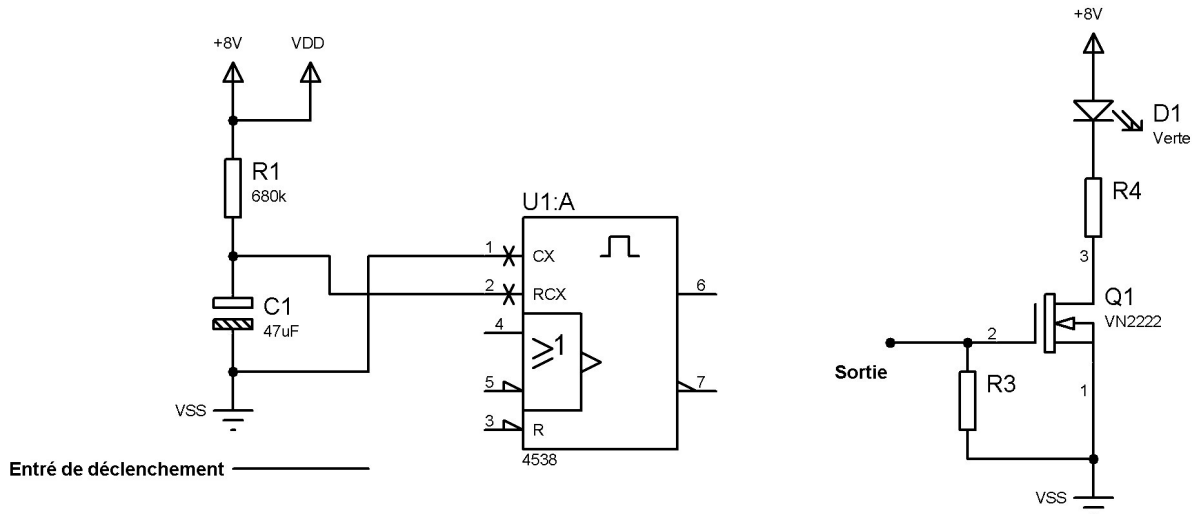


Exercice : Montage monostable

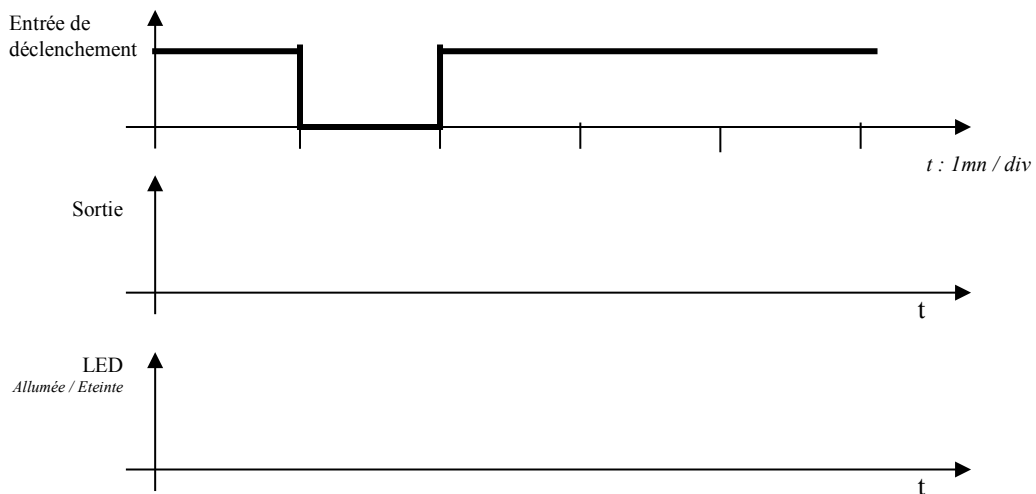
Vous disposez en ANNEXE d'un extrait de la documentation du circuit 4538

1. Quelle est la technologie de fabrication de ce circuit ? \Rightarrow
2. Calculer la durée d'instabilité du monostable ci-dessous.

\Rightarrow



3. On souhaite que ce monostable soit déclenché sur front montant, compléter le câblage des 3 entrées du circuit.
4. On souhaite que lorsqu'il est activé le monostable allume la LED D1 par l'intermédiaire du transistor Q1. Relier sur le schéma la sortie qui convient pour obtenir ce fonctionnement.
5. Tracer ci-dessous le chronogramme du signal de sortie en y indiquant amplitude(s) et durée(s) significative(s). Indiquer en concordance des temps l'état de la LED (*allumée ou éteinte*)





October 1987
Revised April 2002

CD4538BC Dual Precision Monostable

CD4538BC Dual Precision Monostable

General Description

The CD4538BC is a dual, precision monostable multivibrator with independent trigger and reset controls. The device is retriggerable and resettable, and the control inputs are internally latched. Two trigger inputs are provided to allow either rising or falling edge triggering. The reset inputs are active LOW and prevent triggering while active. Precise control of output pulse-width has been achieved using linear CMOS techniques. The pulse duration and accuracy are determined by external components R_X and C_X . The device does not allow the timing capacitor to discharge through the timing pin on power-down condition. For this reason, no external protection resistor is required in series with the timing pin. Input protection from static discharge is provided on all pins.

Features

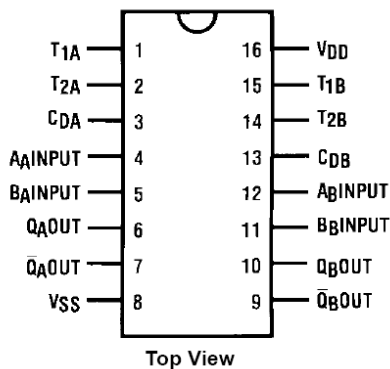
- Wide supply voltage range: 3.0V to 15V
- High noise immunity: $0.45 V_{CC}$ (typ.)
- Low power TTL compatibility:
Fan out of 2 driving 74L or 1 driving 74LS
- New formula:
 $PW_{OUT} = RC$ (PW in seconds, R in Ohms, C in Farads)
- $\pm 1.0\%$ pulse-width variation from part to part (typ.)
- Wide pulse-width range: $1 \mu s$ to ∞
- Separate latched reset inputs
- Symmetrical output sink and source capability
- Low standby current: 5 nA (typ.) @ 5 V_{DC}
- Pin compatible to CD4528BC

Ordering Code:

Order Number	Package Number	Package Description
CD4538BCM	M16A	16-Lead Small Outline Integrated Circuit (SOIC), JEDEC MS-012, 0.150" Narrow
CD4538BCWM	M16B	16-Lead Small Outline Intergrated Circuit (SOIC), JEDEC MS-013, 0.300" Wide
CD4538BCN	N16E	16-Lead Plastic Dual-In-Line Package (PDIP), JEDEC MS-001, 0.300" Wide

Devices also available in Tape and Reel. Specify by appending the suffix letter "X" to the ordering code.

Connection Diagram



Truth Table

Inputs			Outputs	
Clear	A	B	Q	\bar{Q}
L	X	X	L	H
X	H	X	L	H
X	X	L	L	H
H	L	↓		
H	↑	H		

H = HIGH Level
L = LOW Level
↑ = Transition from LOW-to-HIGH
↓ = Transition from HIGH-to-LOW
 = One HIGH Level Pulse
 = One LOW Level Pulse
X = Irrelevant