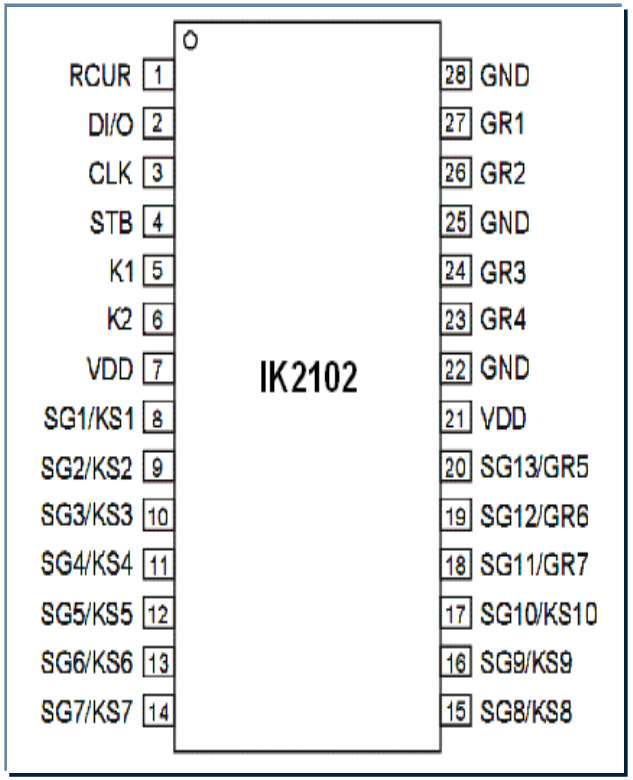
Features

- Wide operation voltage : 3.0V ~ 5.5V
- Display Size
  - IK2102(SOP-28) : LED Driver with Key Scan(Common Cathode) 4 digits x 13 segments to 7 digits x 10 segments
- 8-step Dimming Circuitry
- Process Rate : 500kHz with
- OSC : built in (with external resistor)
- Pulse Segment Current
  - 10mA type (8mA ~ 12mA) @ VDD = 3.3V ~ 5.5V
  - 20mA type (16mA ~ 24mA) @ VDD = 5.5V
- Key scanning : 10 *2 matrix
- Serial Interface
- Operation Temperature : -40 ~85℃



Application

- DVD Combo, DVD Recorder, STB Set etc
- Microwave oven , Air conditioner, Washing Machine, Refrigerator, Rice- Jar
- Digital Door-Lock, Low Power LED BLU

IK Main Customer :

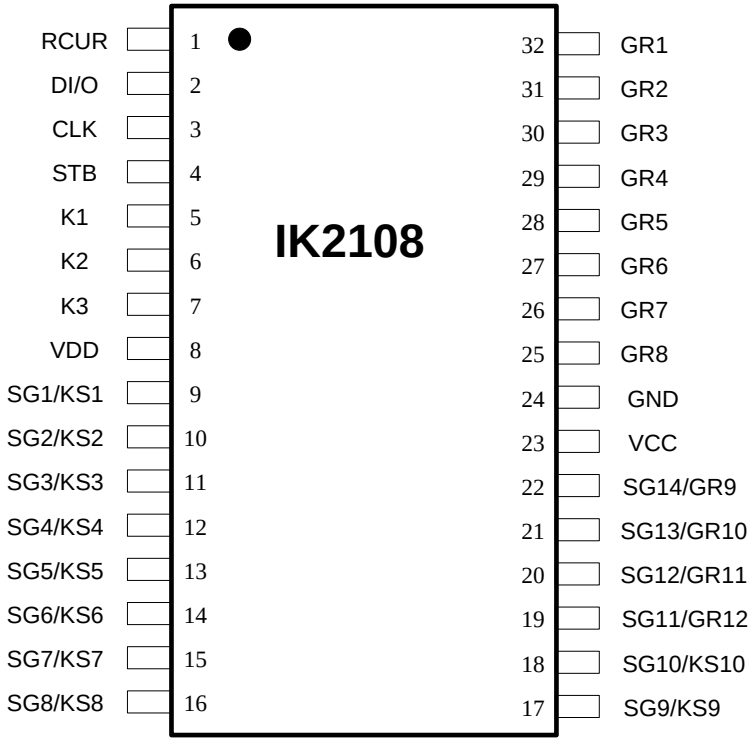
- SEC(DVD_R / STB), Humax, Open-tech, Handan, LGE

Features

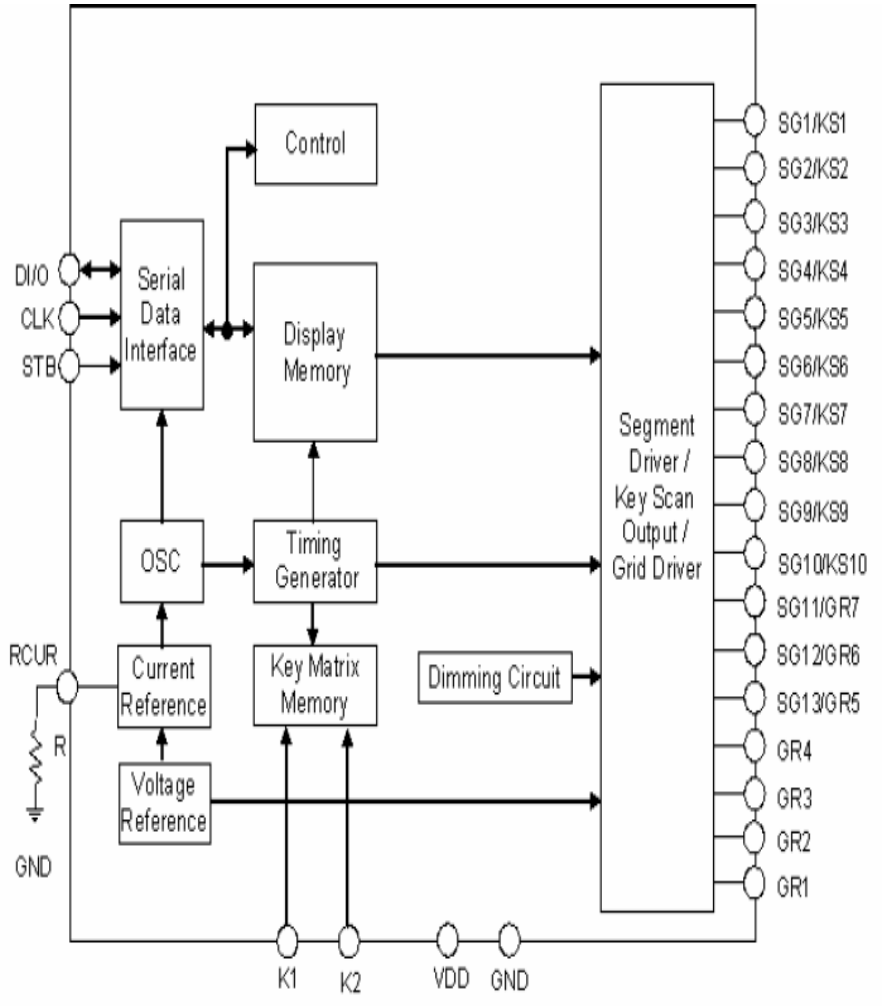
- Operation voltage for digital part: 3.0V ~ 5.5V
- Operation voltage for output LED's: 5.0V ~ 18.0V
- 7-step individual dimming control for each grid
- OSC: built in (with external resistor) 500kHz @ R=12.1kΩ
- Pulse segment current:
  - 27mA @ 8 digits x 14 segments
  - 39mA @ 12 digits x 10 segments
- Key scanning: 10x3 matrix
- Serial Interface
- Operation Temperature : -40 ~ 85°C

APPLICATION

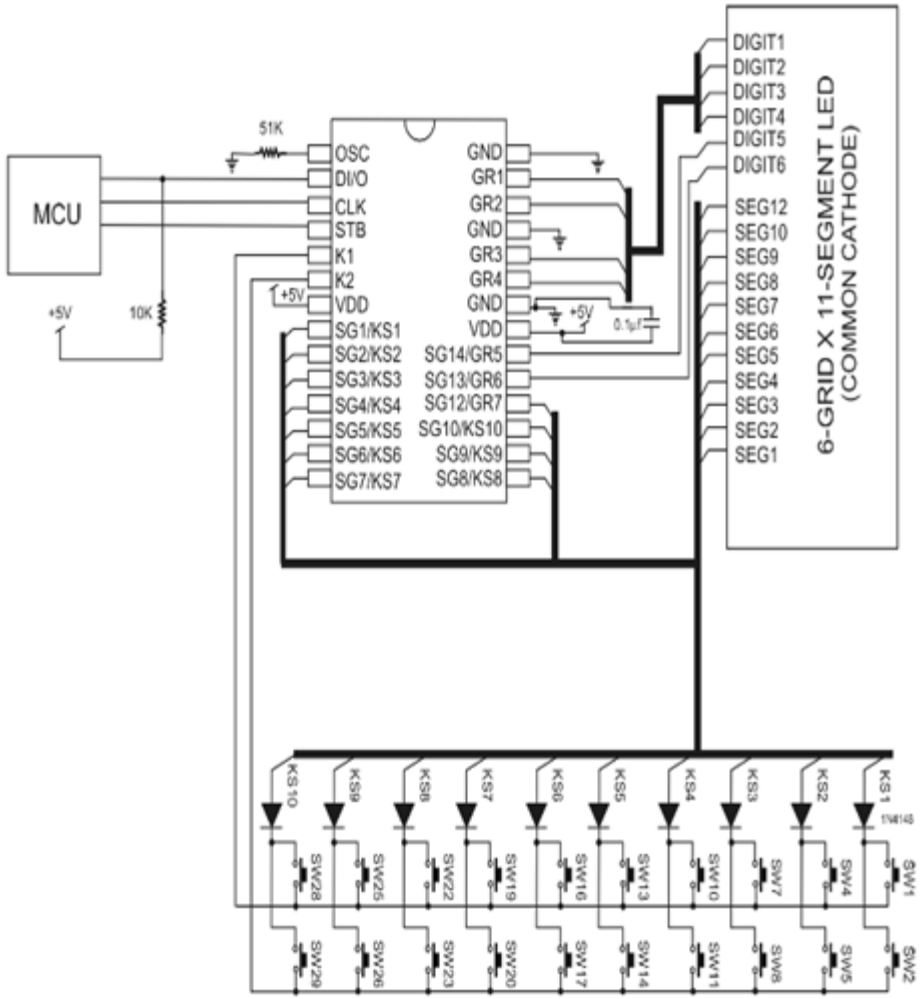
- Washing Machine and Home Appliance



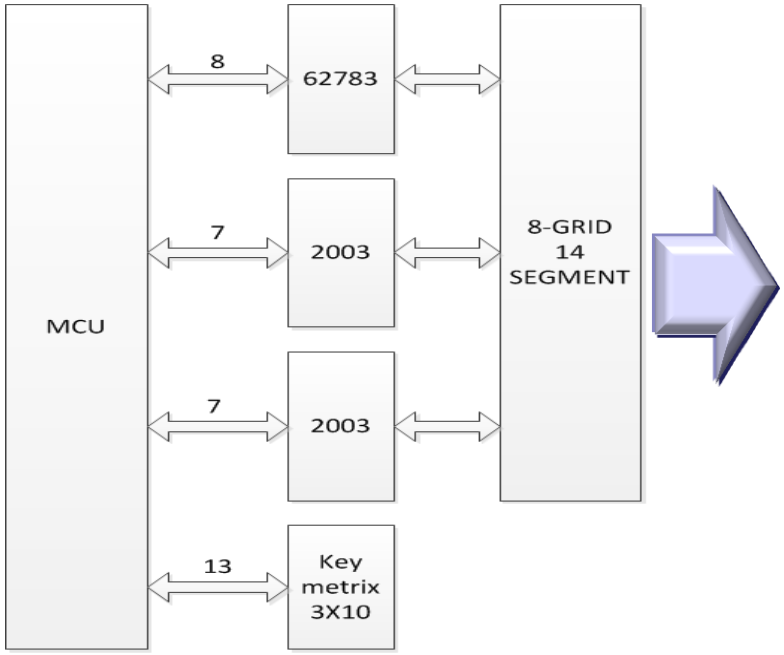
Block Diagram



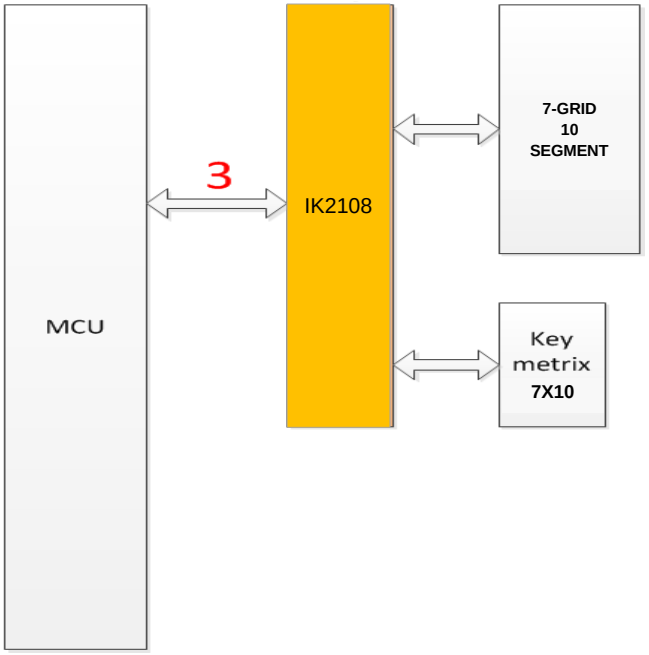
Application Circuit



Current Solution (Toshiba / TI / KEC)



IK Solution

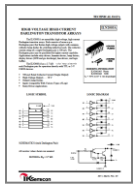


Item	Current Solution	IK Solution
MCU I/O Pins	35 pin	3 pin
MCU Programing	Complex	Simple
MCU Load	Much	Small
PCB	Complex	Simple

IK2102

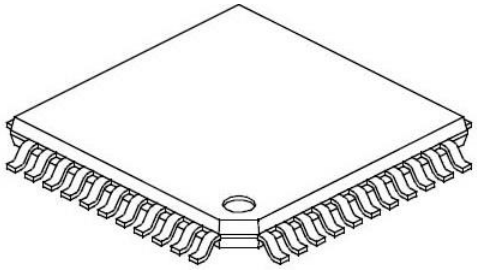
IK62783

ILN2003A



LED Driver Platform

Features



LQFP-32

- Operating voltage range: 3.0 ~ 3.6V (Digital)
- Operation voltage for output LEDs: 5.0V ~ 18.0V
- 7-step individual dimming control for each grid
- OSC: built in (with external resistor) 500kHz @ R=12.1kΩ
- Pulse segment current: 27mA-39mA @ 8 digits x 9 segments
- Key scanning: 7x2 matrix
- Integrated MCU (8KB OTP/Flash, 756Byte RAM)
- Serial Interface(UART). Up to 57,600bps
- 2 Channel PWM
- Operation Temperature : -40 ~ 85°C

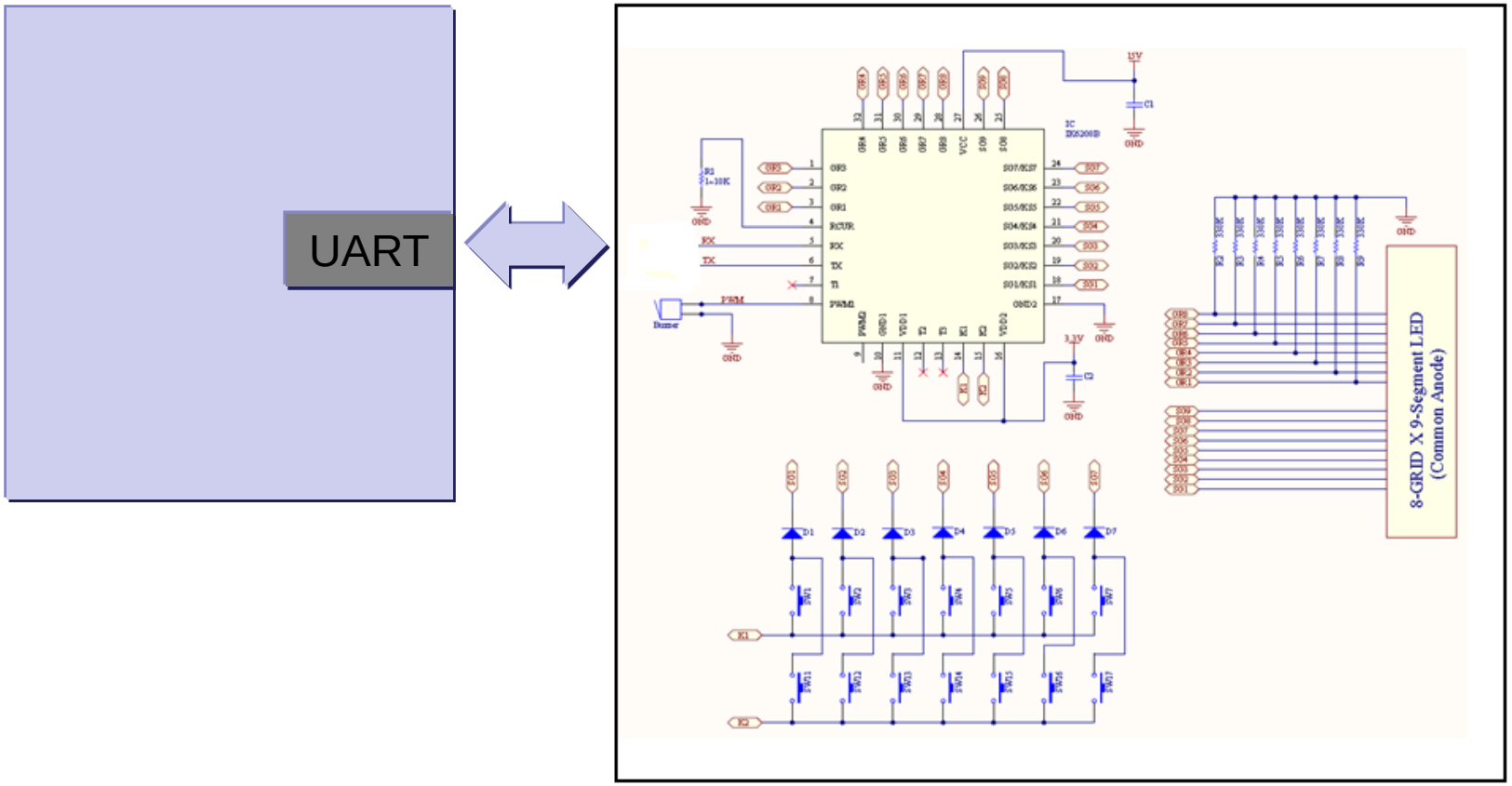
APPLICATION

- Home Appliance : Washing machine, Refregerator, Bidet, Air Conditioner

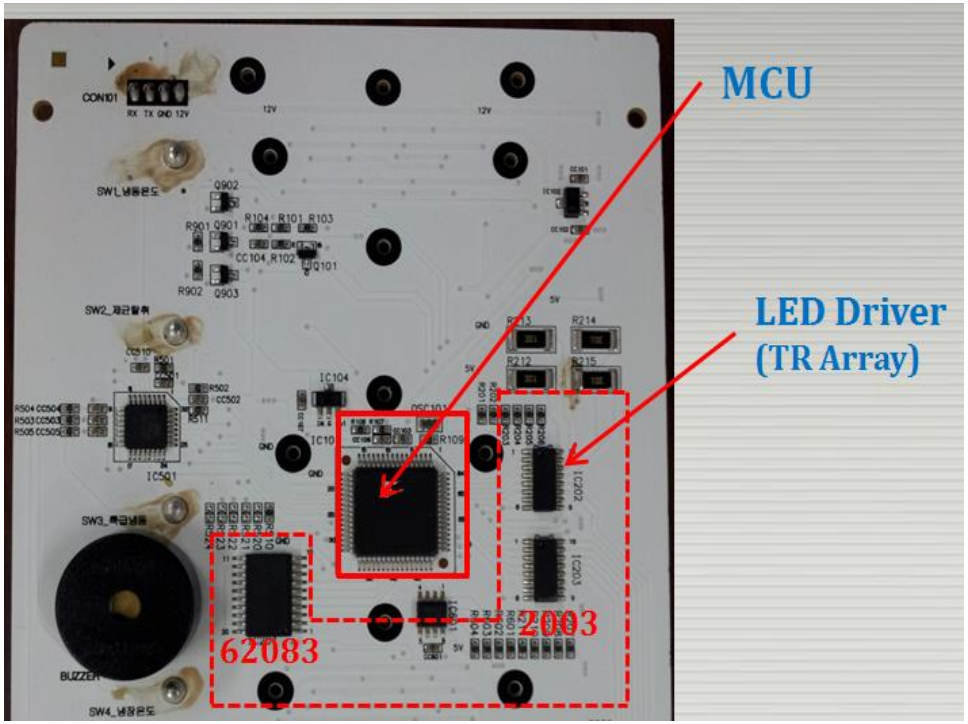
Application Circuit

MAIN BOARD

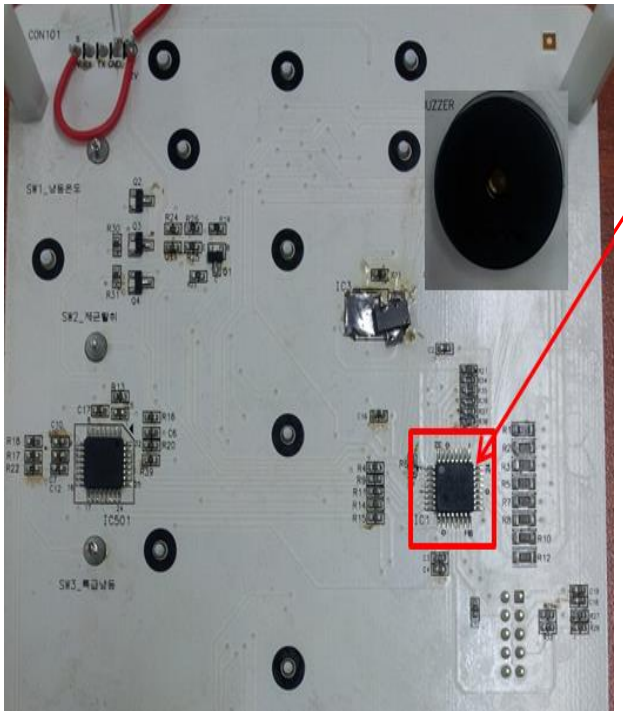
DISPLAY BOARD



IK6208 Application

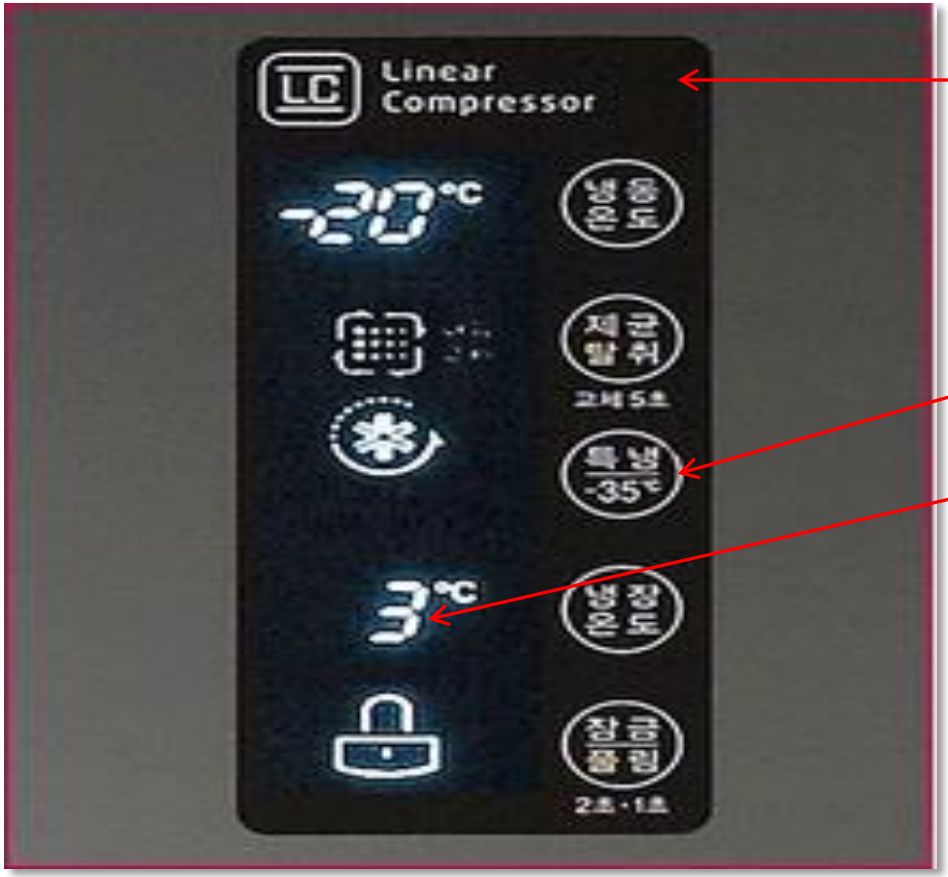


Current Solution (MCU + TR Array)



IK New Solution (IK6208)

IK6208 Application



UART Communication

Touch Switch

LED Display

Application

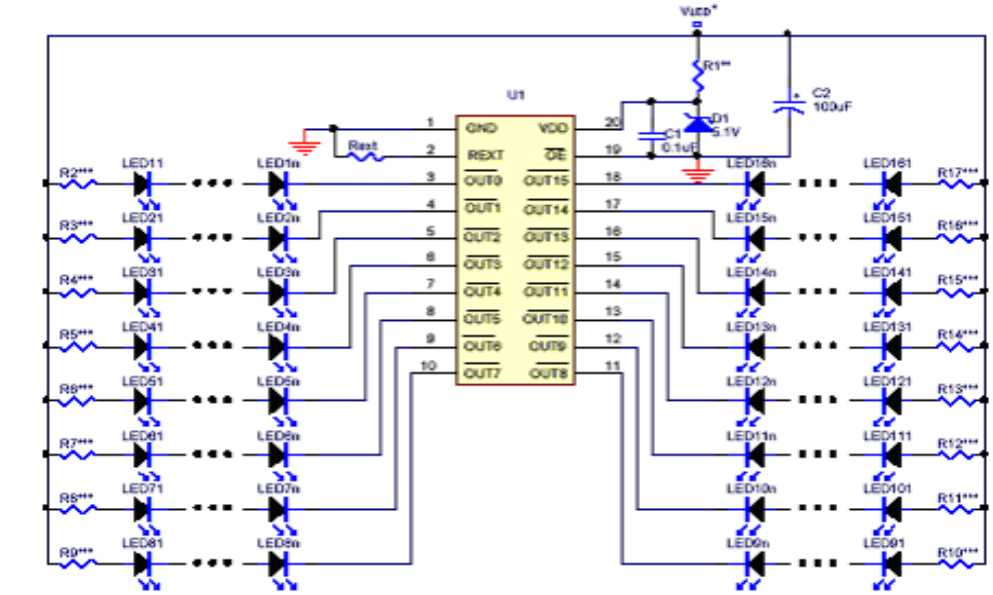
- Automotive interior lighting
- Decoration lighting
- LED Stand lighting

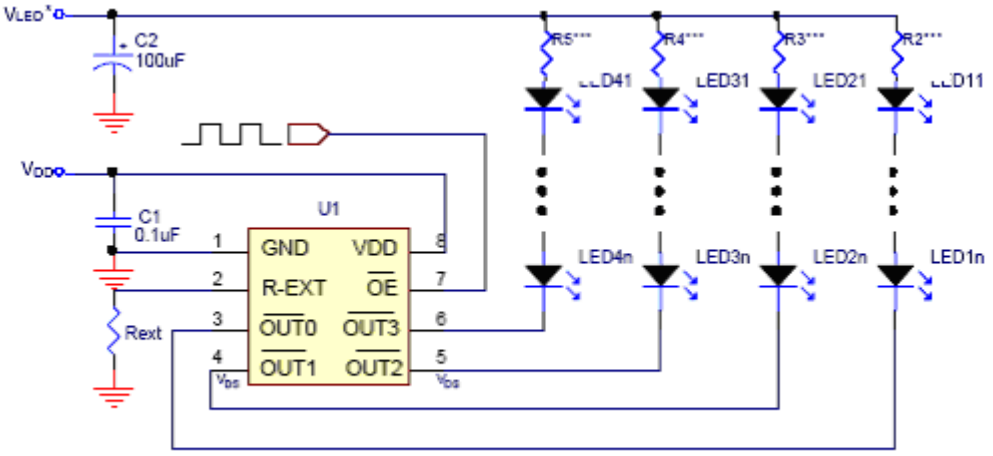
Competitor

- Macroblock (MBI1802/04/16)

Main Customer

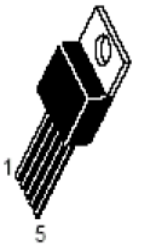
- LGE, PLT, etc



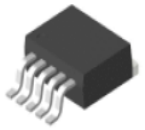


Features

- 3.3V, 5V, 12V, and adjustable output versions
- Adjustable version output voltage range, 1.2V to 37V
  ± 4% max over line and load conditions
- Guaranteed 3A output load current
- Input voltage range up to 40V
- Requires only 4 external components
- Excellent line and load regulation specifications
- 150KHz(IL2596) 52KHz(IL2576)fixed freq internal OSC
- TTL shutdown capability
- Low power standby mode, IQ typically 100μA
- Thermal shutdown and current limit protection



TO-220-5L



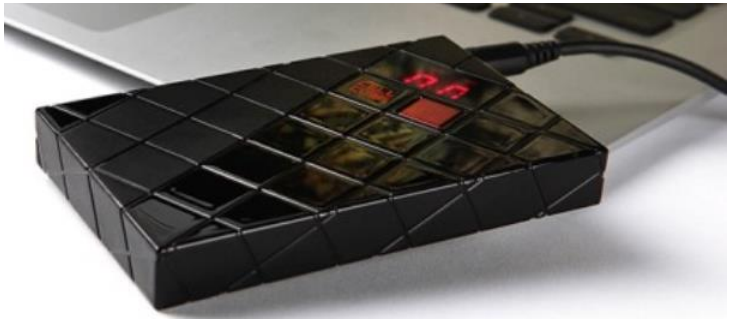
TO-263-5L

Application

Power Supply for Battery Chargers , Adjustable power supplies
Constant current regulators

Competitor:

- National (LM2576, LM2596)

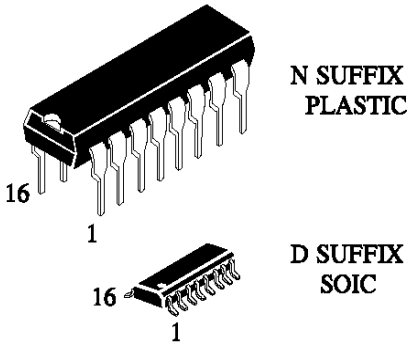


TR-ARRAY ILN2003/4

Features

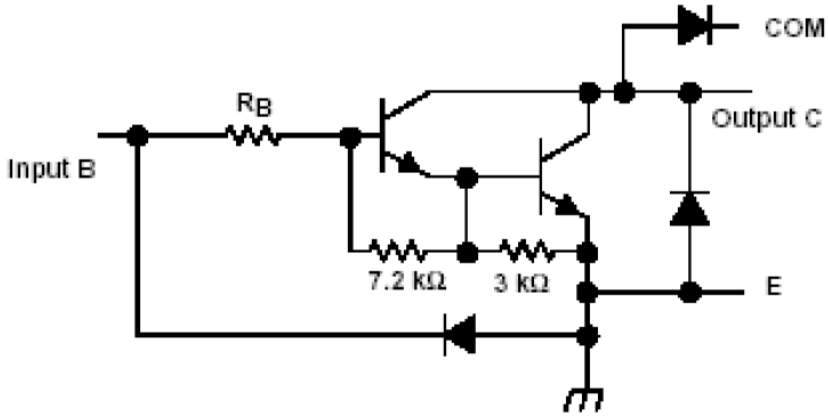
HIGH-VOLTAGE HIGH-CURRENT DARLINGTON TRANSISTOR ARRAYS

The ILN2003A are monolithic high-voltage, high-current Darlington transistor arrays. Each consists of seven n-p-n Darlington pairs that feature high-voltage outputs with common-cathode clamp diodes for switching inductive loads. The collector-current rating of a single Darlington pair is 500 mA.



Function

- **500-mA Rated Collector Current (Single Output)**
- **High-Voltage Outputs . . . 50 V**
- **Output Clamp Diodes**
- **Inputs Compatible With Various Types of Logic**
- **Relay Driver Applications**



**** RB= 2.7K : ILN2003**

**** RB= 10K : ILN2004**

TR-ARRAY IK62083/4

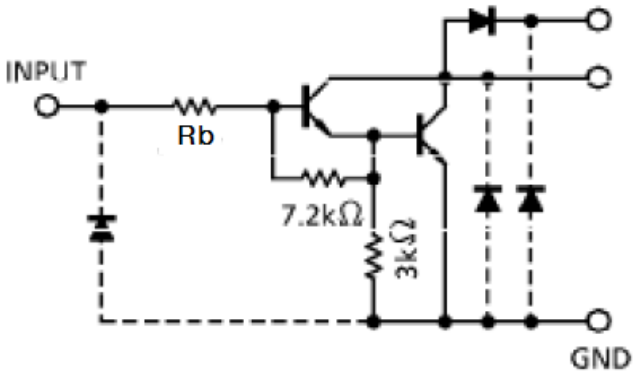
FEATURES

The IK62083~IK62084 are high-voltage, high-current darlington drivers comprised of eight NPN darlington pairs. All units feature integral clamp diodes for switching indicative loads.

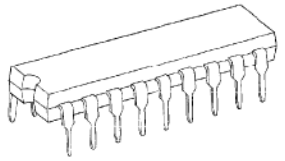
Function

- Output current (single output) 500mA (Max)
- Output clamp diodes
- Inputs compatible with various types of logic.

** Rb= 2.7K : IK62083
** Rb= 10.5K : IK62084

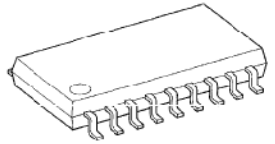


IK62083N
IK62084N



DIP-18

IK62083DW
IK62084DW



SOP-18
T_A = -40° ~ +85° C
for all packages.

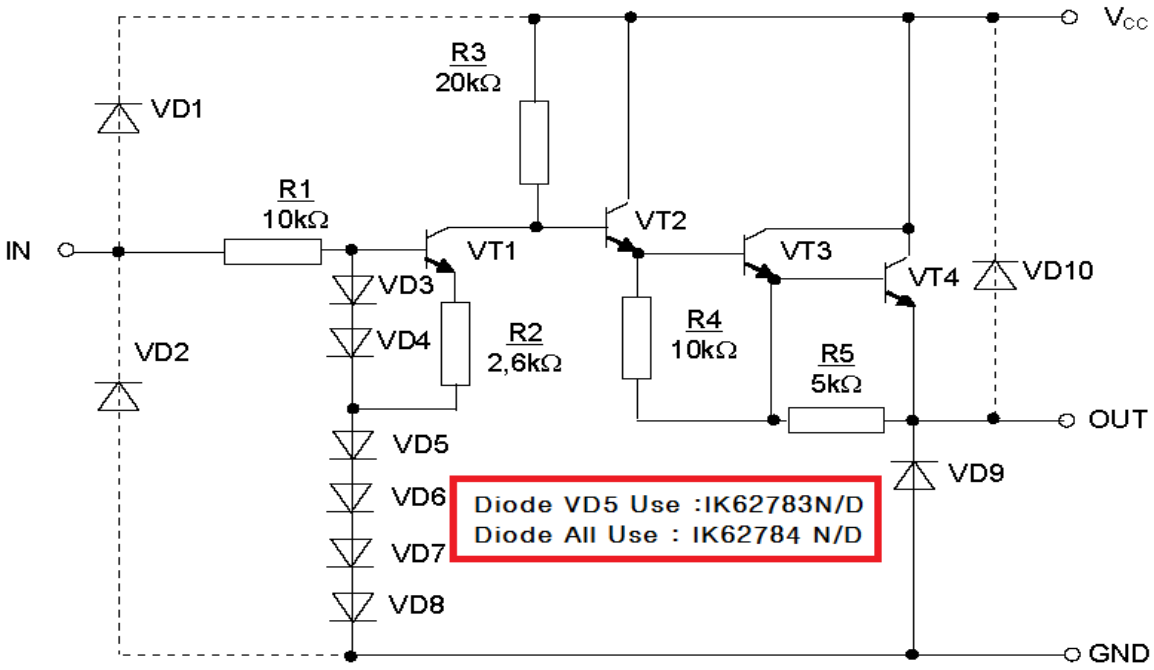
TR-ARRAY IK62783/4

FEATURES

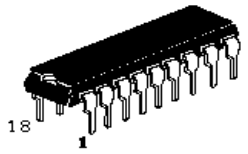
The IK62783, IK62784 are eight current drivers with common power supply and ground.

Function

- **High output voltage up to 50 V**
- **Output current up to minus 500 mA**
- **Output clamp diodes**
- **Single supply voltage 50V**

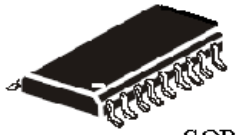


IK62783N
IK62784N



DIP-18

IK62783D
IK62784D



SOP-18

Ta=-40 ~ 85°C For all package

Application

- Relays, Lamps, Displays (LED & gas discharge cells), Fluorescent, etc

Competitor:

- ST, Toshiba, KEC, etc

Main Customer

- LG, SAMSUNG, etc

Features

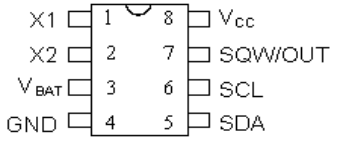
SERIAL RTC

The IN1307 Serial Real-Time Clock is a low-power, full binary-coded decimal (BCD) clock/calendar plus *56 bytes of NV SRAM*. Address and data are transferred serially via a 2-wire, bi-directional bus. The clock/calendar provides seconds, minutes, hours, day, date, month, and year information.

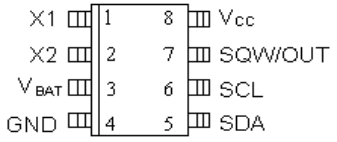
Function

- minutes, hours, date of the month, month, day of the week, and year with leap-year compensation valid up to 2100
- 56-byte, battery-backed, nonvolatile (NV) RAM for data storage
- Two-wire serial interface
- Programmable square wave output signal
- Automatic power-fail detect and switch circuitry
- Consumes less than *500nA in battery backup* mode with oscillator running

PIN ASSIGNMENT



8-Pin DIP (300-mil)



8-Pin SOIC (150-mil)

Application

- Sign Timer, Industrial clock, Nighttime electricity Boiler Timer Controller

Competitor:

- MAXIM (DS1307)

FEATURES

Microcircuit IN1363 is essentially the complete binary-decimal digital watch with calendar, alarm, timer and possesses low power consumption. Addresses and data are transferred in series via the double wire bi-directional bus.

Function

- Count of seconds, minutes, hours, week days, date, months and years with consideration of leap years (until 2100);
- 400 kHz, double wire serial interface;
- Function programming of alarm, timer and interruption;
- Automatic determination of the supply voltage drop;
- Consumption current of less, than 450nA with supply of 2V with the operating oscillator;
- Operating temperature range: -40℃ ~ 85℃.

SOP- 8

MSOP-8

TA = - 40 ... + 85 °C
for all packages

Features

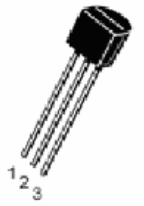
Voltage Detector

Function of this IC is accurately resetting the system after detecting voltage at the time of switching power on and instantaneous power off in various CPU systems and other logic systems.

Function

- Current Consumption is Low.
- Resetting Output Minimum Guarantee Voltage is Low (0.8V Typ.)
- Hysteresis Voltage is Provided 50mV (Typ.)
- Reset Signal Generation Starting Voltage: (2.1; 2.3; 2.5; 2.7; 2.9; 3.1; 3.3; 3.6; 3.7; 3.9; 4.2; 4.5V (Typ.))

IL70xx (TO-92)

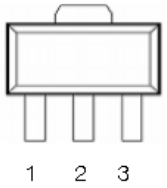


1. Output
2. GND
3. Vcc

IL70xxA (TO-92)

1. Vcc
2. GND
3. Output

IL70xx (SOT-89)



1. Vcc
2. GND
3. Output

Application

- DVD, STB Set etc, Microwave oven , Airconditioner, Washing Machine, Refrigerator, Digital Door-Lock,

Competitor:

- KEC (KIA7019~7045)

Features

POWER SUPPLY CONTROL WITH BUILT-IN WATCHDOG TIMER

The MIC1232 is a multifunction circuit which monitors microprocessor activity, external reset and power supplies in microprocessor based systems. The circuit functions include a watchdog timer, power supply monitor, microprocessor reset, and manual pushbutton reset input.

Function

- **Rated supply voltage 5.0 V**
- **Accurate 5% or 10% microprocessor power supply monitoring**
- **Programming of watchdog timer overflow time**
- **Generation of reset signals at power on**
- **Generation of reset signals By reset switch**

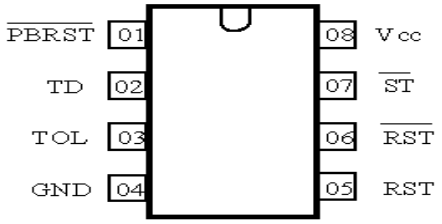


Fig 1 – PIN ASSIGNMENT

Application

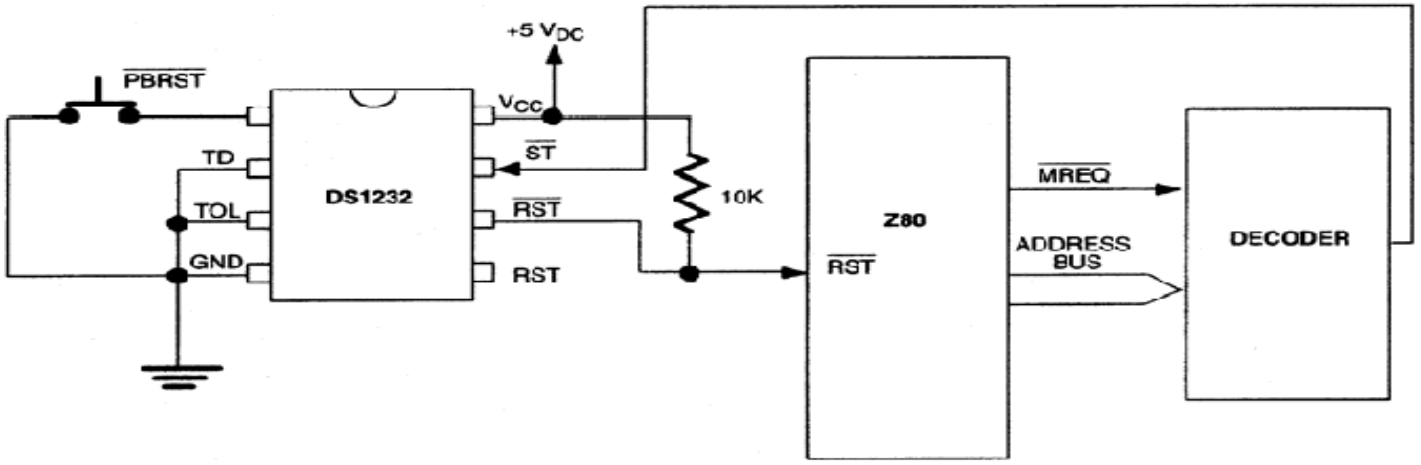
· Automotive Systems, Intelligent Instruments, Microprocessor, Power Monitoring, Battery Powered Computers,

Competitor:

- MAXIM (DS1232)

Application Circuit

WATCHDOG TIMER



Features & Benefits

- Output voltage levels are compatible with input levels of K-MOS, N-MOS and TTL integrated circuits.
- Supply voltage : 3.3V
- Low input current: 1.0 μA; 0.1 μA at T = 25 °C.
- Output current 24 mA.
- Data rate: 50Kbps maximum.
- The transmitter outputs and receiver inputs are protected to ±15kV Air ESD.

TSSOP 16

SOP16L(W)

Ordering Information

ILX3232N	Plastic DIP
ILX3232D	SOIC
ILX3232TSD	TSSOP
ILX3232DW	SOP(W)

T_A= from -40 to 85 °C for all packages

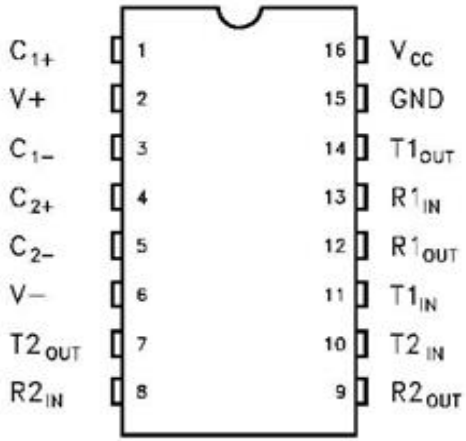
Application

- Communication, STB, Navi, Home automation system
- TV, DAB, GPS, Navigation, RD, AV-receiver (Audio), STB, other interface module & handheld set for RS232 etc

Competitor

- Maxim(MAX3232), SP3232, ST3232, ICL3232

PIN CONFIGURATION



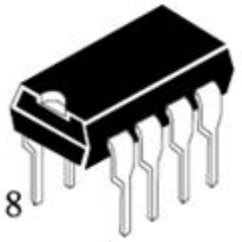
Features

- Low Quiescent Current: 300μA
- 7V to +12V Common-Mode Input Voltage Range
- Three-State Outputs
- 30ns Propagation Delays
- Full-Duplex and Half-Duplex Versions Available
- Operating Voltage 3.3V ~ 5V Supply
- Allows up to 32 Transceivers on the Bus
- Data rate: 2.5 Mbps
- Current-Limiting and Thermal Shutdown for Driver Overload Protection
- The transmitter outputs and receiver inputs are protected to ±15kV Air ESD.
- Operating Temperature Range : -40 ~ 85℃

Application

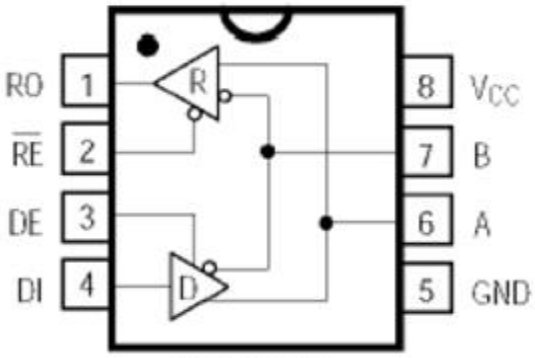
- Home automation system, CCTV, DVR

Competitor : Maxim(MAX3485)



ILX3485N	Plastic
ILX3485D	SOIC

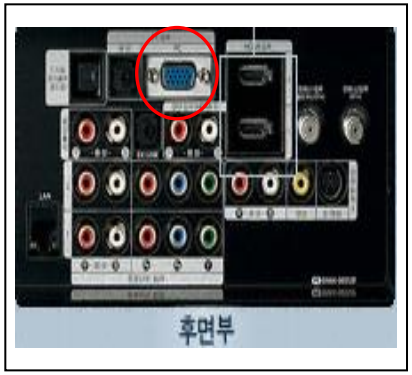
Pin Description



DIP/SO

Features

- 1nA Low-Current Shutdown Mode:
- Enhanced Slew-Rate Limiting Facilitates(500Kbps)
- Half Duplex
- Allow Up to 256 Transceivers on the Bus
- ILX3085 : Operating Voltage 5V Supply
  ILX3075 : Operating Voltage 3V Supply
- Data rate: 10 Mbps
- The transmitter outputs and receiver inputs are protected to ±15kV Air ESD.
- Operating Temperature Range : -40 ~ 85℃



TV, A/V

Application

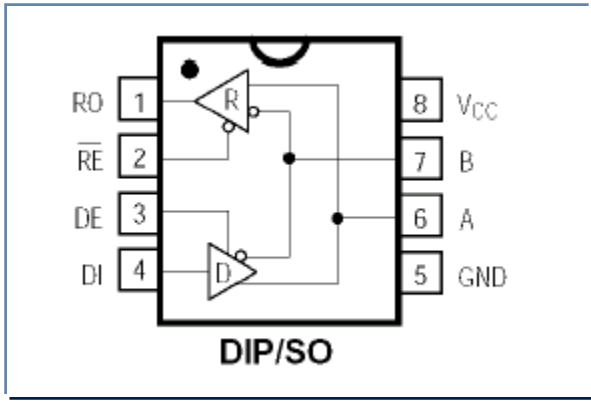
- Home automation system, CCTV, DVR

Competitor

- Maxim(MAX3085)

Features

- Operates From Single 5-V Supply
- Low Power Requirements
- Bidirectional Transceiver
- Meets or Exceeds the Requirements of
  ANSI Standards EIA/TIA-422-B and ITU Recommendation V.11
- Multipoint TRx on Long Bus Lines in Noisy Env.
- 3-State Driver and Receiver Outputs
- Individual Driver and Receiver Enables
- Wide Positive and Negative I/O Bus Voltage Ranges
- Thermal-Shutdown Protection
- The transmitter outputs and receiver inputs are protected to ±15kV Air ESD.



DIP/SO

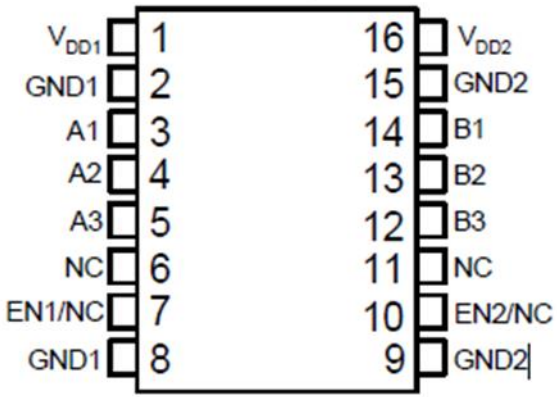
APPLICATION

- DVR , 빌딩 제어 , 온도 조절기

ILX488-3

Features

- Triple-Channel Digital Isolator
- High-speed Operation : DC – 1 Mbps
- Low propagation delay: <10 ns
- Wide Operating Supply Voltage:2.3V - 5.5V
- Low power: I1 + I2 <12 mA / channel at 1 Mbps
- 2500 VRMS isolation

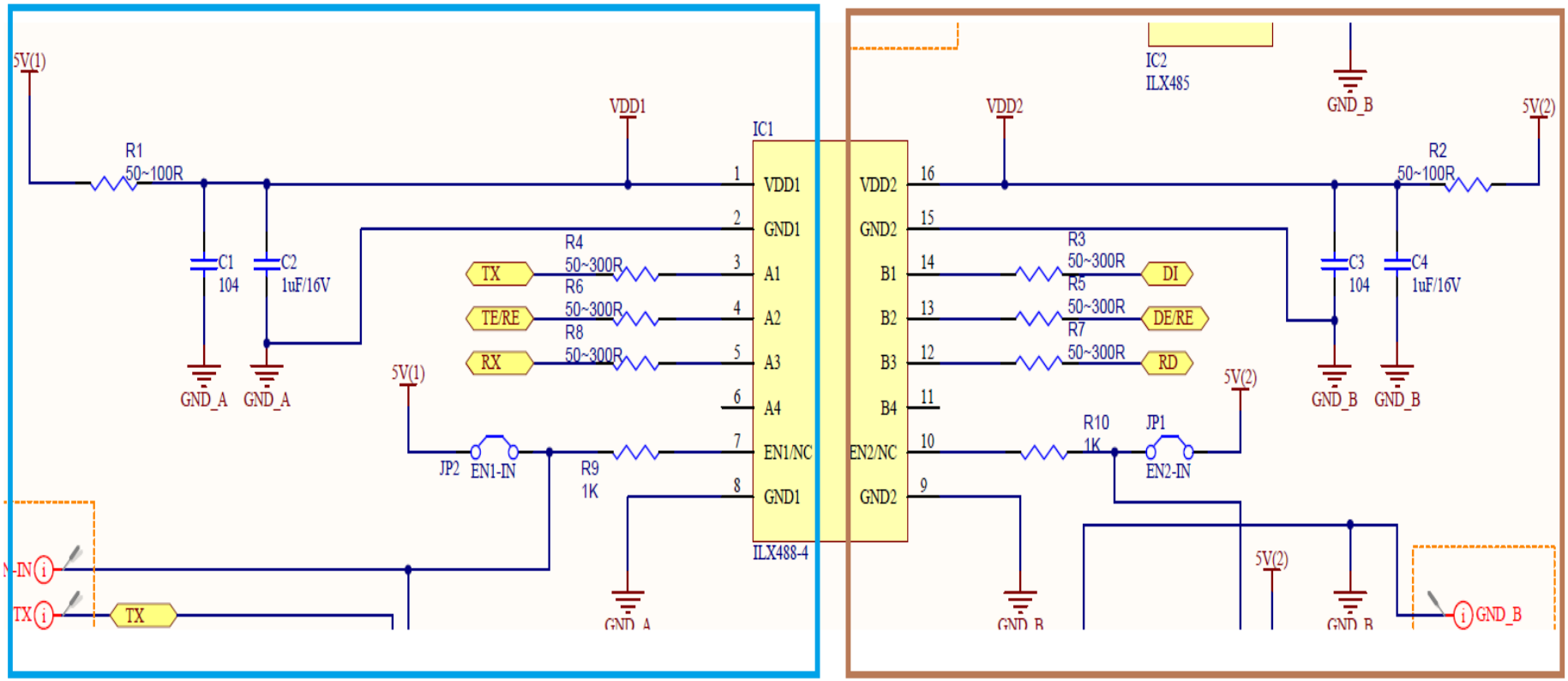


SOIC-16

APPLICATION

- E-Meter
- Isolated ADC, DAC
- Motor control
- Power factor correction systems

TRIPLE-CHANNEL DIGITAL ISOLATOR



Isolation Part A

Isolation Part B

Features

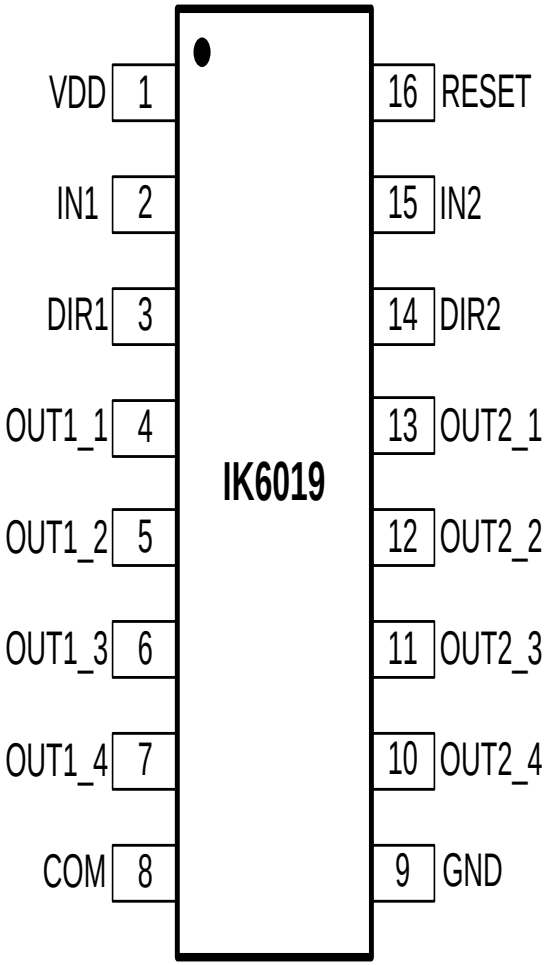
- Eight Power Output LDMOS Transistors
- Output Current 250mA per Channel
- Maximum 1.5A/chip
- Output Voltage 40V
- Integrated Suppression Diodes for Inductive Loads
- Temperature range is -40˚C to +85˚C
- DIP-16, SO-16 (Narrow) Packages
- Serial MCU I/F

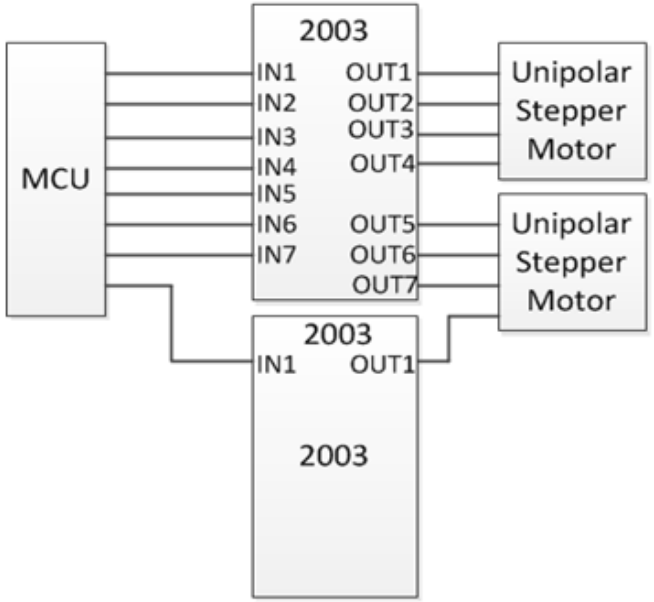
Applications

- Unipolar Stepper Motor Driver
  - Air conditioner , Bidet, Robot cleaner, CCTV,etc

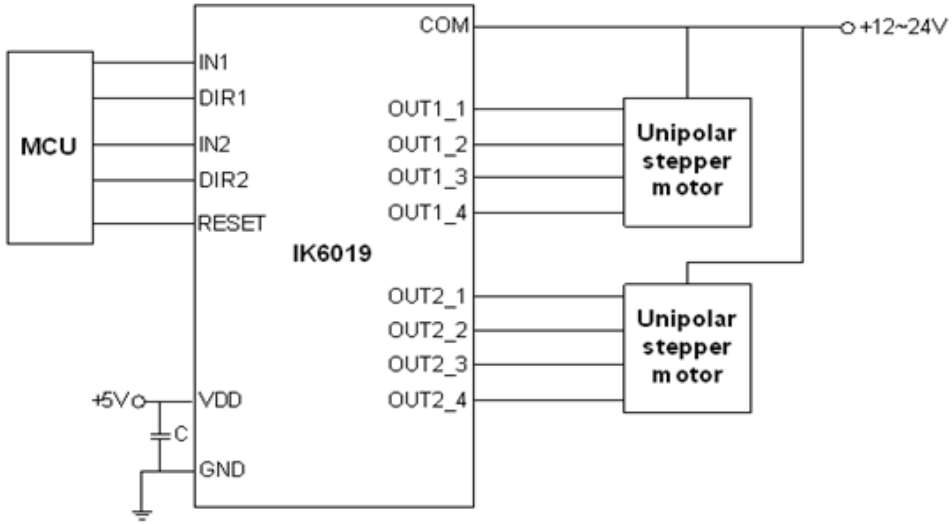
Customer

- LG, SAMSUNG, Novita, Woong Jin, etc





General Stepping Motor Application



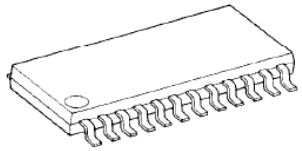
IK6019 Stepping Motor Application

Item	2003	IK6019
MCU I/O Pins	4 Pin/motor	2 Pin/motor
MCU Programing	Complex	Simple
MCU Load	Much	Small
No of support Motor	1	2

IK6501(BLDC MOTOR)

Features

- Sine-wave PWM control
- Built-in triangular-wave generator
  (carrier cycle = fosc/252 (Hz))
- Built-in lead angle control function
  (0° to 58° in 32 steps)
- Built-in dead time function
  (setting 2.6μs or 3.8μs)
- Supports bootstrap circuit
- Overcurrent protection signal input pin
- Operating supply voltage range 6 V to 10 V



SSOP24-P-300-1.00

Application

- 3Phase Brushless Motor

Competitor

- TB6551(Toshiba)

Application

INNER Type Motor

OUTER Type Motor