Functional Block Diagrams

MIC1551YM5 BLOCK DIAGRAM WITH EXTERNAL COMPONENTS
(MONOSTABLE CONFIGURATION)



MIC1553YM5 BLOCK DIAGRAM WITH EXTERNAL COMPONENTS
(ASTABLE CONFIGURATION)



1.0 ELECTRICAL CHARACTERISTICS

Absolute Maximum Ratings †

Supply Voltage (V_S) ....+22V
Threshold Voltage (V_{THR}, $V_{T/T}$)....................+22V
Trigger Voltage (V_{TGR}, $V_{T/T}$) ....+22V
ESD HBM Rating (Note 1) .... 2 kV
ESD MM Rating (Note 1) 200V

Operating Ratings ‡

Supply Voltage (V_S) .... +2.7V to +18V

† Notice: Stresses above those listed under “Absolute Maximum Ratings” may cause permanent damage to the device. This is a stress rating only and functional operation of the device at those or any other conditions above those indicated in the operational sections of this specification is not intended. Exposure to maximum rating conditions for extended periods may affect device reliability.

‡ Notice: The device is not guaranteed to function outside its operating ratings.

Note 1: Devices are ESD protected, however handling precautions recommended.

ELECTRICAL CHARACTERISTICS

Electrical Characteristics: T_A = +25°C, **bold** values indicate –40°C ≤ T_A ≤ +85°C, unless noted. (Note 1)

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Supply Current	I_S	—	240	**300**	µA	MIC1551, V_S = 5V
		—	255	**315**		MIC1553, V_S = 5V
		—	350	**400**		MIC1551, V_S = 15V
		—	370	**420**		MIC1553, VS = 15V
Monostable Timing Accuracy	—	—	2	—	%	R_A = 10 kΩ, C =0.1 µF, V_S = 5V
		858	—	**1161**	µs	R_A = 10 kΩ, C =0.1 µF, V_S = 5V
Monostable Drift Over Temperature	—	—	100	—	ppm/°C	V_S = 5V, –55°C ≤ T_A ≤ +125°C (Note 2)
		—	150	—		V_S = 10V, –55°C ≤ T_A ≤ +125°C (Note 2)
		—	200	—		V_S = 15V, –55°C ≤ T_A ≤ +125°C (Note 2)
Monostable Drift Over Supply	—	—	0.5	—	%/V	V_S = 5V to 15V (Note 2)
Astable Timing Accuracy	—	—	2	—	%	R_A = R_B = 10 kΩ, C = 0.1 µF, V_S = 5V
		1717	—	**2323**	µs	R_A = R_B = 10 kΩ, C = 0.1 µF, V_S = 5V
Maximum Astable Frequency	—	—	—	500	kHz	R_T = 1 kΩ, C_T = 47 pF, V_S = 8V
Astable Drift Over Temperature	—	—	100	—	ppm/°C	V_S = 5V, –55°C ≤ T_A ≤ +125°C (Note 2)
		—	150	—		V_S = 10V, –55°C ≤ T_A ≤ +125°C (Note 2)
		—	200	—		V_S = 15V, –55°C ≤ T_A ≤ +125°C (Note 2)
Astable Drift Over Supply	—	—	0.5	—	%/V	V_S = 5V to 15V (Note 2)
Threshold Voltage	—	**61**	67	**72**	%/V_S	V_S = 15V
Trigger Voltage	—	**27**	32	**37**	%/V_S	V_S = 15V
Trigger Current	—	—	—	**50**	nA	V_S = 15V
Threshold Current	—	—	—	**50**	nA	V_S = 15V

ELECTRICAL CHARACTERISTICS (CONTINUED)

Electrical Characteristics: T_A = +25°C, **bold** values indicate –40°C ≤ T_A ≤ +85°C, unless noted. (Note 1)

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Chip Select	—	**50**	67	**72**	%/V_S	On > two-thirds of V_S
		28	33	**50**		Off < one-third of V_S
Output Voltage Drop	—	—	0.3	**1.25**	V	V_S = 15V, I_{SINK} = 20 mA
		—	0.08	**0.5**		V_S = 5V, I_{SINK} = 20 mA
		14.1	14.7	—		V_S = 15V, I_{SOURCE} = 20 mA
		3.8	4.7	—		V_S = 5V, I_{SOURCE} = 20 mA
Supply Voltage	—	**2.7**	—	**18**	V	Functional Operation (Note 2)
Output Rise Time	—	—	15	—	ns	R_L = 10 MΩ, C_L = 10 pF, V_S = 5V (Note 2)
Output Fall Time	—	—	15	—	ns	R_L = 10 MΩ, C_L = 10 pF, V_S = 5V (Note 2)

Note 1: Specification for packaged product only.
2: Not tested.

TEMPERATURE SPECIFICATIONS

Parameters	Sym.	Min.	Typ.	Max.	Units	Conditions
Temperature Ranges						
Ambient Storage Temperature	T_S	–65	—	+150	°C	—
Lead Temperature	—	—	—	+300	°C	Soldering, 10 sec.
Ambient Temperature	T_A	–40	—	+85	°C	—
Package Thermal Resistance						
Thermal Resistance SOT-23-5	θ_{JA}	—	250	—	°C/W	—

Note 1: The maximum allowable power dissipation is a function of ambient temperature, the maximum allowable junction temperature and the thermal resistance from junction to air (i.e., T_A, T_J, θ_{JA}). Exceeding the maximum allowable power dissipation will cause the device operating junction temperature to exceed the maximum +125°C rating. Sustained junction temperatures above +125°C can impact the device reliability.

2.0 TYPICAL PERFORMANCE CURVES

Note:	The graphs and tables provided following this note are a statistical summary based on a limited number of samples and are provided for informational purposes only. The performance characteristics listed herein are not tested or guaranteed. In some graphs or tables, the data presented may be outside the specified operating range (e.g., outside specified power supply range) and therefore outside the warranted range.

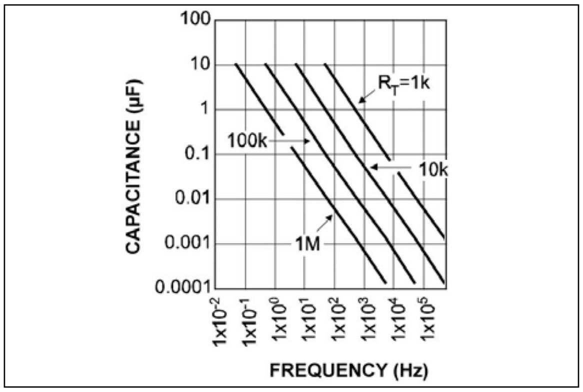


FIGURE 2-1: Astable Frequency.

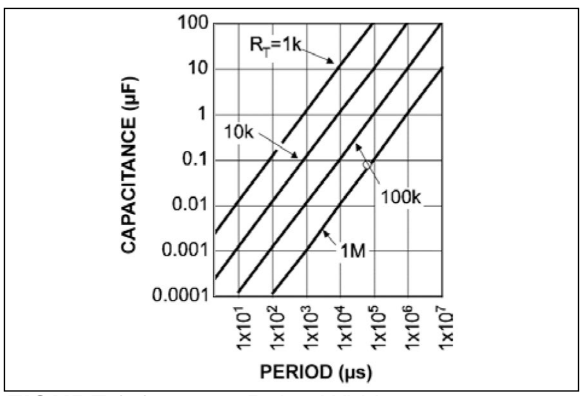


FIGURE 2-2: Pulse Width.

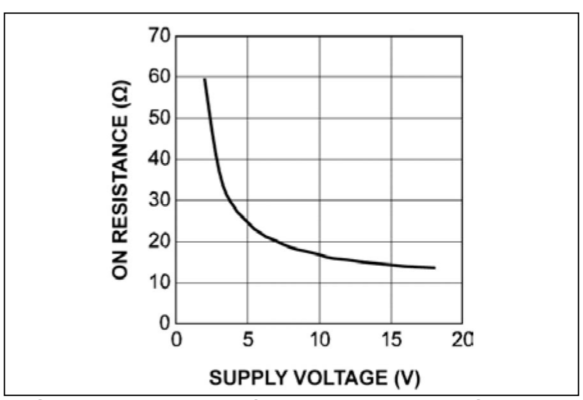


FIGURE 2-3: On Resistance vs. Supply Voltage.

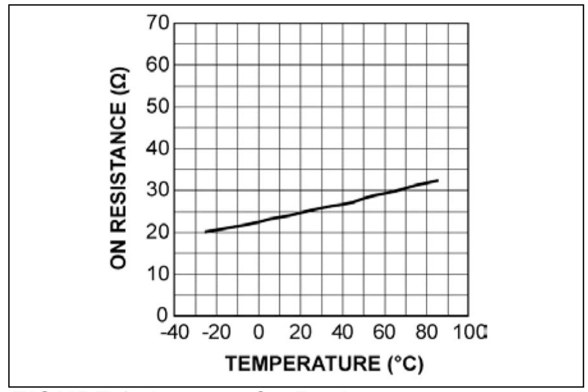


FIGURE 2-4: On Resistance vs. Temperature.

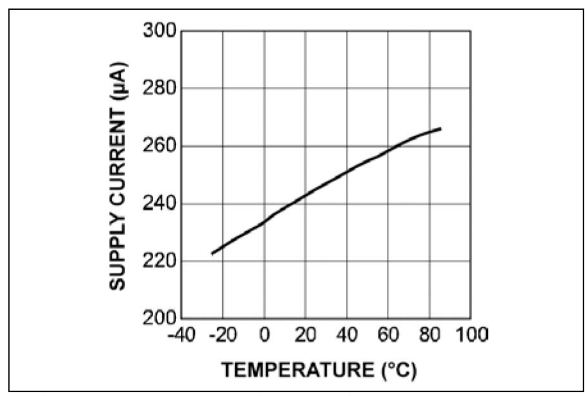


FIGURE 2-5: Supply Current vs. Temperature.

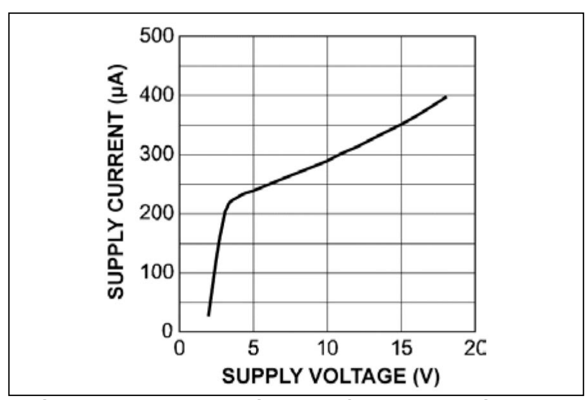


FIGURE 2-6: Supply Current vs. Supply Voltage.

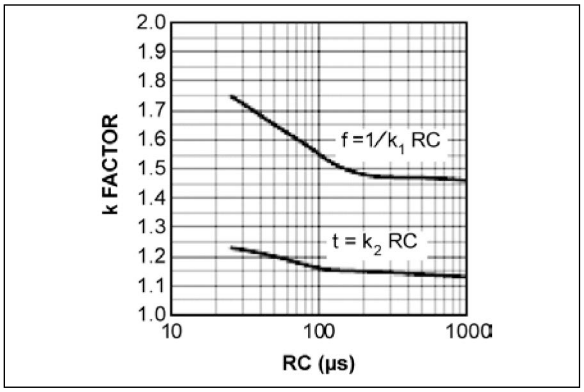


FIGURE 2-7: *k Factors Times RC.*

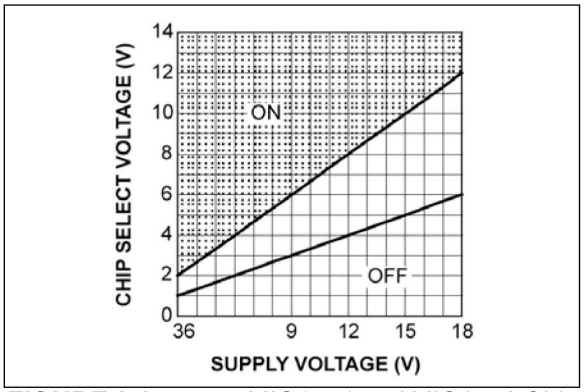


FIGURE 2-8: *MIC1551 and MIC1553 Chip Select vs. Supply Voltage.*

3.0 PIN DESCRIPTIONS

The descriptions of the pins are listed in Table 3-1 and Table 3-2.

TABLE 3-1: PIN FUNCTION TABLE, MIC1551

Pin Number	Pin Name	Description
1	VS	Supply (Input): +2.7V to +18V supply.
2	GND	Ground: Supply return.
3	OUT	Output: CMOS totem-pole output.
4	TRG	Trigger (Input): Sets output high. Active-low (at $\leq 2/3V_S$ nominal).
5	THG	Threshold (Dominant Input): Sets output low. Active-high (at $\geq 2/3V_S$ nominal).

TABLE 3-2: PIN FUNCTION TABLE, MIC1553

Pin Number	Pin Name	Description
1	T/T	Trigger/Threshold (Input): Internally connected to both threshold and trigger functions. When the voltage at this pin is $\leq 2/3V_S$, it will set the output high. When the voltage at this pin is $\geq 2/3V_S$, it will set the output low.
2	GND	Ground: Supply return.
3	CS	Chip Select/Reset (Input): Active-high at $>2/3V_S$. Output off when low at $<1/3V_S$. If chip select functionality is not desired, CS may be connected directly to VS.
4	VS	Supply (Input): +2.7 to +18V supply.
5	OUT	Output: CMOS totem-pole output.

4.0 FUNCTIONAL DESCRIPTION

The MIC1551 and MIC1553 provide the logic for creating simple RC timer or oscillator circuits.

The MIC1551 has separate THR (threshold) and TRG (trigger) connections for monostable (one-shot) or astable (oscillator) operation.

The MIC1553 has a single T/T (threshold and trigger) connection for astable (oscillator) operation only. The MIC1553 includes a CS (chip select/reset) control.

For more information, refer to the Functional Block Diagrams for MIC1551 and MIC1553.

4.1 Supply

Voltage supply (V_S) is rated for +2.7V to +18V. An external capacitor is recommended to decouple noise.

4.2 Resistive Divider

The resistive voltage divider is constructed of three equal value resistors to produce $1/3V_S$ and $2/3V_S$ voltage for trigger and threshold reference voltages.

4.3 Chip Select/Reset (MIC1553 Only)

Chip select/reset (CS) controls the bias supply to the oscillator's internal circuitry. CS must be connected to CMOS logic-high or logic-low levels. Floating CS will result in unpredictable operation. When the chip is deselected, the supply current is less than 1 µA. Forcing CS low resets the device by setting the flip flop, forcing the output low. If Chip Select functionality is not desired, CS may be connected directly to V_S.

4.4 Threshold Comparator

The threshold comparator is connected to S (set) on the RS flip-flop. When the threshold voltage ($2/3V_S$) is reached, the flip-flop is set, making the output low. THR is dominant over TRG.

4.5 Trigger Comparator

The trigger comparator is connected to R (reset) on the RS flip-flop. When TRG (trigger) goes below the trigger voltage ($1/3V_S$), the flip-flop resets, making the output high.

4.6 Flip-Flop and Output

A reset signal causes Q to go low, turning on the P-channel MOSFET and turning off the N-channel MOSFET. This makes the output rise to nearly V_S.

A set signal causes Q to go high, turning off the P-channel MOSFET, and turning on the N-channel MOSFET, grounding OUT.

4.7 Basic Monostable Operation

A momentary low signal applied to TRG causes the output to go high. The external capacitor charges slowly through the external resistor. When threshold voltage (V_{THR}) reaches $2/3V_S$, the output is switched off, discharging the capacitor. During power-on, a single pulse may be generated.

For more information, refer to the Functional Block Diagrams for MIC1551.

4.8 Basic Astable Operation

The MIC1553 starts with T/T low, causing the output to go high. The external capacitor charges slowly through the external resistor. When $V_{T/T}$ reaches $2/3V_S$ (threshold voltage), the output is switched off, slowly discharging the capacitor. When $V_{T/T}$ decreases to $1/3V_S$ (trigger voltage), the output is switched on, causing $V_{T/T}$ to rise again, repeating the cycle.

For more information, refer to the Functional Block Diagrams for MIC1553.

5.0 APPLICATION INFORMATION

5.1 Basic Monostable (One-Shot) Circuit

A monostable oscillator produces a single pulse each time that it is triggered, and is often referred to as a "one-shot." The pulse width is constant, while the time between pulses depends on the trigger input. One-shots are generally used to stretch incoming pulses of varying widths to a fixed width. The IttyBitty MIC1551 is designed for monostable operation, but may also be connected to provide astable oscillations. The pulse width is determined by the time it takes to charge a capacitor from ground to a comparator trip point. If the capacitor (C_T) is charged through a resistor (R_T) that is connected to the output of an MIC1551, the trip point is approximately $1.1R_TC_T$ (the same time as the initial power-on cycle of an astable circuit.) If the trigger pulse of an MIC1551 remains low longer than the output pulse width, short oscillations may be seen in the output of a one-shot circuit because the threshold pin has precedence over the trigger pin. These occur because the output goes low when the threshold is exceeded, and then goes high again as the trigger function is asserted. AC coupling the input with a series capacitor and a pull-up resistor, with an RC time constant less than the pulse width, will prevent these short oscillations. A diode (D_T) in parallel with (R_T) quickly resets the one-shot.

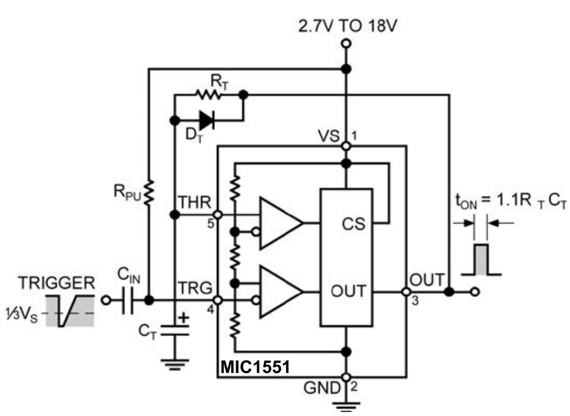


FIGURE 5-1: *One-Shot Diagram.*

The period of a monostable circuit is:

EQUATION 5-1:

$$t = k_2RC$$

Where:

t	Period (sec.)
k_2	Constant (see Typical Performance Curves)
R	Resistance (Ω)
C	Capacitance (F)

5.2 Basic Astable (Oscillator) Circuits

An astable oscillator switches between two states, "on" and "off", producing a continuous square wave. The MIC1553 is optimized for this function, with the two comparator inputs, threshold and trigger (T/T), tied together internally. CS is brought out to allow on-off control of the oscillator.

The MIC1551 may also be used as an astable oscillator by tying the threshold and trigger pins together, forming a T/T pin. If a resistor (R_T) is connected from the output to a grounded timing capacitor (C_T), the voltage at their junction will ramp up from ground when the output goes high. If the T/T pin is connected to this junction, the output will switch low when the ramp exceeds 2/3 of the input voltage. The junction's voltage ramps down toward ground while the output is low. When the ramp is below 1/3 of the input voltage, the output switches to high, and the junction ramps up again. The continuing frequency of an MIC1551/3 astable oscillator depends on the RC time constant, and is approximately 0.7/RC below 500 kHz.

If a duty cycle other than 50% is desired, a low-power signal diode may be connected in series with the timing resistor (R_A), and a second resistor (R_B) in series with an opposite facing switching diode and resistor connected in parallel (see Figure 5-2). The frequency is then made up of two components, the charging time (t_A) and the discharging time (t_B) $t_A = 0.7R_AC_T$ and $t_B = 0.7R_BC_T$. The frequency is the reciprocal of the sum of the two times $t_A + t_B$, so the total time is $1.4R_TC_T$. The first half-cycle of an astable, after power-on or CS enable, is lengthened because the capacitor is charging from ground instead of the 1/3 input trigger trip voltage, to 1.1RC, the same as a monostable pulse.

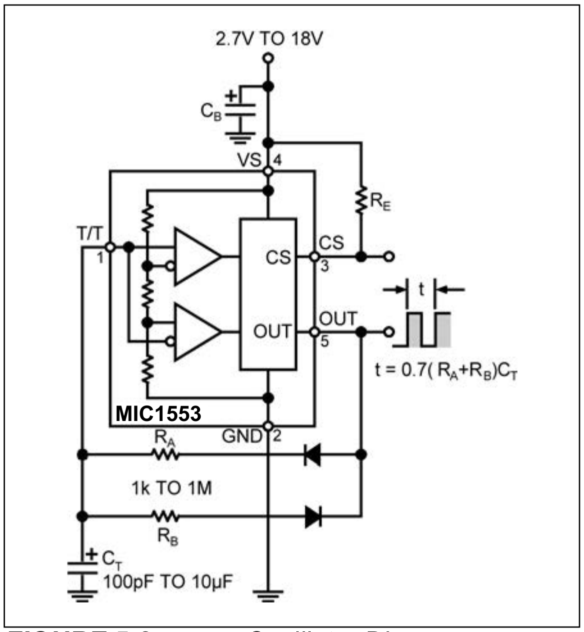


FIGURE 5-2: *Oscillator Diagram.*

The MIC1551 or MIC1553 can be used to construct an oscillator.

The frequency of an astable oscillator is:

EQUATION 5-2:

$$f = \frac{1}{k_1 RC}$$

Where:

f	Frequency (Hz)
k_1	Constant (see Typical Performance Curves)
R	Resistance (Ω)
C	Capacitance (F)

To use the MIC1551 as an oscillator, connect TRG to THR.

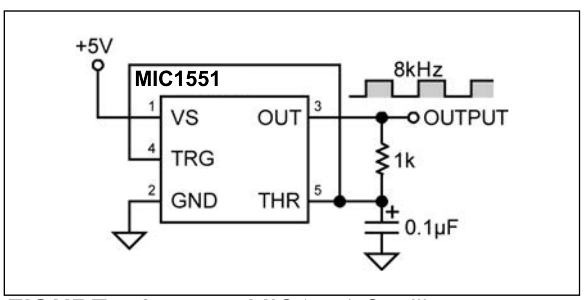


FIGURE 5-3: *MIC1551 Oscillator Configuration.*

The MIC1551 and MIC1553 feature a CS input. With a logic-low signal, CS places the part into a <1 µA shutdown state. If unused, the CS input must be pulled up.

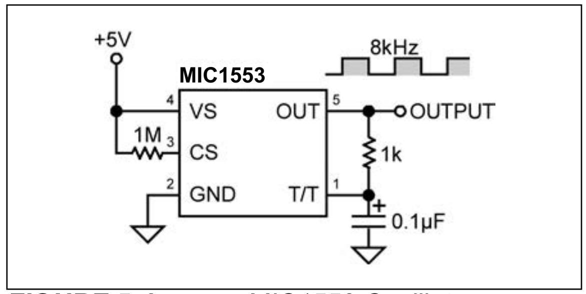


FIGURE 5-4: *MIC1553 Oscillator Configuration.*

5.3 Falling-Edge Triggered Monostable Circuit

The MIC1551 may be triggered by an AC-coupled falling edge, as shown in Figure 5-5. The RC time constant of the input capacitor and pull-up resistor should be less than the output pulse time, to prevent multiple output pulses. A diode across the timing resistor provides a fast reset at the end of the positive timing pulse.

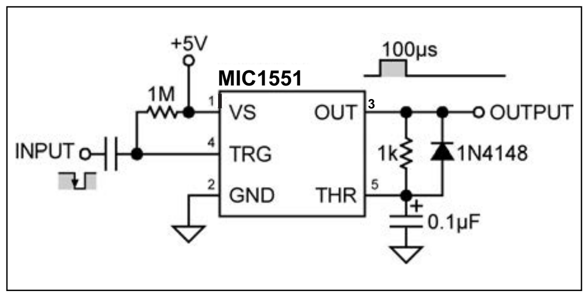


FIGURE 5-5: *Falling Edge Trigger Configuration.*

5.4 Rising-Edge Triggered Monostable Circuit

The MIC1551 may be triggered by an AC-coupled rising edge, as shown in Figure 5-6. The pulse begins when the AC-coupled input rises, and a diode from the output holds the THR input low until TRG discharges to $1/3V_S$. This circuit provides a low-going output pulse.

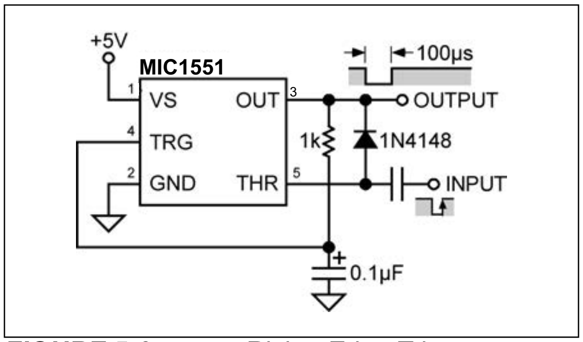


FIGURE 5-6: Rising Edge Trigger Configuration.

5.5 Accuracy

The two comparators in the MIC1551/3 use a resistor voltage divider to set the threshold and trigger trip points to approximately 2/3 and 1/3 of the input voltage, respectively. Because the charge and discharge rates of an RC circuit are dependent on the applied voltage, the timing remains constant if the input voltage varies. If a duty cycle of exactly 50% (or any other value from 1 to 99%), two resistors (or a variable resistor) and two diodes are needed to vary the charge and discharge times. The forward voltage of diodes varies with temperature, so some change in frequency will be seen with temperature extremes, but the duty cycle should track. For absolute timing accuracy, the MIC1551/3 output could be used to control constant current sources to linearly charge and discharge the capacitor, at the expense of added components and board space.

5.6 Long Time Delays

Timing resistors larger than 1 MΩ or capacitors larger than 10 µF are not recommended due to leakage current inaccuracies. Time delays greater than 10 seconds are more accurately produced by dividing the output of an oscillator by a chain of flip-flop counter stages. To produce an accurate one-hour delay, for example, divide a 4.55 Hz MIC1553 oscillator by 16,384 (4000hex, 214) using a CD4020 CMOS divider. 4.5 Hz may be generated with a 1 µF C_T and approximately 156 kΩ.

5.7 Inverting Schmitt Trigger

As shown in Figure 5-7, the trip points of the MIC1551/3 are defined as $1/3V_S$ and $2/3V_S$, which allows either device to be used as a signal conditioning inverter, with hysteresis. A slowly changing input on T/T will be converted to a fast rise or fall-time opposite direction rail-to-rail output voltage. This output maybe used to directly drive the gate of a logic-level P-channel MOSFET with a gate pull-up resistor. This is an inverted logic low-side logic level MOSFET driver. A standard N-channel MOSFET may be driven by a second MIC1551/3, powered by 12V to 15V, to level-shift the input.

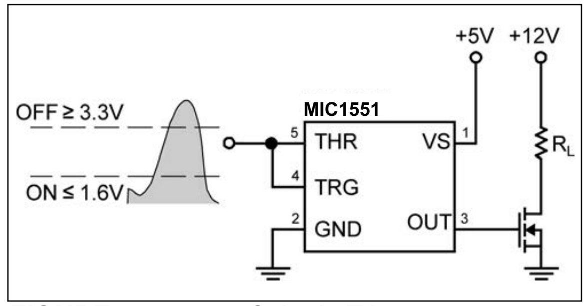


FIGURE 5-7: Schmitt Trigger.

5.8 Charge Pump Low-Side MOSFET Drivers

A standard MOSFET requires approximately >5V to fully enhance the gate for minimum $R_{DS(ON)}$. Substituting a logic-level MOSFET reduces the required gate voltage, allowing an MIC1553 to be used as an inverting Schmitt trigger, described above. An MIC1553 may be configured as a voltage quadrupler to boost a 5V input to over 15V to fully enhance an N-channel MOSFET which may have its drain connected to a higher voltage, through a high-side load. A TTL-high signal applied to CS enables a 10 kHz oscillator, which quickly develops 15V at the gate of the MOSFET, clamped by a Zener diode. A resistor from the gate to ground ensures that the FET will turn off quickly when the MIC1553 is turned off.

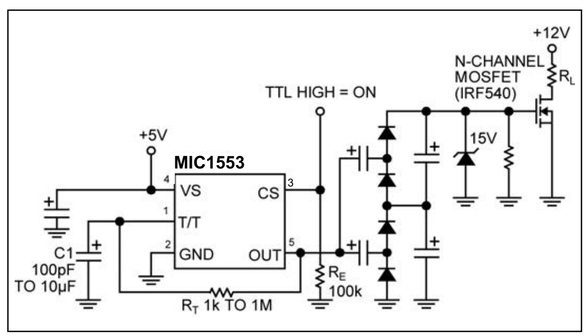


FIGURE 5-8: Charge Pump.

5.9 Audible Voltmeter

If an additional charge or discharge source is connected to the timing capacitor, the frequency may be shifted by turning the source on or off. An MIC1551 oscillator, powered by the circuit under test, may be used to drive a small loud speaker or piezo-electric transducer to provide a medium frequency for an open or high impedance state at the probe. A high tone is generated for a high level, and a lower frequency for a logic low on the probe.

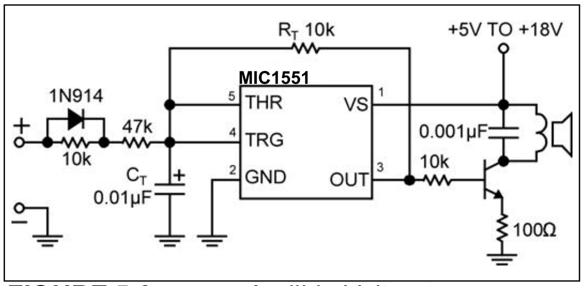


FIGURE 5-9: *Audible Voltmeter.*

6.0 PACKAGING INFORMATION

6.1 Package Marking Information

5-Lead SOT-23* (Front)	Example
XXX	T15

5-Lead SOT-23* (Back)	Example
NNN	SR7

Legend:	XX...X	Product code or customer-specific information
	Y	Year code (last digit of calendar year)
	YY	Year code (last 2 digits of calendar year)
	WW	Week code (week of January 1 is week ‘01’)
	NNN	Alphanumeric traceability code
	e3	Pb-free JEDEC® designator for Matte Tin (Sn)
	*	This package is Pb-free. The Pb-free JEDEC designator (e3) can be found on the outer packaging for this package.
	●, ▲, ▼	Pin one index is identified by a dot, delta up, or delta down (triangle mark).

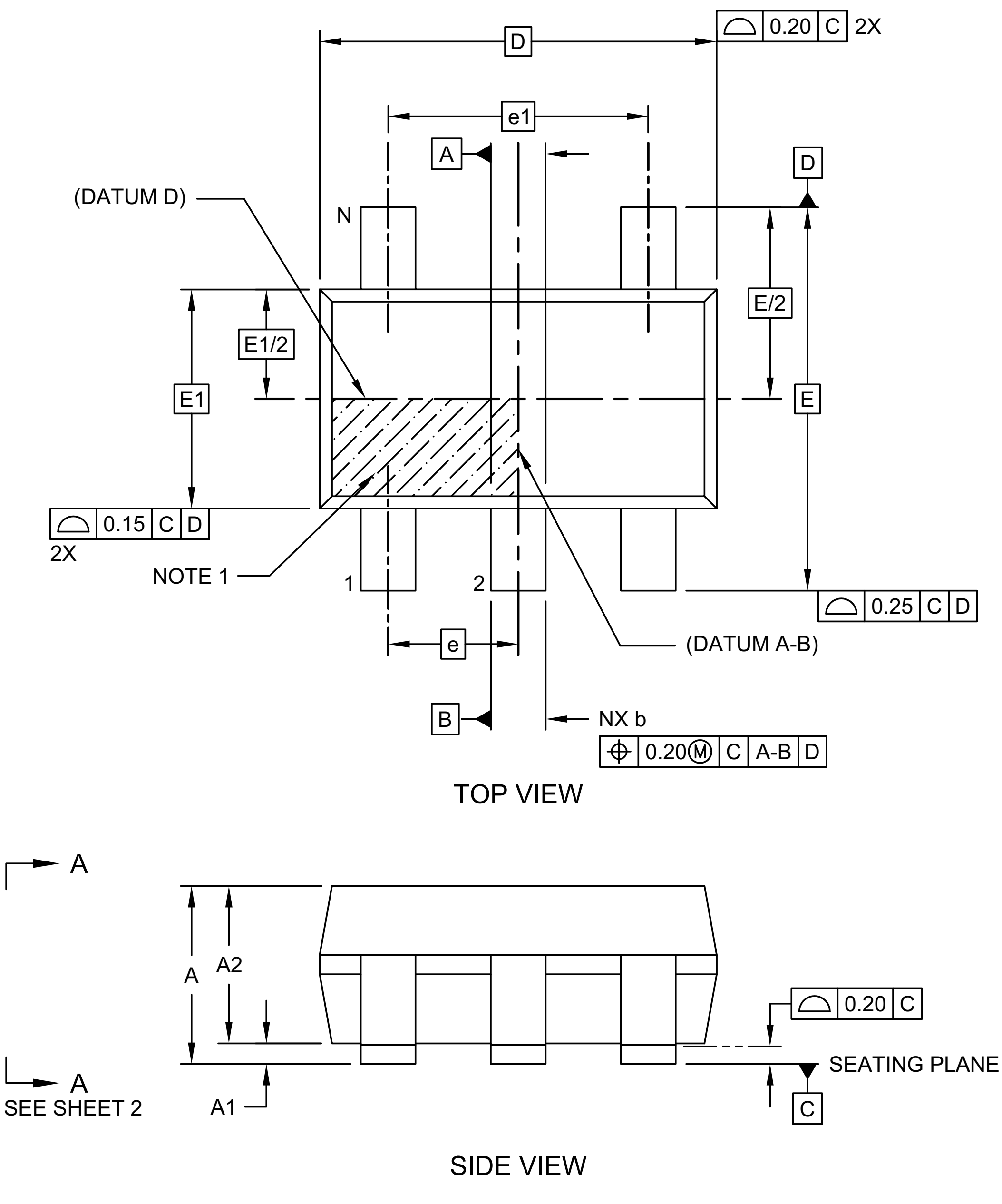
Note: In the event the full Microchip part number cannot be marked on one line, it will be carried over to the next line, thus limiting the number of available characters for customer-specific information. Package may or may not include the corporate logo.

Underbar (_) and/or Overbar (‾) symbol may not be to scale.

5-Lead SOT-23 Package Outline and Recommended Land Pattern

5-Lead Plastic Small Outline Transistor (6BX) [SOT-23]

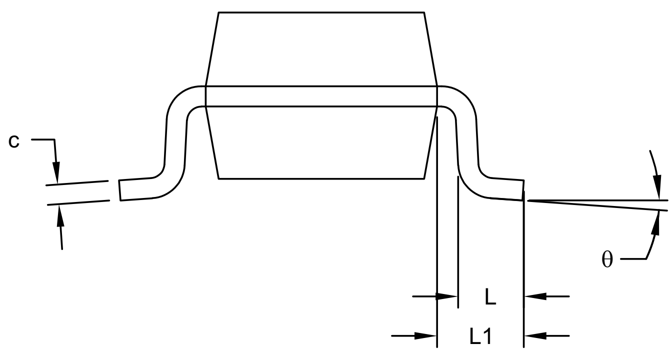
Note:	For the most current package drawings, please see the Microchip Packaging Specification located at http://www.microchip.com/packaging



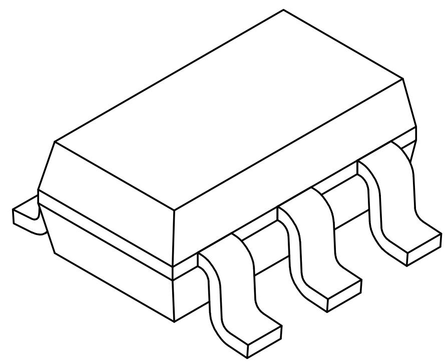
Microchip Technology Drawing C04-091-6BX Rev H Sheet 1 of 2

5-Lead Plastic Small Outline Transistor (6BX) [SOT-23]

Note: For the most current package drawings, please see the Microchip Packaging Specification located at http://www.microchip.com/packaging



VIEW A-A
SHEET 1



Units		MILLIMETERS		
Dimension Limits		MIN	NOM	MAX
Number of Pins	N		5	
Pitch	e		0.95 BSC	
Outside lead pitch	e1		1.90 BSC	
Overall Height	A	0.90	-	1.45
Molded Package Thickness	A2	0.89	-	1.30
Standoff	A1	-	-	0.15
Overall Width	E		2.80 BSC	
Molded Package Width	E1		1.60 BSC	
Overall Length	D		2.90 BSC	
Foot Length	L	0.30	-	0.60
Footprint	L1		0.60 REF	
Foot Angle	θ	0°	-	10°
Lead Thickness	c	0.08	-	0.26
Lead Width	b	0.20	-	0.51

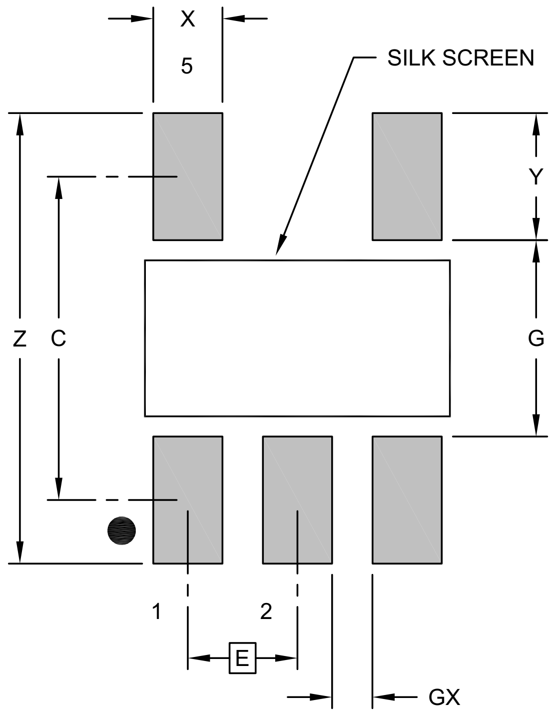
Notes:

1. Dimensions D and E1 do not include mold flash or protrusions. Mold flash or protrusions shall not exceed 0.25mm per side.
2. Dimensioning and tolerancing per ASME Y14.5M
   BSC: Basic Dimension. Theoretically exact value shown without tolerances.
   REF: Reference Dimension, usually without tolerance, for information purposes only.

Microchip Technology Drawing C04-091-6BX Rev H Sheet 2 of 2

5-Lead Plastic Small Outline Transistor (6BX) [SOT-23]

Note: For the most current package drawings, please see the Microchip Packaging Specification located at http://www.microchip.com/packaging



RECOMMENDED LAND PATTERN

Units		MILLIMETERS		
Dimension Limits		MIN	NOM	MAX
Contact Pitch	E	0.95 BSC		
Contact Pad Spacing	C		2.80	
Contact Pad Width (X5)	X			0.60
Contact Pad Length (X5)	Y			1.10
Distance Between Pads	G	1.70		
Distance Between Pads	GX	0.35		
Overall Width	Z			3.90

Notes:

1. Dimensioning and tolerancing per ASME Y14.5M

   BSC: Basic Dimension. Theoretically exact value shown without tolerances.

Microchip Technology Drawing No. C04-2091-6BX Rev H

APPENDIX A: REVISION HISTORY

Revision A (February 2025)

- Initial release of MIC1551/53 as Microchip data sheet DS20006985A.

NOTES:

PRODUCT IDENTIFICATION SYSTEM

To order or obtain information, e.g., on pricing or delivery, contact your local Microchip representative or sales office.

Part No.	X	XX	-XX
Device	Temperature Range	Package	Media Type

Device:	MIC1551: MIC1553:	IttyBitty RC Timer/Oscillator IttyBitty RC Timer/Oscillator
Temperature Range:	Y =	–40°C to +85°C
Package:	M5 =	5-Lead SOT-23
Media Type:	TR =	3,000/Reel

Examples:

a) MIC1551YM5-TR:
MIC1551, –40°C to +85°C, 5-Lead SOT-23, 3,000/Reel

b) MIC1553YM5-TR
MIC1553, –40°C to +85°C, 5-Lead SOT-23, 3,000/Reel

Note 1: Tape and Reel identifier only appears in the catalog part number description. This identifier is used for ordering purposes and is not printed on the device package. Check with your Microchip Sales Office for package availability with the Tape and Reel option.

NOTES:

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ISBN: 979-8-3371-0739-4

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