DESCRIPTION RU2444124

ELECTRIC CIRCUIT BREAKER GENERATOR - TRANSISTOR KACHER

The invention relates to the fields of automation, communications, electronics, energy.

Known for kacher on the radio tube or transistor, see the description of the Application No. 201338295/089 (054709).

The application sets out the characteristics related to the radio tube and the transistor, but without taking into account the peculiarities of the physics of the transistor, which require patent protection for additional distinctive features.

An electrical discontinuity generator has unique physical properties previously discovered with a Tesla transformer. The difference between the Tesla discharger and the caster is that the caster (reactivity driver) is an electronic circuit operating in continuous mode. This allows you to create a DC transformer, an absolute sensor that converts non-electric quantities into current, voltage, frequency directly without conversions, transmit information through continuous media, and much more, which is the aim of the invention.

If a transistor crystal for some time consists entirely of holes (for example, at an absolute zero temperature), in the absence of electrons, this means that it has become an insulator.

It is known that when the pn junction is illuminated by light, a potential difference arises on its electrodes. Electrons receive additional energy of light quanta, and leaving the valence band of the atom, go to a higher allowed energy level in the conduction band. Due to the redundancy of the electron concentration maintained by the light, a potential difference arises at the outer boundaries of the transition.

Observing * 1.c.a circuit from a pulse generator, inductance and pn junction shows that after an external generator pulse (1.21.a, 1.ab.a) a long time (directly dependent on the value of inductance and pulse amplitude) ionization of holes occurs. In this case, a voltage 71 is observed on the electrodes of the diode 73 almost the same as during the action of an external pulse. This is explained by the fact that the electron, returning from the conduction band to the valence band, emits a quantum of energy observed at the pn junction in the form of voltage. Those. there is an event opposite to what happened when the pn junction was illuminated.

When the concentration of electrons in a crystal drops to zero, a chain break occurs, which is confirmed by the self-induction EMF of 1.71.a, which is then converted into an oscillatory process. The state of breaking the chain cannot last for a long time, since the temperature, magnetic, electric components are always present in the crystal as a deionizer. At the moment of rupture, a certain number of electrons have time to appear, with an energy similar to a capacitive one, which reacts with inductance, as a result a damped oscillatory process arises.

At 1.21.a on shunt 21, an increase in current is observed for the duration of the generator pulse, followed by its gradual decrease to 0 A. At this time, a voltage of 0.7 V is observed at the base electrode (according to Ohm's Law, if the current tends to 0, and the voltage at this does not change, it means that the resistance of the circuit becomes equal to infinity), and at 0 A, an inconspicuous oscillation process begins.

The open circuit is also observed on the secondary winding ab (1.ab.a). The pulse time from the generator 72 looks like a negative burst, and the hole ionization time is positive. Measurements are made in the secondary circuit, i.e. through the magnetic field.

During the action of a pulse from an external generator, the electronic component of conductivity prevails. Because of this, the negative signal in the secondary winding. After the impulse, the hole conductivity prevails, and this corresponds to a positive signal. These judgments flow from their Hall effect.

The mutual suppression of the hole component is an electronic component (caused by a pulse source with an amplitude of 8 V, see

1.

p. a) can be seen in experiments 1.41.b, c, d, 2.41, ab, g with a counter-switching on of the base and collector coils (negative feedback).

The basis of the explanation of the principle of action of the kacher is based on the following statements

1. If a certain number of electrons are injected on one side of the transistor crystal, and more electrons are extracted on the opposite side, then a voltage gradient from 0 V on the positive side to the power source to 0.7 V on the base electrode arises, increasing to the opposite side of the crystal, to minus power source. See 1.vg.g.

2.

The inductance at the base (as well as its absence) initiates the generation of holes in the base region.

3.

The inductance of the collector branch ensures the extraction of electrons from the transistor crystal, through the inductance resistance.

4.

The base current is compensation, directed from a higher voltage on one of the electrodes of the transistor crystal to a smaller one on the other electrode.

5.

A chain break is the removal of electrons from a crystal.

6.

The voltage pulses of the break does not match the current.

The current is placed in the time interval between the break pulses.

7.

The voltage in the base and collector branches, relative to the poles of the power source of the collector branch, are in the same phase (directly on the base and collector electrodes they look out of phase, since they are measured relative to the direction of the current passing at the measured points).

Table 1 discusses the effects peculiar to Kacher, assembled on npn transistor.

In all circuits 1.71.a, b, c, and d, the base electrodes have a voltage of about 0.7 V during the interpulse time.

In all schemes, the voltage at the emitter and collector in the interpulse period is close to 0 V relative to the common pole of the power source of the collector branch.

In all circuits, the base current is negative and decreases to 0 A.

In all schemes, the base current is directed from the emitter to the base, even in the absence of mutual induction between the base and collector coils.

This can be only if there is a voltage source in the branch, which was originally a pulse of an external generator.

But autonomous oscillations without mutual induction arise at the end of the action of the impulse.

This means that the voltage source that creates the base current is inside the transistor crystal.

Conclusion - the voltage on the base is intermediate.

Inside the crystal, the voltage at the edges varies from 0 V on the side facing the positive power source of the collector-emitter branch to +0.7 V on the base electrode, rising to the side facing the negative pole, as shown in the graph U (x) 1.vg .g.

The base current is not in the conventional sense the base current, which opens the possibility of injection of the main carriers from the emitter into the base. This is a compensation current, arising from the transition of excess electrons from a higher potential from inside the crystal, to a smaller base, through a small resistance of the base inductance. A hole plug is formed with an increase in the hole concentration in the crystal. Internal stress throughout the crystal is aligned, causing the circuit to break.

The energy transferred in the porosity to the magnetic moments of the atoms of the surrounding inductance of a substance returns as a voltage pulse of self-induction arising when the circuit is broken, many times exceeding the supply voltage level.

In Table 1, all the oscillograms shown occur at a subthreshold collector voltage of 0.3 V. At the base, this time is 0.7 V (see 1.71.c, d)

Conclusion: At the end of the pulse from an external generator, hole ionization occurs for some time. With the removal of electrons from the crystal of the transistor, the circuit breaks, causing a self-induction pulse. This state is held in nanoseconds. In the gap break, the electron concentration in the transistor crystal is restored. The process is similar to the fact that when the pn junction is illuminated with light, only in this case the return energy of the mechanically unfolded magnetic moments of the atoms of the surrounding inductance of the substance takes place, which is accomplished by the transmission of energy by the electron current during the inter-pulse time. The recovered electrons are again taken out of the crystal in the next period, and again another impulse of breaking the chain appears.

Table 2 repeats the same actions with the pnp transistor, which was in table 1 with npn. Here, the subthreshold mode is obtained at a lower power level - 0.2 V. This is due to the fact that the transistor is more doped with acceptors. The electronic component is insignificant and is present in the database (and not in the donor-emitter and collector as in npn).

In all the schemes shown in the tables, the frequency decreases when entering mutual induction. This is because, with mutual induction, a greater number of carriers from the crystal bulk, electrons and holes, are involved in the kacher process.

Table 3 shows the schemes with OE, OB, OK, NOE. Here, as in tables 1, 2, all the diagrams of currents and voltages coincide in form. Despite the fact that the supply voltage varies by 10 times, the amplitudes of the currents differ little. In all cases, the collector and the emitter voltage in the interpulse gap is almost equal to 0 V, which corresponds to the state of the open transistor. The base current in all cases is decreasing, which corresponds to the locking of the transistor in the well-known principle of the transistor. In all cases, the voltage on the base is about 0.7 V.

Scheme 3.c.b confirms Statement 1. Here, 71.81 ~ -0.7 V despite the fact that 8n1 = 7 V. If 71 is taken as 0 V (insert the oscilloscope probe into it), then everything will fall into place. On the base will be +0.7 V, on the emitter and collector about 0 V, the rest as usual with OE. The electric field ab, vg varies around the zero axis and is the unlocking (with its low-amplitude part) collector and emitter transitions.

It is important to note that ab and vg are in the same phase, the discontinuity pulses are directed in the same direction (on oscillograms obtained directly from inductances in different directions, this is explained by the fact that measurements are made with respect to different directions of current). In this case, measurements are carried out with a consonant (beginning to the beginning) and coaxial coil installation.

Starting up a process caster does not always happen offline. It is necessary to create an external action by touching the base with tweezers, or transforming it into inductance by an independent working driver launched by the kacher, or by a single unlocking impulse to the base. An initial autonomous switch-on can provide an external power supply or a divider that opens a diffusion potential barrier at the baseline transition, with a pre-threshold voltage level. In generation mode it can be disabled.

If the base branches presented in Table 3.c.a, b, insert a constant voltage source with a polarity of opposite polarity of the power source of the collector branch into the circuits, the generation will continue until the voltage of the source of this bias equals the voltage of the power source of the collector branch . This also confirms the existence of a hole plug. 3.SG at the inverse voltage from an external source will work at above-threshold supply voltage of the collector branch.

Table 4.c.a presents a two-transistor kacher, working at the subthreshold power level of each individual silicon transistor, when each transistor drops to 0.7 V. Transistors of bipolar conductivities having a common current show different voltage amplitudes at different poles of the same inductance 4.71.81. This is due to the fact that the pnp transistor has a lower intrinsic resistance, since the npn transistor is more doped with acceptors, and with a current common to both transistors, less voltage drops at a lower resistance.

About Kacher 4.s.b can say the following. From experiments, acting on the collector branch with a pulse from an external generator and simultaneously feeding a subthreshold bias to the base, it is clear that the inductance with the electrons of the crystal (current) of the transistor is capable of performing synchronous harmonic oscillations. The value of inductance can vary in very large limits (this is not a resonance). The presence of a positive subthreshold bias (the overthreshold opens the transistor, and short-circuits the power source through a low resistance of the inductance, causing thermal breakdown of the transistor), allows the amplitude of these oscillations to be higher than the voltage of the power source. Negative half-wave goes beyond the negative level of the power source of the collector branch and electrons, directed by the internal electric field of the inductance, meet with the electric field of the positive pole of the power source of the collector branch, which is certainly above the part of the negative half-wave that has passed.

The beginning of the electron selection is accompanied by pulsation. The hole-forming component 4.71.b is added to the external voltage of 0.5 V. There is a current 31, carrying the electrons out of the crystal, creating a tube. 4.31.b, following the current for the selection of electrons, two reactions of the output of a half-wave from saturation and entry into it are observed. A positive outburst of 81 remains currentless, as in other types of Kacher.

4. sv works on the same principle as 4.sb, only in this case, instead of an external source, a 7n7 current-free coil acts, which opens up the base-emitter potential barrier with its electric field and at the level of the positive half-wave (which is observed on the collector as negative, see Claim 7) conditions are created for the removal of electrons through the collector.

In 4.c.v, there is a phenomenon of a bunch of energy at the free end 7, the active interaction of which with the external environment causes an increase in the voltage of the power source and the current in the collector branch compared to those power parameters when there is no interaction with the external medium (i.e. energy input into the device from the outside). The phenomenon is observed constantly. On this basis, assertions are made by numerous authors about the possibility of creating electric generators with an efficiency higher than 100%. The phenomenon deserves further careful study.

All presented circuits can be reproduced on any transistors of any power. With inductances of any kind of winding from 1 turn and above, with chip inductances. They may be etched on metallized surfaces. May consist of conductors of high-resistance materials. Preferred cores are single sided, but can be any.

Field effect transistors are in kacher mode. Their properties largely coincide with the c-on p / lamp.

* Legend: a sequence of characters before the dots here and hereinafter means - table, row, column: [table number], [row in this table, the letters "n" - name, "n" - parameters, "c" - scheme, numbers and paired letters in the line indicate the points on the diagram between which the oscillogram or another measurement was made], [column].

In the text, instead of, for example, Unum, 81 potential differences are written between the measured points indicated in the diagrams. In different schemes, similar points are denoted by the same numbers.

** At the same time, the following rules should be adopted for unambiguity:

1. We take the beginning of inductance: (like the European letter), the beginning is the upper left corner, the end is the lower right (Text on the right).

2. The arrangement of the turns to the right of the beginning from top to bottom is clockwise (see 4.sg) In the diagrams, the beginning of the inductance is indicated by a dot, and the “n” index at the digit, meaning the measuring point.

3. The beginning of the base inductance is always connected to the base. The beginning of the collector inductance is always connected to the power source.

In this case, with a consistent start-to-start coil arrangement, a positive mutual inductive coupling is ensured.

- The zero line of reference in oscillograms is indicated by a pale horizontal line.

- The upper digit in oscillograms means the price of one division of the oscilloscope grid in µS, the closest to the zero line is the vertical division value in volts for a given beam.

- On some oscillograms rays are designated by measured points.

• sub threshold level - you should read the voltage level at the pn junction corresponding to the cutoff mode for this transistor.

• above threshold level - the voltage level at the pn junction should be considered, at which the transistor is able to enter active mode and saturation mode.

таблица 1

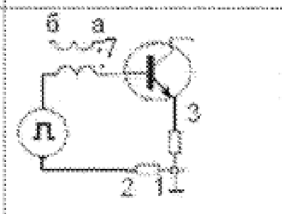
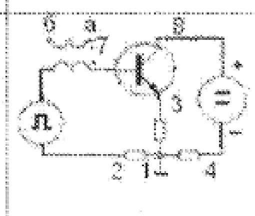
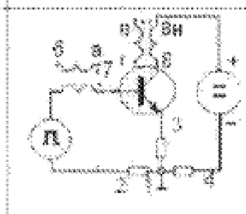
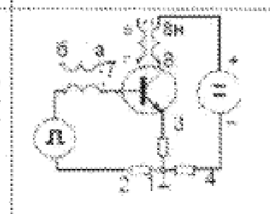
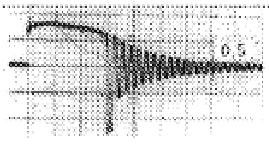
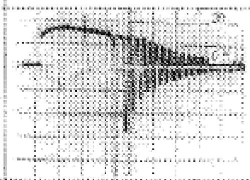
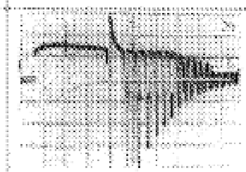
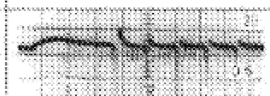
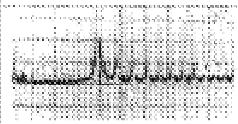
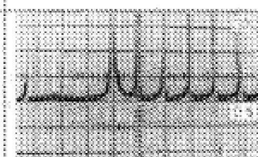
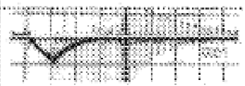
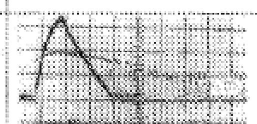
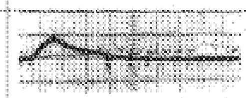
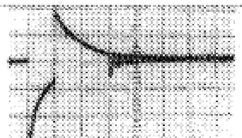
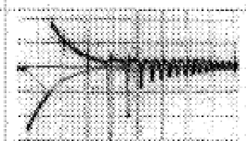
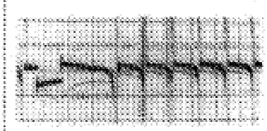
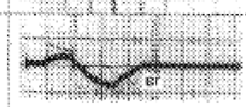
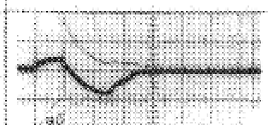
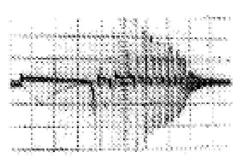
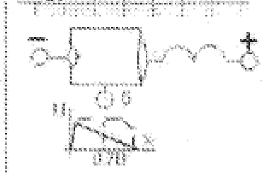
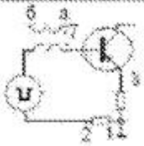
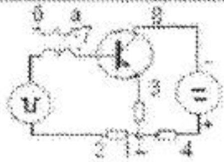
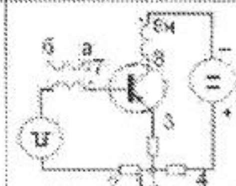
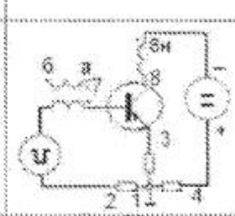
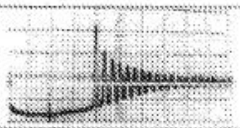
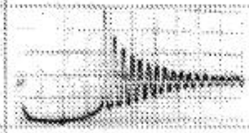
Н	**а** Воздействие импульсом на pn переход	б Воздействие импульсом с подключением коллектора к питанию	**в** Питание коллектора через индуктивность Без взаимоиндукции	г Питание коллектора через индуктивность. Положительная взаимоиндукция
П	L_a=300 витков, импульс = 8В, КТ816Г, аб=3витка	84=0.3В, остальное без изменений	$L_{вн}$=100 вит вг=5 вит, остальное без изменений	Все без изменений
С				
71				
81				
21				
31				
аб				
41	Эти эпюры относятся к колонке Г. 41.б,в,г изменения; от положительной ОС (41.б) к отрицательной ОС (41.в,г) на втором плане в них аб(41.г) и вг(41.в). Считается, что при взаимоиндукции магнитный поток одинаков, но это не так.			
вг				

таблица 2

Н	а Воздействие импульсом на pn переход	б Воздействие импульсом с подключением коллектора к питанию	в Питание коллектора через индуктивность Без взаимоиндукции	г Питание через индуктивность с Положительной взаимоиндукцией
П	L=300 витков, pn перехода, импульс = -8В КТ816Г, аб=3витка	84= -0,2В	$8_м4$= -0,2В $L_{вз}$=100 вит	$8_м4$= -0,2В $L_{вз}$=100 вит,84=0,2В
с				
71				
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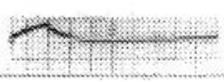
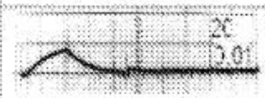
21				
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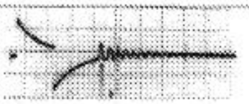
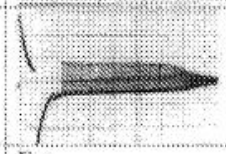
аб				
41 аб			Без взаимоиндукции	
41 аб			При отрицательной взаимоиндукции	

таблица 3

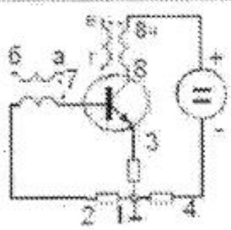
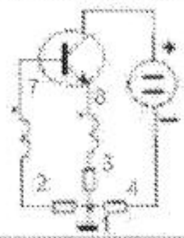
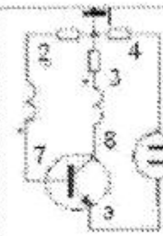
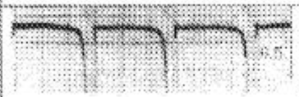
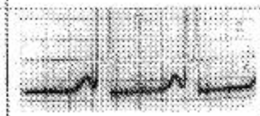
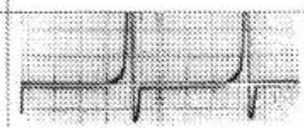
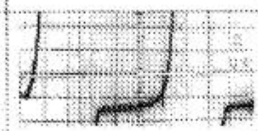
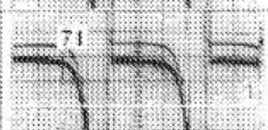
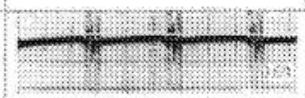
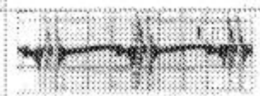
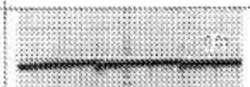
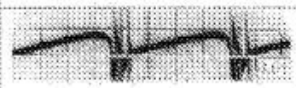
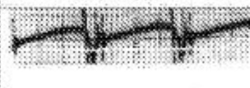
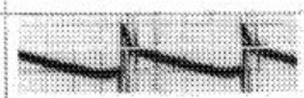
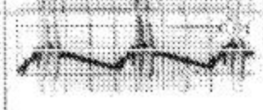
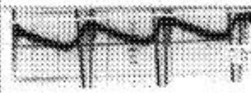
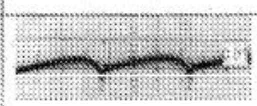
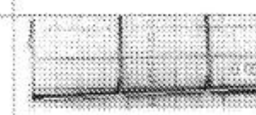
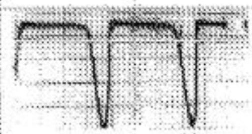
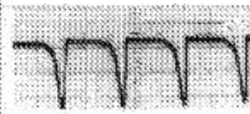
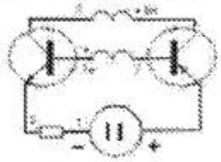
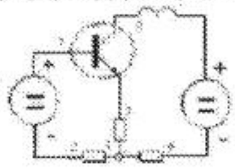
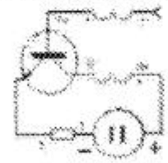
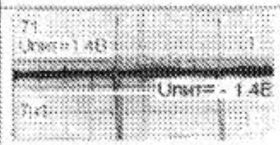
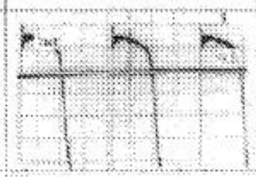
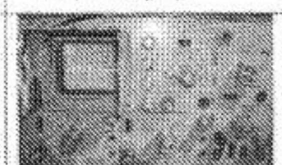
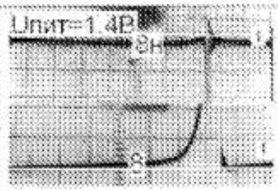
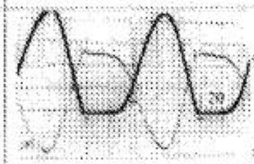
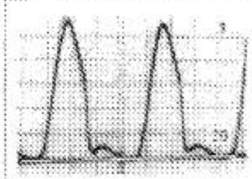
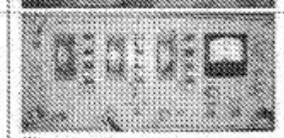
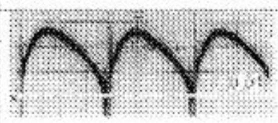
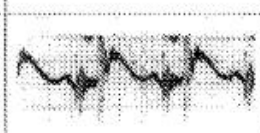
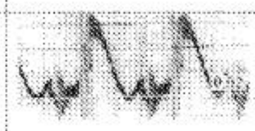
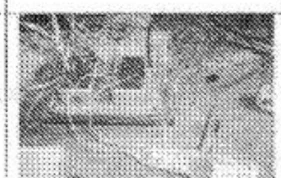
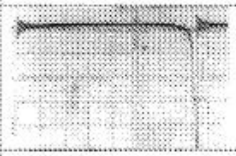
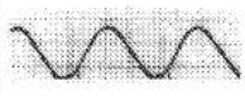
н	а Схема с ОЭ **без** взаимоиндукции	б Схема с ОБ **с** взаимоиндукцией,	в Схема с ОК с взаимоиндукцией	г Нестандартная схема с ОЭ **без** взаимоиндукции
п	$8_н4$=2В 72-100витков $8_н8$-150витков VT - КТ940А аб, вг-3витка	$8_н4$=7В аб-3вит. 72-100вит. $8_н8$-150 вит.	$8_н4$=2В аб-3вит. 72-300вит. $8_н8$-100 вит	э4=0.6В 72 -150вит. 83 – 100 вит
с				
71				
81				
21				
31				
41				
аб				
вг				

таблица 4

н	а Двухтранзисторный качер	б Качер с базовым смещением	в Качер с бестоковой катушкой	г Катушка, Приборный парк
п	КТ816Г $L_{88н}$-30вит КТ940А $L_{7н7}$-60 вит Uпит=1.4В.	КТ940А, 72=0.5В $U_к$=36В, L_8-60вит	КТ940А, L_7-500вит L_8- 60вит $U_{пит}$= 36В	
с				 Катушка Осциллограф
71				
81				 Генератор импульсов
31				
аб				Наборное поле Блоки питания.
71 31