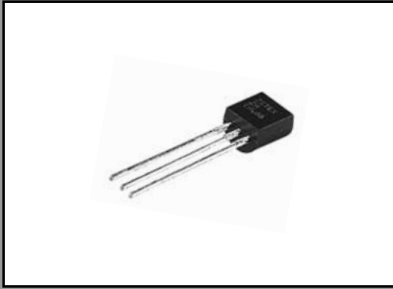
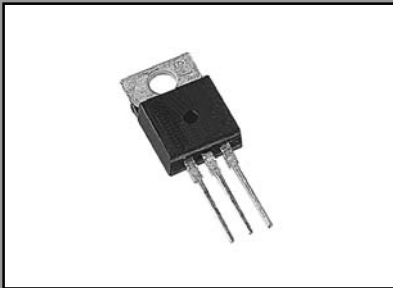


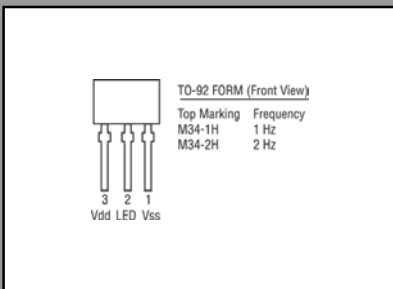
FIXED VOLTAGE REGULATORS



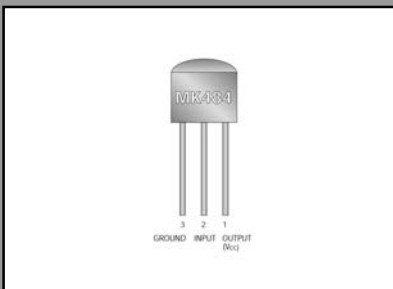
VARIABLE VOLTAGE REGULATORS



LED FLASHING CONTROLLER IC



MK484 RADIO IC



ANALOGUE SWITCHES



| | |
|---------------------|-------------|
| LOGIC IC'S | 2261 - 2262 |
| SEMICONDUCTORS IC'S | 2254 - 2257 |
| VOLTAGE REGULATORS | 2257 - 2260 |

SQUIRES MODEL & CRAFT TOOLS

SEMICONDUCTOR IC'S

TRANSISTOR ARRAYS housed in standard DIL packages.

| CODE | TYPE | PRICE |
|---------|---|-------|
| 720-889 | IC LM3046M Transistor Array 5 Matched (SO14)... | £1.50 |
| 720-800 | IC ULN2003 Transistor Array 7 Matched (DIL16)... | £0.99 |
| 720-805 | IC ULN2004 Transistor Array 7 Matched (DIL16)... | £0.99 |
| 720-806 | IC ULN2803 Transistor Array 8 Darlington (DIL18)... | £1.25 |
| 720-807 | IC ULN2804A Transistr Array 8 Darlington (DIL18)... | £1.50 |

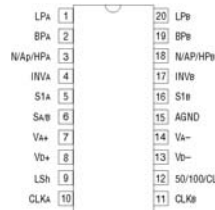
AUDIO POWER ICS audio power outputs from 325mW to 75W.

| CODE | TYPE | PRICE |
|---------|--|-------|
| 720-500 | IC LM380 2W Audio Amplifier (DIL14)..... | £2.00 |
| 720-502 | IC LM386 325mW Low Volt Amplifier (DIL8)..... | £1.25 |
| 720-510 | IC TBA820M Audio Amplifier (DIL8)..... | £0.99 |
| 720-530 | IC TDA2030H 14W Hi-fi Power Amplifier (T0220).. | £3.75 |
| 720-504 | IC TDA2030V 14W Hi-fi Audio Amplifier (T0220)... | £3.75 |
| 720-540 | IC TDA2050V 32W Audio Amplifier (T0220)..... | £4.99 |
| 720-508 | IC TDA2822M 1W+1W Stereo Audio Amp (DIL8).. | £1.70 |
| 720-509 | IC LM2876T 75W Audio Amplifier W/Mute (SIL11) | £7.50 |

MF10CCN DUAL SWITCHED CAPACITOR FILTER the MF10CCN consists of two independent and extremely easy to use general purpose CMOS active filter building blocks. Each block has three output pins, one can be configured to perform either an all-pass, high-pass or a notch function. The other two pins perform low-pass and bandpass functions. Up to 4th order functions can be performed by cascading the 2nd order building blocks of the IC. Higher than 4th order functions can be obtained by cascading MF10CCN packages. Supplied in DIP-20 package.

Technical Specification

| | |
|-----------------------|--------|
| Supply voltage: | +5V |
| Supply current: | 8mA |
| Frequency range: | 30kHz |
| Q accuracy: | ±2% |
| Crosstalk: | 50dB |
| Max. clock frequency: | 1.5MHz |
| Unity gain bandwidth: | 2.5MHz |
| Op-amp slew rate: | 7V/µs |

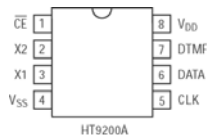


| CODE | TYPE | PRICE |
|---------|--|-------|
| 25-0432 | Dual Switched Capacitor Filter MF10CCN | £4.99 |

HT9200 DTMF GENERATOR the HT9200 tone generators are designed to be used in conjunction with microprocessors and can be instructed to generate 16 dual tones and 8 single tones form the DMTF pin. The HT9200A provides a serial mode where as the HT9200B contains a selectable serial/parallel mode interface for various applications such as security systems, home automation, remote control through telephone lines, communication systems etc. The ICs feature low standby current and low total harmonic distortion. HT9200A is housed in a DIP8 package, and HT9200B is housed in a 14-pin SOP package.

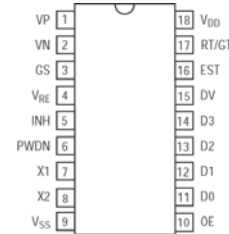
Technical Specification

| | |
|------------------------|------------------------------|
| Operating voltage | 2V to 5.5V max, typically 5V |
| Operating current | 2.5V: 240µA 5V: 950µA |
| Standby current | 2.5V: 1µA 5V: 2µA |
| Pull high resistance | 2.5V: 180kΩ 5V: 68kΩ |
| DTMF o/p | 0.15V rms |
| DTMF o/p load | 5kΩ |
| Tone signal distortion | 2.5V: -30dB |
| Clock input rate | serial mode: 100kHz |
| System frequency | 3.5795MHz |



| CODE | TYPE | PRICE |
|---------|-----------------------------|-------|
| 720-890 | HT9200A DTMF Generator..... | £1.65 |
| 720-892 | HT9200B DTMF Generator..... | £1.75 |

HT9170 DTMF RECEIVER the HT9170 dual tone multi frequency (DTMF) receivers combine digital decoder and bandsplit functions in one IC. The IC features supply power-down mode and inhibit mode operations, and uses digital counting techniques to detect and decode all the 16 DTMF tone pairs into a 4 bit code output. Highly accurate switch capacitor filters are employed to divide tone (DTMF) signals into low and high group signals. A built in dial tone rejection circuit is provided to eliminate the need for pre-filtering. Supplies in DIP18 package (HT9170B) and SOP18 (HT9170D).



Technical Specification

| | |
|----------------------|----------------------------|
| Operating voltage | 2.5V to 5.5V, typically 5V |
| Operating current | 3.0mA |
| Standby current | 10µA |
| Pull-high resistance | 180kΩ |
| Input impedance | 10MΩ |
| Low i/p voltage | 1.0V max |
| High i/p voltage | 4.0V min |

| CODE | TYPE | PRICE |
|---------|----------------------------|-------|
| 720-894 | HT9170B DTMF Receiver..... | £1.99 |
| 720-896 | HT9170D DTMF Receiver..... | £2.45 |

COMPARATORS A range of comparators in DIL packages.

Technical Specification

| Device | Description | Package |
|--------|--------------------------------------|---------|
| LM311 | Single high speed voltage comparator | DIL8 |
| LM319N | Dual high speed comparator | DIL14 |
| LM393 | Dual comparator | DIL8 |
| LM339 | Quad comparator | DIL14 |
| LP339N | Quad low power comparator | DIL14 |
| LM348 | Quad low power comparator | DIL14 |

| CODE | TYPE | PRICE |
|---------|------------------------|-------|
| 750-106 | Comparator LM311..... | £0.60 |
| 750-108 | Comparator LM319N..... | £1.25 |
| 750-110 | Comparator LM393..... | £1.25 |
| 750-112 | Comparator LP339N..... | £1.45 |
| 720-160 | Comparator LM348..... | £1.00 |
| 750-114 | Comparator LM393..... | £0.65 |

A TO D CONVERTERS a range of A to D converters.

Technical Specification

| Device | Description | Package |
|------------|---------------------------------------|---------|
| ADC0804LCN | 8 bit A to D converter micro comp | DIL20 |
| ICL7106 | CMOS 3 digit A to D converter | DIL40 |
| ICL7107CPL | 3½ digit integrating A to D con (LED) | DIL40 |
| ICL126CPL | 3½ digit A to D con low power (LCD) | DIL40 |

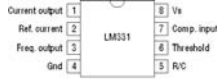
| CODE | TYPE | PRICE |
|---------|----------------------------------|-------|
| 750-116 | A To D Converter ADC0804LCN..... | £5.99 |
| 720-730 | A To D Converter ICL7106..... | £4.99 |
| 750-120 | A To D Converter ICL7107CPL..... | £4.99 |

LM2917N8 FREQUENCY TO VOLTAGE CONVERTER the LM2917 is monolithic frequency to voltage converter with a high gain op-amp/comparator designed to operate a relay, lamp or other load when the input frequency reaches or exceeds a selected rate. The tachometer uses a charge pump technique and offers frequency doubling for low ripple, full input protection, and outputs that swing to ground for a zero frequency input. In DIL8 package.

| CODE | TYPE | PRICE |
|---------|---|-------|
| 720-610 | IC LM2917N8 Freq to Voltage Converter (DIL18).. | £4.99 |

SQUIRES ELECTRONIC COMPONENTS

LM331N PRECISION VOLTAGE-TO-FREQUENCY CONVERTER the LM331N voltage-to-frequency converter is ideally suited for use in simple low-cost circuits for A-to-D conversion, precision frequency-to-voltage conversion, long term integration and linear frequency modulation/demodulation etc. When used as a voltage-to-frequency converter, the output is a pulse train at a frequency precisely proportional to the applied input voltage. It has a temperature compensated band-gap reference circuit and has excellent accuracy over the operating temperature range. Output is capable of driving three TTL loads. Supplied in DIL-8 package.

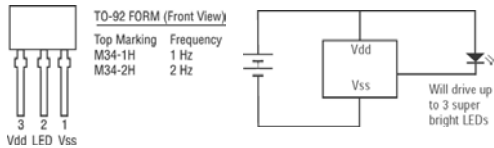


Technical Specification

Supply voltage: 40V max
 Supply current: 4mA
 VFC non-linearity: ±0.003%
 Conversion accuracy scale factor: 1kHz/V
 Temperature stability of gain: ±30ppm/°C
 Rated full scale frequency: 10kHz
 Reference voltage: 1.70V

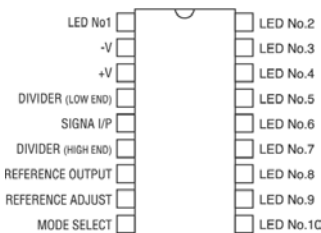
| CODE | TYPE | PRICE |
|---------|--|-------|
| 25-0446 | Prec Volt To Frequency Converter LM331N..... | £2.99 |

LED FLASHING CONTROLLER IC the M34 is a low voltage single output LED flashing controller IC that can drive several LEDs simultaneously (max current 25mA). The IC has an in built RC oscillator circuit, so requires minimum external components. M34-1 designed for a 3V DC supply, and is housed in a T0-92 package.



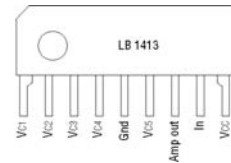
| CODE | TYPE | PRICE |
|---------|---|-------|
| 720-550 | IC M34-1 LED Flasher Chip (1Hz) T092..... | £0.75 |
| 720-555 | IC M34-2 LED Flasher Chip (2Hz) T092..... | £0.75 |

BARGRAPH DISPLAYS The LM3914 and LM3915 have two modes of operation. In dot mode, the IC will sequentially light 10 LEDs when a gradually increasing voltage is applied to pin 5. There is a slight overlap so that at no time are all the LEDs off. In bar mode all LEDs indicating below the input voltage are on. A brightness control can set the LED current between 2mA and 30mA. The ICs are stackable, and displays with 100 or more LEDs are possible. The device requires a supply voltage in the 3V to 18V range. The LM3914 produces linear steps, and the LM3915 produces -3dB steps i.e. logarithmic scale. Supplied in DIL18 package. The LM3916 will display a Vu scale, ie -10dB, -7dB, -5dB, -3dB, -1dB, 0dB, 1dB, 2dB and 3dB. Supplied in a DIL18 package.



| CODE | TYPE | PRICE |
|---------|---|-------|
| 720-700 | IC LM3914 LED Bar/Dot Display Driv-Line (DIL18) | £4.50 |
| 720-705 | IC LM3915 LED Bar/Dot Display Driv-Log (DIL18). | £4.50 |
| 720-898 | IC LM3916 LED Bar/Dot Display Driv-Log (DIL18). | £4.50 |

LB1413 5 LED LIN METER DRIVER the LB1413 5 segment Linear LED bar graph driver enables signal or VU meters to be produced with a minimum of external components. Rectifier enables operation from AC or DC input voltages. Voltage reference ensures that LED lighting levels remain stable. Supplied in a SIL-9 package.

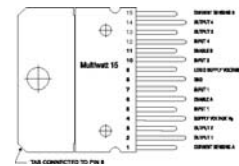


Technical Specification

Supply voltage: 3.5V to 16V
 LED constant current: 15mA
 Sensitivity: 105mV RMS
 Max. power dissipation: 1100mW
 Operating temperature: -25°C to +75°C

| CODE | TYPE | PRICE |
|---------|------------------------------------|-------|
| 25-0114 | 5 LED LIN Meter Driver LB1413..... | £3.99 |

L298 DUAL FULL-BRIDGE DRIVER the L298N is an integrated, monolithic circuit which is a high voltage, high current, dual full bridge driver. Designed to accept standard TTL logic levels, and drive inductive loads such as relays, solenoids, DC and stepping motors. Two enable inputs are provided to enable or disable the device independently of the input signal. Supplied in a 15-lead Multiwatt package.

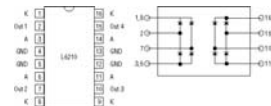


Technical Specification

Output voltage: 5V
 Line regulation: 2mV
 Load regulation: 12mV
 Output impedance: 24mΩ
 Quiescent current: 38mA (Iout = 500mA)
 Output noise voltage: 100μV
 Current limit: 0.92A

| CODE | TYPE | PRICE |
|---------|------------------------------------|-------|
| 25-0120 | Dual Full Bridge Driver L298N..... | £7.99 |

L6210 DUAL SCHOTTKY DIODE BRIDGE the L6210 is a monolithic IC containing eight Schottky diodes arranged as two separate diode bridges. It is a very versatile device for many applications. Particularly suitable for bipolar stepper motor applications where high efficiency operation, due to low forward voltage drop and fast reverse recovery time, is required.



Technical Specification

Peak repetitive forward current: 2A max
 Peak reverse voltage: 50V max per diode
 Ambient operating temp: 70°C
 Forward voltage drop: 1V typ @ If =1A
 Leakage current: 1mA

| CODE | TYPE | PRICE |
|---------|---------------------------------------|-------|
| 25-0122 | Dual Schottky Diode Bridge L6210..... | £2.99 |

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 OUTSIDE OF OUR SHOP**

SQUIRES MODEL & CRAFT TOOLS

MIC4426BN DUAL 1.5A LOW-SIDE MOSFET DRIVER the MIC4426 is a highly reliable, dual low-side MOSFET driver fabricated on a BiCMOS/DMOS process for low power consumption and high efficiency. The driver translates TTL or CMOS input logic levels to output voltage levels that swing within 25mV of the positive supply or ground. It will withstand up to 500mA of reverse current (either polarity) without latching and up to 5V noise spikes (either polarity) on ground pins. Applications include driving heavily loaded clock lines, coaxial cables or piezo-electric transducers. Supplied in DIL-8 package.

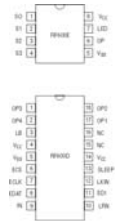


Technical Specification

| | |
|--|----------------------------|
| Supply voltage: | +4.5V to +18V DC, 22V max. |
| Power supply current: | 1.4mA |
| Input voltage: | VS + 0.3V to GND – 5V max. |
| Peak output current: | 1.5A |
| Latch-up protection withstand reverse current: | >500mA |
| High output voltage VS: | - 0.025V |
| Low output voltage: | 0.025V |
| Output resistance high state: | 6Ω |
| Rise time: | 18ns |
| Fall time: | 15ns |
| Delay time: | 23ns |

| CODE | TYPE | PRICE |
|---------|---|-------|
| 25-0130 | Dual 1.5A L/Side Mosfet Driver MIC4426BN..... | £2.99 |

RF600 RF ENCODER/DECODER IC these encoder and decoder ICs have been designed to achieve the maximum possible range from any radio/infra-red transmitter receiver set. Unlike other encoder/decoder devices, the RF600s, provide an unprecedented level of security which prevents copying whilst also obtaining optimum range from the transmitter and receiver. With highly secure KeeLoq Protocol, Manchester Modulation, 2.0 to 6.0V operation (encoder), 4.5V to 5.5V operation (decoder) and 4-digital outputs (15 states). The optimum range is up to 100m AM, up to 200m FM. Ideal for burglar alarm systems, gate and garage openers, electronic door locks etc. Available in DIL or SO packages.



| CODE | TYPE | PRICE |
|---------|---------------------------|-------|
| 25-0136 | RF Encoder IC RF600E..... | £4.99 |

RF600T LOW POWER RADIO TRANSCEIVER the RF600T provides a simple interface between TTL level asynchronous serial data sources and standard RF modules (transceiver, transmitter or receiver). The device allows for either broadcast or addressed point-to-point modes of operation and is simple to use with minimum interface requirements. Incorporates a 190 byte data buffer. Housed in a 18-pin PDIP package.



| CODE | TYPE | PRICE |
|---------|---|-------|
| 25-0140 | Low Power Radio Transceiver RF600T..... | £8.99 |

AUDIO OP-AMPS A range of low noise op-amps specifically intended for audio applications.

Technical Specification

| Device | Description | Manuf | Package |
|--------|--------------------------------------|-------------|---------|
| L272M | Dual audio op amplifier | SGS Thomson | DIL8 |
| TCL272 | Dual audio op amplifier | Texas | DIL8 |
| LM833N | Dual low noise wide bandwidth op amp | National | DIL8 |
| NE5532 | Dual low noise operational amp | Texas | DIL6 |

| CODE | TYPE | PRICE |
|---------|---------------------------------|-------|
| 750-140 | Audio Op-amp L272M (DIL8)..... | £2.45 |
| 750-142 | Audio Op-amp TLC272 (DIL8)..... | £1.65 |
| 720-904 | Audio Op-amp LM833N (DIL8)..... | £1.50 |
| 750-144 | Audio Op-amp NE5532 (DIL6)..... | £0.99 |

OPERATIONAL AMPLIFIERS A wide range of operational amplifiers covering a broad band of applications, available in single, dual and quad configurations in DIL packages.

Technical specification

| Device | Description | Manuf | Package |
|------------|---------------------------------|----------|---------|
| OP07CP | Single low noise op amp | Texas | DIL8 |
| OP27GP | Single low noise op amp | Analog | DIL8 |
| OP177GP | Single ultra precision op amp | Analog | DIL8 |
| LM392N | Single op amp & volt comparator | National | DIL8 |
| NE531 | Single high slow rate op amp | Philips | DIL8 |
| 741 | Single gen purpose compensated | - | DIL8 |
| OP284FP | Dual precision rail to rail | Analog | DIL8 |
| OP297GP | Dual precision op amp | Analog | DIL8 |
| LM358 | Dual low power single supply | - | DIL8 |
| LM747 | Dual gen purpose compensated | NSC | DIL14 |
| LT1013CN8 | Dual low power precision | Linear | DIL8 |
| LTC1051CN8 | Dual chopper stabilised | Linear | DIL8 |
| LM1458 | Dual gen purpose compensated | NSC | DIL8 |
| RC4558 | Dual high performance | Texas | DIL8 |
| LM324 | Quad general purpose | - | DIL14 |
| LP324N | Quad micropower | National | DIL14 |
| OP400GP | Quad low power | Analog | DIL14 |

| CODE | TYPE | PRICE |
|---------|--|--------|
| 720-100 | IC OPO7CP Op Amplifier (DIL8)..... | £1.75 |
| 750-160 | IC OP27GP Op Amplifier (DIL8)..... | £3.99 |
| 750-168 | IC OP177GP Op Amplifier (DIL8)..... | £2.99 |
| 25-0010 | IC LM318N Op Amplifier (DIL8)..... | £1.50 |
| 750-174 | IC LM392N Op Amplifier (DIL8)..... | £2.25 |
| 720-200 | IC 741 Op Amplifier (DIL8)..... | £0.60 |
| 750-198 | IC OP297GP Op Amplifier (DIL8)..... | £7.99 |
| 720-170 | IC LM358 Op Amplifier (DIL8)..... | £0.55 |
| 750-204 | IC LT1013CN8 Op Amplifier (DIL8)..... | £8.99 |
| 750-206 | IC LTC1051CN8 Op Amplifier (DIL8)..... | £12.99 |
| 720-220 | IC LM1458 Op Amplifier (DIL8)..... | £1.25 |
| 750-208 | IC RC4558 Op Amplifier (DIL8)..... | £0.99 |
| 720-150 | IC LM324 Op Amplifier (DIL14)..... | £0.50 |
| 750-210 | IC LP324N Op Amplifier (DIL14)..... | £1.50 |
| 25-0020 | IC OP400GP Op Amplifier (DIL14)..... | £15.99 |

CMOS OP-AMPS A range of CMOS op-amps in single, dual and quad versions.

Technical specification

| Device | Description | Manuf | Package |
|-------------|--------------------------------|----------|---------|
| TLC271 | Single programmable op amp | Texas | DIL8 |
| ICL7611DCPA | Single low power CMOS | Harris | DIL8 |
| ICL7650SCPD | Single chopper stabilised CMOS | Harris | DIL14 |
| LMC662CN | Dual CMOS | National | DIL8 |
| TLC27L4CN | Quad precision | Texas | DIL8 |
| LMC660CN | Quad CMOS | National | T092 |

| CODE | TYPE | PRICE |
|---------|---|-------|
| 750-218 | IC TLC271 Op Amplifier (DIL8)..... | £1.00 |
| 750-220 | IC LMC660CN Op Amplifier (DIL8)..... | £2.45 |
| 750-224 | IC LMC662CN Op Amplifier (DIL8)..... | £2.99 |
| 750-228 | IC ICL7611DCPA Op Amplifier (DIL8)..... | £1.50 |
| 750-236 | IC TLC27L4CN Op Amplifier (DIL8)..... | £2.45 |

SQUIRES ELECTRONIC COMPONENTS

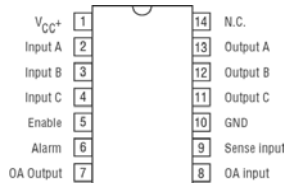
FET OP-AMPS high performance FET op-amps in single, dual and quad configurations, and in DIL and surface mount packages.

Technical Specification

| Device | Description | Manuf | Package |
|---------|---------------------------------|----------|---------|
| TL061 | Single low power | SGS | DIL8 |
| TL071 | Single low noise low distortion | SGS | DIL8 |
| TL08 | Single low noise low distortion | SGS | DIL8 |
| LF351 | Single wide bandwidth | SGS | DIL8 |
| LF356 | Single low noise wide bandwidth | NSC | DIL8 |
| CA3130E | Single Mosfet | Harris | DIL8 |
| LF411N | Single high performance | National | DIL8 |
| CA3140E | Single Mosfet, 741 replacement | Harris | DIL8 |
| TL062 | Dual low power | SGS | DIL8 |
| TL072 | Dual low noise low distortion | SGS | DIL8 |
| TL082 | Dual low noise low distortion | SGS | DIL8 |
| LF412N | Dual low power | National | DIL14 |
| LF442N | Dual low power | National | DIL8 |
| LF353 | Dual wide bandwidth | SGS | DIL8 |
| CA3240E | Dual Mosfet, 741 replacement | Harris | DIL8 |
| TL064 | Quad low power | SGS | DIL14 |
| TL074 | Quad low noise low distortion | SGS | DIL14 |
| TL084 | Quad low noise low distortion | SGS | DIL14 |
| LF444N | Quad low power | National | DIL14 |
| LF347BN | Quad wideband low noise | National | DIL14 |

| CODE | TYPE | PRICE |
|---------|--------------------------------------|-------|
| 750-238 | IC TL061 Op Amplifier (DIL8)..... | £0.99 |
| 750-240 | IC TL062 Op Amplifier (DIL8)..... | £0.99 |
| 750-242 | IC TL064 Op Amplifier (DIL8)..... | £0.99 |
| 750-244 | IC TL071 Op Amplifier (DIL8)..... | £0.99 |
| 750-246 | IC TL072 Op Amplifier (DIL8)..... | £0.99 |
| 750-248 | IC TL074 Op Amplifier (DIL14)..... | £0.99 |
| 720-250 | IC TL081 Op Amplifier (DIL8)..... | £0.99 |
| 720-255 | IC TL082 Op Amplifier (DIL8)..... | £0.99 |
| 720-260 | IC TL084 Op Amplifier (DIL14)..... | £0.99 |
| 750-252 | IC LF347BN Op Amplifier (DIL14)..... | £2.25 |
| 750-254 | IC LF351 Op Amplifier (DIL8)..... | £0.99 |
| 750-256 | IC LF353 Op Amplifier (DIL8)..... | £0.99 |
| 750-258 | IC LF356 Op Amplifier (DIL8)..... | £0.99 |
| 720-922 | IC LF411N Op Amplifier (DIL8)..... | £1.25 |
| 720-924 | IC LF412N Op Amplifier (DIL14)..... | £1.75 |
| 720-926 | IC LF442N Op Amplifier (DIL8)..... | £1.75 |
| 720-928 | IC LF444N Op Amplifier (DIL14)..... | £1.75 |
| 720-300 | IC CA3130E Op Amplifier (DIL8)..... | £1.99 |
| 720-310 | IC CA3140E Op Amplifier (DIL8)..... | £1.99 |
| 720-320 | IC CA3240E Op Amplifier (DIL8)..... | £1.99 |

TD300IN TRIPLE IGBT/MOS DRIVER The TD300 is designed to drive one, two or three power IGBT/MOS devices, and has the driving capability for a pulse transformer. It is intended to interface control IC with power switches in low side or half bridge configuration. Other features include current sense comparator, instantaneous signal transmission, CMOS/LSTTL compatible inverting input with hysteresis, low bias current typically 1.5mA, current amplifier and enhanced latch up immunity. Supplied in DIP14 package.



Technical Specification

| | |
|-----------------------|------------------|
| Supply voltage | 15V (13V to 16V) |
| Supply current | 1.5mA |
| Input inhibiting time | 100ns |
| Propagation delay | 400ns max |
| Output drivers | Vsod 3V |
| | Vsid 5V |
| | Vdem 2V |
| Pull up resistor | 47kΩ |

| CODE | TYPE | PRICE |
|---------|-------------------------------------|-------|
| 750-304 | TD300IN Triple IGBT/MOS Driver..... | £2.45 |

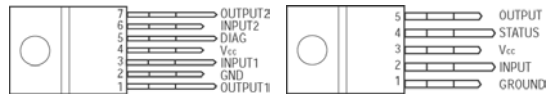
STEPPER MOTOR DRIVE ICs The L293D is a monolithic integrated, high voltage, high current, 4 channel driver. The L293E is a quad push pull driver capable of delivering output currents up to 1A per channel. L297 generates four phase drive signals for two phase bipolar and four phase unipolar stepper motors in micro-computer controlled applications.

Technical Specification

| Device | Function | Package |
|--------|---|---------|
| L293D | Accepts DTL/TTL logic levels, will drive inductive loads, DC and stepper motors, switching power transistors. | DIL20 |
| L293E | TTL compatible control, inhibit on each pair of drivers external connections for sensing resistors. | DIL20 |
| L297 | Motor can be driven in half step, normal and wave drive modes, on chip PWM chopper circuits permit switch mode control of the current in the windings. Requires only clock, direction and mode input signals. | DIL20 |

| CODE | TYPE | PRICE |
|---------|-----------------------------------|--------|
| 720-930 | L293D IC Stepper Motor Drive..... | £4.99 |
| 720-932 | L293E IC Stepper Motor Drive..... | £6.99 |
| 720-934 | L297 IC Stepper Motor Drive..... | £13.99 |

HIGH SIDE SMART POWER DRIVERS a range of monolithic devices using ST's vertical intelligent power technology that are intended for driving resistive or inductive loads with one side grounded. Built in thermal shutdown protects the chip from over temperature and short circuit. Input control is 5V logic compatible, and open drain diagnostic output indicates open circuit (no load) and over temperature status. Available in single or double channel types. Single types are housed in a vertical PENTAWATT package, and double types are housed in a vertical HEPAWATT package.



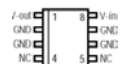
Technical Specification

| Device | Type | V _{DSS} | R _{DSon} | I _{out} | V _{CC} | td(on) | td(off) | Ptot |
|--------|--------|------------------|-------------------|------------------|-----------------|--------|---------|------|
| VN02N | single | 60V | 0.4R | 6A | 26V | 10µs | 15µs | 29W |

| CODE | TYPE | PRICE |
|---------|---|-------|
| 750-318 | VN02N High Side Smart Power Driver..... | £4.25 |

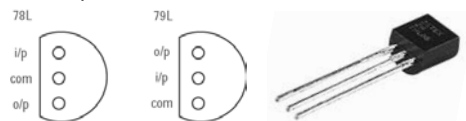
VOLTAGE REGULATORS

100mA FIXED VOLTAGE REGULATORS miniature positive fixed voltage regulators, the popular 78L series range, housed in a surface mount SO-8 package. All types employ internal current limiting and thermal shutdown, making them virtually indestructible.



| CODE | TYPE | PRICE |
|---------|--|-------|
| 750-336 | 100mA Fixed Voltage Regulator L78L05ACD..... | £0.50 |
| 750-338 | 100mA Fixed Voltage Regulator L78L12ACD..... | £0.50 |

100mA FIXED VOLTAGE REGULATORS a range of 100mA fixed voltage regulators available in both positive and negative versions and all complete with internal overload, thermal and short circuit protection, in a TO92 plastic case.



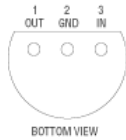
| CODE | TYPE | Voltage | PRICE |
|---------|-------------------------------|-----------|-------|
| 702-000 | Voltage Regulator 100mA 78L05 | +5V..... | £0.50 |
| 702-005 | Voltage Regulator 100mA 78L12 | +12V..... | £0.50 |
| 702-010 | Voltage Regulator 100mA 78L15 | +15V..... | £0.50 |
| 702-015 | Voltage Regulator 100mA 79L05 | -5V..... | £0.60 |
| 702-020 | Voltage Regulator 100mA 79L12 | -12V..... | £0.65 |
| 702-025 | Voltage Regulator 100mA 79L15 | -15V..... | £0.65 |

SQUIRES MODEL & CRAFT TOOLS

100mA VERY LOW DROP VOLTAGE REGULATORS the LE series of 100mA regulators are very low drop voltage regulators in a standard TO-92 package, and available in either 3.3V or 5V versions. The very low drop (0.2V) and matching very low quiescent current (0.5mA) make them particularly suited for low noise, low power applications, especially battery powered equipment. The IC includes internal current and thermal limit and only requires a 2.2µF capacitor for stability. Supply voltage rejection is typically 80dB. Supplied in TO92 package.

Technical Specification

| Device | Voltage | Tolerance |
|--------|---------|-----------|
| LE33CZ | 3.3V | 2% |
| LE50CZ | 5V | 2% |



| CODE | TYPE | PRICE |
|---------|--|-------|
| 750-342 | 100mA V/Low Drop Voltage Regulator LE33CZ... | £1.25 |
| 750-344 | 100mA V/Low Drop Voltage Regulator LE50CZ... | £1.25 |

1A FIXED VOLTAGE REGULATORS a range of 1A fixed voltage regulators available in both positive and negative versions and all complete with internal overload, thermal and short circuit protection, encapsulated in a TO220 plastic package.



| CODE | TYPE | VOLTAGE | PRICE |
|---------|---------------------------|-----------|-------|
| 702-040 | Voltage Regulator 1A 7805 | +5V..... | £0.65 |
| 721-700 | Voltage Regulator 1A 7808 | +8V..... | £0.75 |
| 702-045 | Voltage Regulator 1A 7812 | +12V..... | £0.65 |
| 702-050 | Voltage Regulator 1A 7815 | +15V..... | £0.65 |
| 721-702 | Voltage Regulator 1A 7818 | +18V..... | £0.85 |
| 721-704 | Voltage Regulator 1A 7824 | +24V..... | £0.85 |
| 702-055 | Voltage Regulator 1A 7905 | -5V..... | £0.75 |
| 721-706 | Voltage Regulator 1A 7908 | -8V..... | £0.75 |
| 702-060 | Voltage Regulator 1A 7912 | -12V..... | £0.75 |
| 721-710 | Voltage Regulator 1A 7924 | -24V..... | £0.99 |

2A FIXED VOLTAGE REGULATORS a range of 2A positive fixed voltage regulators with internal overload, thermal and short circuit protection, encapsulated in a TO220 plastic package.

Technical Specification

| Device | V _{IN} | V _{OUT} |
|--------|-----------------|------------------|
| 78S05 | +8-35 | 5v DC |
| 78S12 | +15-35 | 12v DC |
| 78S15 | +18-35 | 15v DC |



| CODE | TYPE | VOLTAGE | PRICE |
|---------|----------------------------|----------|-------|
| 702-080 | Voltage Regulator 2A 78S05 | 5V..... | £1.25 |
| 702-085 | Voltage Regulator 2A 78S12 | 12V..... | £1.25 |
| 702-090 | Voltage Regulator 2A 78S15 | 15V..... | £1.25 |

1A LOW DROPOUT REGULATOR LM2940CT-5 The LM2940 1A positive regulator features the ability to source 1A output current with a dropout voltage of typically 0.5V and a maximum of 1V over the entire temperature range. A quiescent current reduction circuit is incorporated which reduces the ground current when the differential between input and voltage exceeds approximately 3V. Standard features also includes short circuit and thermal overload protection. Supplied in a plastic T0220 package.

Technical Specification

| | |
|--------------------------------------|--------------|
| Input range | 5.45-26V |
| Output voltage | +5V |
| Dropout voltage (I _o =1A) | 0.5V typ |
| Short circuit current | 1.9A |
| Temperature range | 0° to +125°C |

| CODE | TYPE | PRICE |
|---------|--|-------|
| 720-942 | LM2940CT-5 1A Low Dropout Regulator..... | £1.99 |

MICROPOWER VOLTAGE REGULATOR LP2950CZ The LP2950 is a micropower voltage regulator with very low quiescent current (75µA typ.) and very low dropout voltage (typ 40mV at light loads and 380mV at 100mA). The device is suitable for use in battery powered systems and is pin compatible, (housed in a TO92 package), with other regulators.

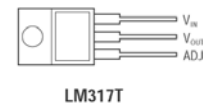
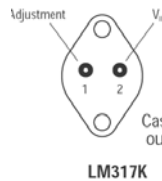


Technical Specification

| | |
|--------------------------|---|
| Max input supply voltage | -0.3 to +30V |
| Output voltage | 5V DC typ |
| Load regulation | 0.1% typ |
| Line regulation | 0.04% typ |
| Dropout voltage | 380mV typ |
| Ground current | 75µA typ (I _o = 100µA) 8mA typ (I _o = 100mA) |
| Quiescent current | 75µA typ |
| Dropout ground current | 110µA |
| Output noise voltage | 430µV rms typ |
| Current limit | 160mA typ |
| Temperature range | -40° to +125°C |

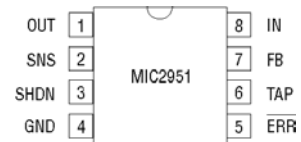
| CODE | TYPE | PRICE |
|---------|--|-------|
| 720-940 | LP2950CZ Micropower Voltage Regulator..... | £1.99 |

VARIABLE VOLTAGE REGULATORS a range of variable voltage regulators with output current limiting in addition to thermal protection.



| CODE | TYPE | PRICE |
|---------|--|-------|
| 702-130 | Volt. Regulator 100mA +1.2 to +37v LM317LZ.... | £0.80 |
| 702-135 | Volt. Regulator 1.5A +1.2 to +37v LM317T..... | £0.99 |
| 702-140 | Volt. Regulator 1.5A +1.2 to +37v LM317K..... | £2.99 |
| 702-145 | Volt. Regulator 5A +1.2 to +37v LM338T..... | £2.99 |
| 702-155 | Volt. Regulator 1.5A -1.2 to -37v LM337T..... | £1.99 |

50mA 5V LOW-DROPOUT VOLTAGE REGULATOR MIC2951 the MIC2951 is a very rugged 5V low-dropout voltage regulator with a typical dropout of just 250mV at 100mA. Although nominally a 5V output, this can be programmed (by two external resistors) to be within the range 1.2V to 29V. It has low quiescent current and transient suppression. Supplied in a DIP-8 package.



Technical Specification

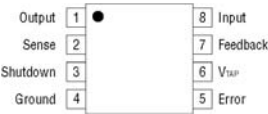
| | |
|-------------------------|----------------------|
| Supply voltage: | +2V to +30V |
| Nominal output voltage: | 5V±1% |
| Output current: | 150mA |
| Current limit: | 300mA |
| Line regulation: | 0.04% |
| Load regulation: | 0.10% |
| Dropout voltage: | 300mV @ 150mA output |
| Reference voltage: | 1.235V |

| CODE | TYPE | PRICE |
|---------|--|-------|
| 25-0178 | 5V Low-Dropout Regulator MIC2951-03BN..... | £2.99 |

SQUIRES ELECTRONIC COMPONENTS

160mA LOW DROPOUT MICROPOWER VOLTAGE REGULATOR LP2951 an adjustable low-dropout micropower voltage regulator in a DIL-8 or SO-8 package. It has programmable output, low output voltage flag, high accuracy output voltage, low-dropout voltage and low quiescent current.

With tight load and line regulation and low temperature co-efficient. Current and thermal limiting.



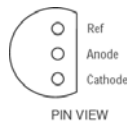
Technical Specification

- Input voltage: -0.3 to +30V
- Output voltage: +1.24 to +29V
- Load regulation: 0.1%
- Line regulation: 0.04%
- Dropout voltage: 380mV @ 100mA
- Ground current: 8mA @ 100mA
- Quiescent current: 75µA
- Dropout ground current: 110µA
- Output noise voltage: 430µV rms.
- Current limit: 160mA
- Temperature range: -40°C to +125°C

| CODE | TYPE | PRICE |
|---------|---|-------|
| 25-0180 | Low Dropout Micropower Volt Reg LP2951ACN.. | £1.25 |

ADJUSTABLE PRECISION SHUNT REGULATOR TL431CLP

The TL431 is a three terminal adjustable shunt regulator with guaranteed thermal stability over applicable temperature ranges. The output voltage may be set to any value between V_{REF} (approx. 2.5V) and 36V with two external resistors. The device has a typical output impedance of just 0.2Ω. Active output circuitry provides a very sharp turn on characteristic, making these devices excellent replacements for zener diodes in many applications. Sink current capability is 1mA through to 100mA. Housed in a T092 style package.



| CODE | TYPE | PRICE |
|---------|----------------------------------|-------|
| 701-410 | Adj Prec Shunt Reg TL431CLP..... | £0.50 |

ADJUSTABLE VOLTAGE AND CURRENT REGULATORS L200 SERIES

a monolithic IC that provides an adjustable output voltage for up to 36V and current regulation up to 2A. It provides current and power limiting, thermal shutdown, and input overvoltage protection up to 60V. Type L200CV is designed for vertical mounting and L200VH is for horizontal mounting (flat) on to a PCB.

| CODE | TYPE | PRICE |
|---------|--|-------|
| 750-354 | Adjustable Voltage & Current Regulator L200CH. | £3.25 |
| 750-356 | Adjustable Voltage & Current Regulator L200CV. | £3.99 |

MIC4576BT 200kHz STEP-DOWN VOLTAGE REGULATOR

an adjustable BiCMOS step-down switch mode voltage regulator which operates at 200kHz. This higher operating frequency allows up to a 2:1 reduction in output filter inductor size. The output is adjustable from 1.23V to 20V. It has the minimum number of external components, on-board frequency compensation and is current limiting. With thermal shutdown protection and excellent line and load regulation. Guaranteed feedback voltage tolerance of 2%.



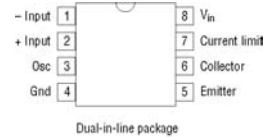
Technical Specification

- Input voltage: 4V-36V
- Output voltage: 1.23V-33V
- Current: 3A
- Feedback voltage: 1.23V
- Efficiency: 77%
- Oscillator frequency: 200kHz
- Package: TO-220

| CODE | TYPE | PRICE |
|---------|--|-------|
| 25-0190 | 200kHz Step Down Volt Reg MIC4576BT..... | £5.75 |

0.75A BUCK/BOOST/INVERTING SWITCHING REGULATOR LM3578AN

the LM3578A is a pulse-width modulator designed for use as a switching regulator controller, and may also be used where controlled pulse-width voltage drive is required. It has 1V reference for both inverting and non-inverting comparator inputs. It is current limiting and has thermal shutdown. Operates from a supply voltage of 2-40V. Applications include buck/boost/inverting switching regulators, motor speed control and LED driving.



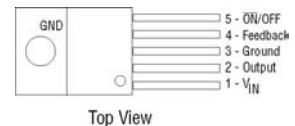
Technical Specification

- Total supply voltage: 50V
- Supply current: 4mA
- Output current: 750mA
- Oscillator frequency: 16-24KHz
- Operating temperature: 0°C to +70°C

| CODE | TYPE | PRICE |
|---------|-----------------------------------|-------|
| 25-0202 | Switching Regulator LM3578AN..... | £2.99 |

1A BUCK VOLTAGE REGULATOR LM2575

a monolithic 1A step-down (buck) voltage regulator that is a high efficiency replacement for the more conventional 3-pin linear regulators. These devices require a minimum number of external components and are simple to use. The design substantially reduces the size of heatsink required and in many cases, no thermal management is required as dissipated power is low. Applications for these devices include simple high efficiency buck regulator, pre-regulation for linear regulators, on-card switching regulators and positive to negative conversion (buck-boost). It has an external shutdown facility, low power standby mode and thermal shutdown and current limit protection. Guaranteed 1A output and output voltage tolerance of ±4%. Supplied in a 5-pin TO-220-5 package.



Technical Specification

- Supply voltage max.: 45V
- Output voltage typ.: +5V
- Efficiency typ.: 77%
- Oscillator frequency typ.: 52kHz
- Duty cycle (ON) max.: 98%
- Current limit typ.: 2.2A
- Output leakage current typ.: 7.5mA
- Quiescent current typ.: 5mA
- Operating temperature range: -40°C to +125°C
- Storage temperature range: -65°C to +150°C

| CODE | TYPE | PRICE |
|---------|---|-------|
| 25-0206 | Step Down Volt Regulator LM2575T-5.0..... | £2.99 |

MELODY GENERATOR ICs these low cost melody generator ICs are very easy to use, and are ideal for simple melody projects such as greetings cards, toys etc. They require only a 3V battery and a small 8ohm speaker to make a working project. Note that Happy Birthday is not continuous.

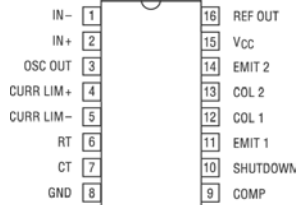


| CODE | TYPE | PRICE |
|---------|--|-------|
| 720-565 | IC Melody Generator (Its a Small World)..... | £0.65 |

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SQUIRES MODEL & CRAFT TOOLS

SG3524N REGULATING PULSE WIDTH MODULATOR The SG3524 is a monolithic IC with all the functions required for the construction of regulating power supplies, inverters or switching regulators, and as the control element for high power output applications. The IC was designed for switching regulators of either polarity, transformer coupled DC to DC converters, transformerless voltage doublers and polarity converter applications employing fixed frequency, pulse-width modulation techniques. The dual alternation outputs allow either single ended or push pull applications. Supplied in a DIL16 package.

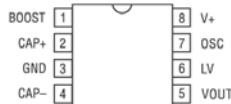


Technical Specification

| | |
|-------------------------------|---------|
| Supply voltage | 40V max |
| Voltage output reference | +5V |
| Max oscillator frequency | 300kHz |
| Accuracy | 5% |
| Oscillator output pulse width | 0.5µs |
| Output rise time | 0.2µs |
| fall time | 0.1µs |
| Comparator duty cyclcy | 45% |

| CODE | TYPE | PRICE |
|---------|---|-------|
| 750-368 | SG3524N Regulating Pulse Width Modulator..... | £1.99 |

ICL7660SCPA CMOS VOLTAGE CONVERTER Intended as a superior replacement to the industry standard ICL7660, this monolithic CMOS voltage converter has an extended operating supply to 12V, lower supply current, and requires no external diode. The IC will produce a complementary negative output to the applied positive supply in the range 1.5V to 12V. Only two non critical capacitors are required for the charge pump and charge reservoir functions. Alternatively, the IC can be made to work as a voltage doubler and will produce 22.8V from a 12V input. Supplied in a DIL 8 package.

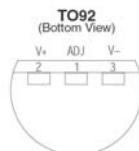


Technical Specification

| | |
|-------------------------------|-------------|
| Supply voltage | 1.5V to 12V |
| Supply current | 180° |
| Output resistance | 60 at 20mA |
| Power efficiency | 98% |
| Voltage conversion efficiency | 99% |

| CODE | TYPE | PRICE |
|---------|---|-------|
| 750-370 | ICL7660SCPA CMOS Voltage Converter..... | £2.50 |

LM334Z ADJUSTABLE CURRENT SOURCE This 3 pin IC is designed for bias networks, surge protection, low power reference, ramp generation, LED driver and temperature sensing applications. The device has excellent current regulation, and a wide dynamic voltage regulation of 1V to 40V. Only one resistor is required to establish the current, which is equal to 0.0677V divided by the resistor value in Ohms. A resistor of 68R will produce a current of 1mA. The current can be set from 1µA to 10mA. The resistor is connected across pins 1 and 3.

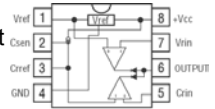


Technical Specification

| | |
|--------------------------|-------------|
| Current range | 1µA to 10mA |
| Max reverse voltage | 20V |
| Voltage regulation | 1V to 40V |
| Current/temperature rise | +0.33%/°C |
| Regulation | 0.2% / Volt |

| CODE | TYPE | PRICE |
|---------|---------------------------------------|-------|
| 750-372 | LM334Z Adjustable Current Source..... | £2.25 |

TSM101CN The TSM101CN incorporates a high stability series band gap voltage reference with two ORed op-amps and a current source with enable/disable function. The IC compares the DC voltage and the current level at the output of a switching power supply to an internal reference. It can provide feedback, through an external optocoupler to a pwm controller IC in the primary side of the circuit. The controlled current generator can be used to modify the level of current limit by offsetting the information coming from the current sensing resistor. This makes the IC suitable for battery chargers where a constant voltage and limited output current is required, or applications requiring a precision voltage regulation and current limiting e.g. voltage supervision, over voltage protection. Supplied in DIP8.



Technical Specification

Supply voltage 4.5V to 32V
OP-amp

| | |
|--------------------------------|-----------------------|
| supply current | 2mA |
| large signal voltage gain | 15V/mV |
| supply voltage rejection ratio | 90dB |
| common mode rejection ratio | 80dB |
| GBP | 1MHz |
| input voltage range | V _{CC} -1.5V |

Voltage reference

| | |
|-----------------------|---------|
| reference voltage | 1.24V |
| temperature stability | 30ppm°C |

Current generator

| | |
|-----------------------|----------|
| current source | 1.4mA |
| temperature stability | 500ppm°C |
| enable voltage | 0.6V max |
| disable voltage | 2V min |

| CODE | TYPE | PRICE |
|---------|--|-------|
| 750-376 | TSM101CN Voltage & Current Controller..... | £1.25 |

555 TIMER ICs A range of timers based on the industry standard 555 type.

Technical specification

| Device | Function | Manfr | Package |
|---------|------------------------|-------------|---------|
| NE555 | Single timer | SGS Thomson | DIL8 |
| ICM7555 | Single low power timer | Harris | DIL8 |
| NE556 | Dual timer | SGS Thomson | DIL14 |
| ICM7556 | Dual low power timer | Harris | DIL14 |

| CODE | TYPE | PRICE |
|---------|---|-------|
| 720-850 | IC NE555 Single Timer (DIL8)..... | £0.55 |
| 720-860 | IC ICM7555 Single Low Power Timer (DIL8)..... | £0.99 |
| 720-870 | IC NE556 Dual Timer (DIL14)..... | £0.99 |
| 720-880 | IC ICM7556 Dual Low Power Timer (DIL14)..... | £2.15 |

MK484 RADIO IC An AM radio receiver in a 3-pin T0-92 package offering simplicity of design and high space economy. With a minimum of external components, excellent audio quality can be achieved over the range 150kHz to 3MHz (medium and long wavebands). The IC provides a complete RF amplifier, detector and AGC (automatic gain control) circuit to give a high quality AM tuner. No setting up or alignment is required and the circuit is completely stable in use. Supplied with comprehensive data and application notes.



| | |
|-------------------|-----------------------------------|
| Frequency range | 150kHz to 3MHz |
| Operating voltage | 1.1 to 1.6V DC |
| Output | Can drive crystal earphone direct |
| Supply current | 0.3 - 0.5mA (typ) |

| CODE | TYPE | PRICE |
|---------|---------------------|-------|
| 750-392 | MK484 Radio IC..... | £1.50 |

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LOGIC IC'S

74HC/74HCT SERIES the 74HC/74HCT series of high speed CMOS logic ICs include an extensive line of products that are pin compatible with many existing bipolar 74STTL, 74TTL and CMOS 4000 series of logic devices. The ICs provide high speed CMOS replacements for the most popular LSTTL devices in existing designs and so offer low power all CMOS designs for new digital systems. Features include:-

High noise immunity for optimum all CMOS system compatibility - 74HC family $H_{IH} = 20\%$ of supply V , $N_{IL} = 30\%$ of supply.

Direct LSTTL input logic compatibility as well as CMOS input compatibility - 74HCT family (can replace LSTTL or be mixed with LSTTL devices) $V_{IH} = 0.8V$ max. $V_{IL} = 2V$ min.

2V to 6V operation - 74HCT family
4.5V to 5.5V operation - 74HT family

Gate propagation delay of 8ns typ.

Balanced high to low and low to high propagation delays

Significant power reduction compared to LSTTL bipolar logic devices.

Technical Specification

74HC/74HCT series 74HCT DIL through hole

| CODE | TYPE | PRICE |
|-----------------------|---|-------|
| 721-416 | 74HC00 Quad 2 input NAND gate DIL14..... | £0.49 |
| 721-418 | 74HC04 Hex inverter DIL14..... | £0.49 |
| 721-420 | 74HC08 Quad 2 input AND gate DIL14..... | £0.49 |
| 721-426 | 74HC86 Quad 2 input exel or gate DIL14..... | £0.70 |
| 721-428 | 74HC138 3 of 8 decoder/multiplexer DIL16..... | £0.70 |
| 721-430 | 74HC139 Dual 1 of 4 decoder/m/plexer DIL16.. | £0.70 |
| 721-436 | 74HC244 Oct/TriSte buf 8 i/p tri m/plexerDIL20 | £0.85 |
| 721-438 | 74HC573 Octal tri-state trans latch DIL20..... | £0.85 |
| 74HC DIL through hole | | |
| 721-440 | 74HC02 Quad 2 input NAND gate DIL14..... | £0.49 |
| 721-442 | 74HC03Quad 2 input NAND gate OC DIL14..... | £0.49 |
| 721-444 | 74HC04 Hex inverter DIL14..... | £0.50 |
| 721-446 | 74HC08 Quad 2 input AND gate DIL14..... | £0.50 |
| 721-448 | 74HC10 Triple3 input NAND gate DIL14..... | £0.50 |
| 721-450 | 74HC11Triple 3 input AND gate DIL14..... | £0.50 |
| 721-452 | 74HC14 Hex Schmitt inverter DIL14..... | £0.50 |
| 721-454 | 74HC20 Dual 4 input NAND gate DIL14..... | £0.50 |
| 721-456 | 74HC27 Triple 3 input NOR gate DIL14..... | £0.50 |
| 721-458 | 74HC30 8 input NAND gate DIL14..... | £0.50 |
| 721-460 | 74HC32 Quad 2 input OR gate DIL14..... | £0.50 |
| 721-462 | 74HC42BCD to decimal decoder DIL16..... | £0.99 |
| 721-464 | 74HC73 Dual J-K flip flop DIL14..... | £0.99 |
| 721-466 | 74HC74 Dual D type flip flop DIL14..... | £0.55 |
| 721-472 | 74HC85 4 bit magnitude comparator DIL16..... | £0.99 |
| 721-474 | 74HC86 Quad exclusive OR gate DIL14..... | £0.55 |
| 721-478 | 74HC123 Dual monostable multi DIL16..... | £0.55 |
| 721-480 | 74HC125 Quad bus buffer DIL14..... | £0.85 |
| 721-484 | 74HC132 Quad Schmitt trigger DIL14..... | £0.60 |
| 721-486 | 74HC138 3 to 8 decoder DIL16..... | £0.60 |
| 721-488 | 74HC139 Dual 2 to 4 line decoder DIL16..... | £0.60 |
| 721-496 | 74HC160 4 bit decade counter +clear DIL16..... | £0.70 |
| 721-498 | 74HC161 4 bit binary counter +clear DIL16..... | £0.75 |
| 721-504 | 74HC164 8 bit SIPO shift register DIL14..... | £0.75 |
| 721-506 | 74HC165 8 bit PISO shift register DIL16..... | £0.75 |
| 721-508 | 74HC174 Hex D type flip flop +clear DIL16..... | £0.75 |
| 721-510 | 74HC175 Quad D type flip flop +clear DIL16..... | £0.75 |
| 721-512 | 74HC192 Sync up/down dec counter DIL16..... | £0.75 |
| 721-522 | 74HC244 Octal buffer DIL20..... | £0.75 |
| 721-524 | 74HC245 Ouad bidirectional buffer DIL20..... | £0.75 |
| 721-526 | 74HC251 8 bit SIPO shift register DIL16..... | £0.65 |
| 721-530 | 74HC259 8 bit addressable latch DIL16..... | £0.65 |
| 721-532 | 74HC273 Octal D type flip flop DIL20..... | £0.50 |
| 721-536 | 74HC367 Hex bus buffer DIL16..... | £1.25 |
| 721-540 | 74HC373 Octal D type latch DIL20..... | £0.75 |
| 721-542 | 74HC374 Octal D type latch DIL20..... | £0.75 |
| 721-544 | 74HC390 Dual decade counter DIL16..... | £1.25 |

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| | | |
|---------|--|-------|
| 721-546 | 74HC393 Dual binary counter DIL14..... | £0.75 |
| 721-550 | 74HC573 Octal D type latch DIL20..... | £1.05 |
| 721-552 | 74HC574 Octal D type latch DIL20..... | £1.05 |
| 721-554 | 74HC688 8 bit equity comparator DIL20..... | £1.05 |
| 721-560 | 74HC4020 14 stage binary counter DIL16..... | £0.75 |
| 721-562 | 74HC4040 12 stage binary counter DIL16..... | £0.75 |
| 721-564 | 74HC4060 14 stage binary counter DIL16..... | £0.75 |
| 721-568 | 74HC4078 8 input OR/NOR gate DIL14..... | £0.75 |
| 721-572 | 74HC4543 BCD to 7 segment decoder DIL16..... | £1.25 |

4000 SERIES CMOS LOGIC DEVICES a range of through hole PCB mounting CMOS logic devices manufactured by SGS Thompson. All devices supplied in DIL packages, No. of pins in brackets. Sold Individually.

| CODE | TYPE | PRICE |
|---------|--|-------|
| 721-000 | IC 4000B Dual 3 Input NOR + Inverter (14)..... | £0.45 |
| 721-005 | IC 4001B Quad 2 Input NOR Gate (14)..... | £0.60 |
| 721-010 | IC 4002B Dual 4 Input NOR Gate (14)..... | £0.60 |
| 721-035 | IC 4011B Quad 2 Input Nand Gate (14)..... | £0.45 |
| 721-040 | IC 4012B Dual 4 Input Nand Gate (14)..... | £0.55 |
| 721-045 | IC 4013B Dual D Type Flip Flop (14)..... | £0.55 |
| 721-050 | IC 4014B 8 Bit Shift Register (16)..... | £0.80 |
| 721-055 | IC 4015B Dual 4 Bit Shift Register (16)..... | £0.80 |
| 721-060 | IC 4016B Quad Bilateral Switches (14)..... | £0.70 |
| 721-065 | IC 4017B Decade Counter Divider (16)..... | £0.99 |
| 721-075 | IC 4019B Quad 2 Input Multiplexers (16)..... | £0.99 |
| 721-085 | IC 4021B 8 Bit Shift Register (16)..... | £0.99 |
| 25-0262 | IC 4022B Octal Counter (16)..... | £0.99 |
| 721-095 | IC 4023B Triple 3 Input Nand Gates (14)..... | £0.99 |
| 721-100 | IC 4024B 7 Stage Binary Counter (14)..... | £0.99 |
| 721-105 | IC 4025B Triple 3 Input NOR Gates (14)..... | £0.99 |
| 721-110 | IC 4026B Decade Counter Dec 7Seg Output (16)..... | £1.75 |
| 721-115 | IC 4027B Dual J-K Master-Slave FlipFlop (16)..... | £0.99 |
| 721-120 | IC 4028B BCD to Decimal Decoder (16)..... | £0.99 |
| 721-130 | IC 4030B Quad Exclusive OR Gate (14)..... | £0.60 |
| 721-130 | IC 4030B Quad Exclusive OR Gate (14)..... | £0.60 |
| 721-135 | IC 4040B 12 Stage Ripple Carry Bin Ctr (16)..... | £0.99 |
| 25-0274 | IC 4041UB 12 Quad True/Complement Buff (14)..... | £0.99 |
| 721-140 | IC 4042B Quad Clocked D Type Latches (16)..... | £0.99 |
| 721-145 | IC 4043B Quad NOR R/S Latches (16)..... | £0.99 |
| 721-150 | IC 4044B Quad NAND R/S Latches (16)..... | £0.99 |
| 25-0280 | IC 4046B Micropower PLL (16)..... | £0.99 |
| 721-160 | IC 4047B Monostable/Astable (14)..... | £0.99 |
| 721-165 | IC 4049UB Hex Inverters / Buffers (16)..... | £0.60 |
| 721-170 | IC 4050B Hex Buffers (16)..... | £0.60 |
| 721-175 | IC 4051B Analogue Multiplexer/Demuil (16)..... | £0.99 |
| 721-185 | IC 4053B Analogue Multiplexer/Demuil (16)..... | £0.99 |
| 25-0284 | IC 4054B 4 Segment Display Driver (16)..... | £0.99 |
| 25-0288 | IC 4056B 7 Segment Display Driver (16)..... | £0.99 |
| 721-190 | IC 4060B 12Stage Ripple Carry Binary Ctr (16)..... | £0.99 |
| 721-195 | IC 4066B Quad Bilateral Switches (14)..... | £0.99 |
| 721-200 | IC 4067B 16 Channel Multiplexer/dem (24)..... | £3.99 |
| 721-210 | IC 4069UB Hex Inverters (14)..... | £0.55 |
| 721-215 | IC 4070B Quad 2 Input ExclusiveOR Gate (14)..... | £0.55 |
| 721-225 | IC 4072B Dual 4 Input OR Gate (14)..... | £0.55 |
| 721-235 | IC 4075B Triple 3 Input OR Gate (14)..... | £0.60 |
| 721-240 | IC 4076B Quad D Type Flip-Flop (16)..... | £0.75 |
| 721-245 | IC 4077B Quad Exclusive NOR Gate (14)..... | £0.55 |
| 25-0294 | IC 4078B 8 Input NOR/OR Gate (14)..... | £0.55 |
| 721-250 | IC 4081B Quad 2 Input AND Gate (14)..... | £0.50 |
| 721-255 | IC 4082B Dual 4 Input AND Gate (14)..... | £0.50 |
| 721-265 | IC 4093B Quad 2 Input NAND Schmitt (14)..... | £0.50 |
| 721-270 | IC 4094B 8 Stage Shift+Store Bus Regis (16)..... | £0.99 |
| 25-0306 | IC 4097B 8 Channel MUX/DEMUX (24)..... | £1.50 |
| 721-280 | IC 4098B Retriggerable Dual Monostable (16)..... | £0.99 |
| 721-285 | IC 4099B 8 Bit Addressable Latch (16)..... | £0.99 |
| 25-0312 | IC 4508B Dual 4 Bit Latch (24)..... | £4.25 |
| 721-300 | IC 4510B BCD Up/Down Counter (16)..... | £0.99 |

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SQUIRES MODEL & CRAFT TOOLS

| | | |
|---------|---|-------|
| 721-310 | IC 4512B 8 Channel Data Selector (16)..... | £0.99 |
| 721-320 | IC 4515B 4 Bit Latch/4 to 16 Line (Low) (24)..... | £1.99 |
| 721-325 | IC 4516B Binary Up Down Counter (16)..... | £1.25 |
| 721-340 | IC 4520B Dual Binary Up Counter (16)..... | £1.25 |
| 25-0320 | IC 4521B 24 Stage Frequency Divider (16)..... | £1.25 |
| 721-365 | IC 4532B 8 Input Priority Encoder (16)..... | £1.25 |
| 721-375 | IC 4538B Dual Monostable (16)..... | £1.25 |
| 721-380 | IC 4541B Programmable Timer (14)..... | £0.99 |
| 721-385 | IC 4543B BCD to 7 Seg Decoder for LCD (16)..... | £1.25 |
| 721-390 | IC 4555B Dual Binary to 1 Of 4 Decoder (16)..... | £1.25 |
| 721-395 | IC 4556B Dual Binary to 1 Of 4 Decoder (16)..... | £1.25 |
| 721-415 | IC 40106B Hex Schmitt Trigger (16)..... | £0.75 |

74LS SERIES LOGIC DEVICES through hole PCB mounting logic devices. All devices are in DIL packages, No. of pins in brackets.

| CODE | TYPE | PRICE |
|---------|--|-------|
| 725-000 | IC 74LS00 Quad 2 Input Pos NAND Gate (14)..... | £0.55 |
| 725-005 | IC 74LS01 Quad 2 Input NAND O/C Op (14)..... | £0.55 |
| 25-0358 | IC 74LS02 Quad 2 Input Positive NOR (14)..... | £0.55 |
| 25-0360 | IC 74LS03 Quad 2 Input NAND Gate (14)..... | £0.55 |
| 725-025 | IC 74LS05 Hex Inverters Open Collector (14)..... | £0.55 |
| 725-030 | IC 74LS08 Quad 2 Input AND Gates (14)..... | £0.55 |
| 25-0368 | IC 74LS09 Quad 2 Input AND Gate (14)..... | £0.55 |
| 25-0370 | IC 74LS10 Triple 3 Input NAND Gate (14)..... | £0.55 |
| 25-0372 | IC 74LS12 Triple 3 Input NAND Gate (14)..... | £0.55 |
| 725-060 | IC 74LS14 Hex Schmitt Trigger Inverters (14)..... | £0.55 |
| 725-070 | IC 74LS20 Dual 4 Input NAND Gate (14)..... | £0.55 |
| 725-075 | IC 74LS21 Dual 4 Input AND Gate (14)..... | £0.55 |
| 725-075 | IC 74LS21 Dual 4 Input AND Gate (14)..... | £0.55 |
| 25-0376 | IC 74LS27 Triple 3 Input Positive NOR Gate (14)..... | £0.55 |
| 725-085 | IC 74LS30 8 Input Positive NAND Gate (14)..... | £0.55 |
| 725-090 | IC 74LS32 Quad 2 Input OR Gate (14)..... | £0.55 |
| 725-095 | IC 74LS37 Quad 2 Input NAND Buffer (14)..... | £0.55 |
| 725-110 | IC 74LS42 BCD to Decimal Decoder (16)..... | £0.85 |
| 25-0378 | IC 74LS47 BCD to 7 Seg 15V o/c Decoder (14)..... | £2.25 |
| 725-125 | IC 74LS73 Dual J-K Mas-Slave Flip Flops (14)..... | £0.70 |
| 725-130 | IC 74LS74 Dual D-type Edge Trig F/Flops (14)..... | £0.55 |
| 725-135 | IC 74LS75 Quad Bistable Latches (16)..... | £0.80 |
| 725-145 | IC 74LS83 4 Bit Binary Full Adder (16)..... | £0.90 |
| 725-150 | IC 74LS85 4 Bit Magnitude Comparator (14)..... | £0.90 |
| 25-0382 | IC 74LS93 4 Bit Binary Counter (14)..... | £0.90 |
| 725-180 | IC 74LS107 Dual J-K Flip Flops with Clr (14)..... | £0.55 |
| 725-185 | IC 74LS109 Dual J-K Edge Trig FF Preset (16)..... | £0.85 |
| 25-0386 | IC 74LS122 Retriggerable One Shot Clear (14)..... | £0.85 |
| 725-215 | IC 74LS125 Quad Bus Buffer Gates (tri) (14)..... | £0.70 |
| 725-220 | IC 74LS126 Quad Bus Buffer Gates (tri) (14)..... | £0.70 |
| 725-225 | IC 74LS132 Quad 2 Input Positive NAND (14)..... | £0.70 |
| 725-235 | IC 74LS136 Quad Exclusive OR Gate (14)..... | £0.85 |
| 725-240 | IC 74LS138 3 Line to 8 Line Decoder (16)..... | £0.80 |
| 25-0392 | IC 74LS148 8 Line to 3 Priority Encoder (16)..... | £0.80 |
| 25-0394 | IC 74LS151 1 of 8 Data Selector/Multi (16)..... | £0.85 |
| 725-270 | IC 74LS156 Dual 2Line to 4Line Decoder (16)..... | £0.80 |
| 725-280 | IC 74LS158 Quad 2Line to 1Line Data Sel (16)..... | £0.85 |
| 725-290 | IC 74LS161 Synchronous 4Bit Binary Ctr (16)..... | £0.99 |
| 725-295 | IC 74LS162 Synchronous Decade Counter (16)..... | £0.99 |
| 725-300 | IC 74LS163 Synchronous 4Bit Bi Counter (16)..... | £0.99 |
| 725-355 | IC 74LS195 4 Bit Parallel Access Shift (16)..... | £0.99 |
| 725-360 | IC 74LS221 Dual Mono Multivibrators (16)..... | £0.99 |
| 25-0398 | IC 74LS244 Octal Tri-State Buffer (20)..... | £0.80 |
| 725-380 | IC74 LS245 Octal Tri State Bus Transvr (20)..... | £0.80 |
| 725-405 | IC 74LS273 Octal D Type FF With Clear (20)..... | £0.99 |
| 25-0404 | IC 74LS367 Tri-State Hex Buffer (16)..... | £0.99 |
| 25-0406 | IC 74LS368 Hex Bus Driver (16)..... | £0.99 |
| 725-440 | IC 74LS373 Tri State Octal Trans Latch (20)..... | £0.99 |
| 725-445 | IC 74LS374 Tri State Octal D Type FF (20)..... | £0.75 |
| 725-460 | IC 74LS393 Dual 4 Bit Binary Ripple Ctr (14)..... | £0.75 |
| 725-465 | IC 74LS540 Octal Buffer/Driver (20)..... | £1.35 |
| 725-470 | IC 74LS541 Octal Buffer And Line Dr/Rx (20)..... | £1.35 |

7400 SERIES This range of 7400 series logic devices is intended for basic circuits where speed and power consumption are not important.

| CODE | TYPE | PRICE |
|---------|---|-------|
| 25-0332 | IC 7400 Quad 2-Input Pos NAND Gate DIL14..... | £2.25 |
| 721-576 | IC 7402 Quad 2 input pos NOR gate DIL14..... | £0.75 |
| 721-580 | IC 7404 Hex inverters DIL14..... | £0.75 |
| 721-584 | IC 7407 Hex buffer/drivers with O/C 30V op DIL14..... | £1.25 |
| 721-588 | IC 7410 Triple 3 input positive NAND gate DIL14..... | £0.80 |
| 25-0344 | IC 7432 Quad 2-Input Pos OR Gate DIL14..... | £2.75 |
| 25-0346 | IC 7438 Quad 2-Input Pos NAND Gate DIL14..... | £2.75 |
| 721-596 | IC 7447BCD to 7 segment 15V O/C decoder dr DIL16 | £1.99 |
| 25-0350 | IC 74150 Data Selector DIL24..... | £4.99 |
| 25-0352 | IC 74154 4 Line to 16 Line Decoder DIL24..... | £5.99 |

PIC10F2XX 8-BIT FLASH MICROCONTROLLER a range of low-cost, high performance, 8-bit, fully static, FLASH-based CMOS microcontrollers. A small footprint makes these devices suitable for applications with space limitations. Low cost and low power, high performance and ease of use make these devices very versatile, even in areas where no microcontroller has ever been considered before (e.g. timer functions, logic and PLDs in larger systems and co-processor applications). Featuring 4 I/O pins, 33 12-bit wide instructions, 4MHz internal clock, 1µs instruction cycle, 8-bit real time clock/counter with 8-bit programmable prescaler and 1 comparator on PIC10F204/206.

Available in DIL-8 and 6-pin SOT-23 packages



Technical Specification

| Device Package | Program memory | Data memory | I/O | Timers | Comparator | 8-bit A/D |
|-----------------|----------------|--------------|-------|--------|------------|-----------|
| | Flash (words) | SRAM (bytes) | 8-bit | | | |
| PIC10F200-I/PG | 256 | 16 | 4 1 | 0 | - | DIL-8 |
| PIC10F202-I/OTG | 512 | 24 | 4 1 | 0 | - | SOT-23 |
| PIC10F202-I/PG | 512 | 24 | 4 1 | 0 | - | DIL-8 |
| PIC10F204-I/OTG | 256 | 16 | 4 1 | 1 | - | SOT-23 |
| PIC10F204-I/PG | 256 | 16 | 4 1 | 1 | - | DIL-8 |
| PIC10F206-I/OTG | 512 | 24 | 4 1 | 1 | - | SOT-23 |
| PIC10F206-I/PG | 512 | 24 | 4 1 | 1 | - | DIL-8 |
| PIC10F220T-I/OT | 256 | 16 | 4 1 | - | 2 | SOT-23 |
| PIC10F220-I/P | 256 | 16 | 4 1 | - | 2 | DIL-8 |
| PIC10F222T-I/OT | 512 | 23 | 4 1 | - | 2 | SOT-23 |
| PIC10F222T-I/P | 512 | 23 | 4 1 | - | 2 | DIL-8 |

| CODE | TYPE | PRICE |
|---------|--|-------|
| 25-0484 | FLASH Microcontroller PIC10F200-I/PG..... | £0.99 |
| 25-0486 | FLASH Microcontroller PIC10F202-I/OTG..... | £0.99 |
| 25-0488 | FLASH Microcontroller PIC10F202-I/PG..... | £1.50 |
| 25-0490 | FLASH Microcontroller PIC10F204-I/OTG..... | £1.50 |
| 25-0492 | FLASH Microcontroller PIC10F204-I/PG..... | £1.50 |
| 25-0494 | FLASH Microcontroller PIC10F206-I/OTG..... | £1.50 |
| 25-0496 | FLASH Microcontroller PIC10F206-I/PG..... | £1.50 |
| 25-0498 | FLASH Microcontroller PIC10F220T-I/OT..... | £1.50 |
| 25-0500 | FLASH Microcontroller PIC10F220-I/P..... | £1.50 |
| 25-0502 | FLASH Microcontroller PIC10F222T-I/OT..... | £1.50 |

M602 DING-DONG GENERATOR this simple ding-dong generator IC is suitable for door bells, musical instruments, toys etc., and requires only the minimum number of external components to produce a working circuit. The circuit requires a 3V battery power supply to work, and has an operating current of only 0.1mA. The output sound is set at 780Hz and 626Hz. Housed in a DIL-8 package.

Technical Specification

| | |
|-----------------------|------------------------|
| Operating voltage: | 3V DC typical 4.5V max |
| Operating current: | 0.1mA no load |
| Quiescent current: | 1µA |
| O/p driving current: | 1mA |
| Oscillator frequency: | 50kHz |



| CODE | TYPE | PRICE |
|---------|--------------------------|-------|
| 712-718 | Ding Dong Generator..... | £1.25 |