

UTC

- ✓ Integrated Device Manufacturer
- ✓ Excellent IC for power & analog circuits
- ✓ High-quality power discrete components

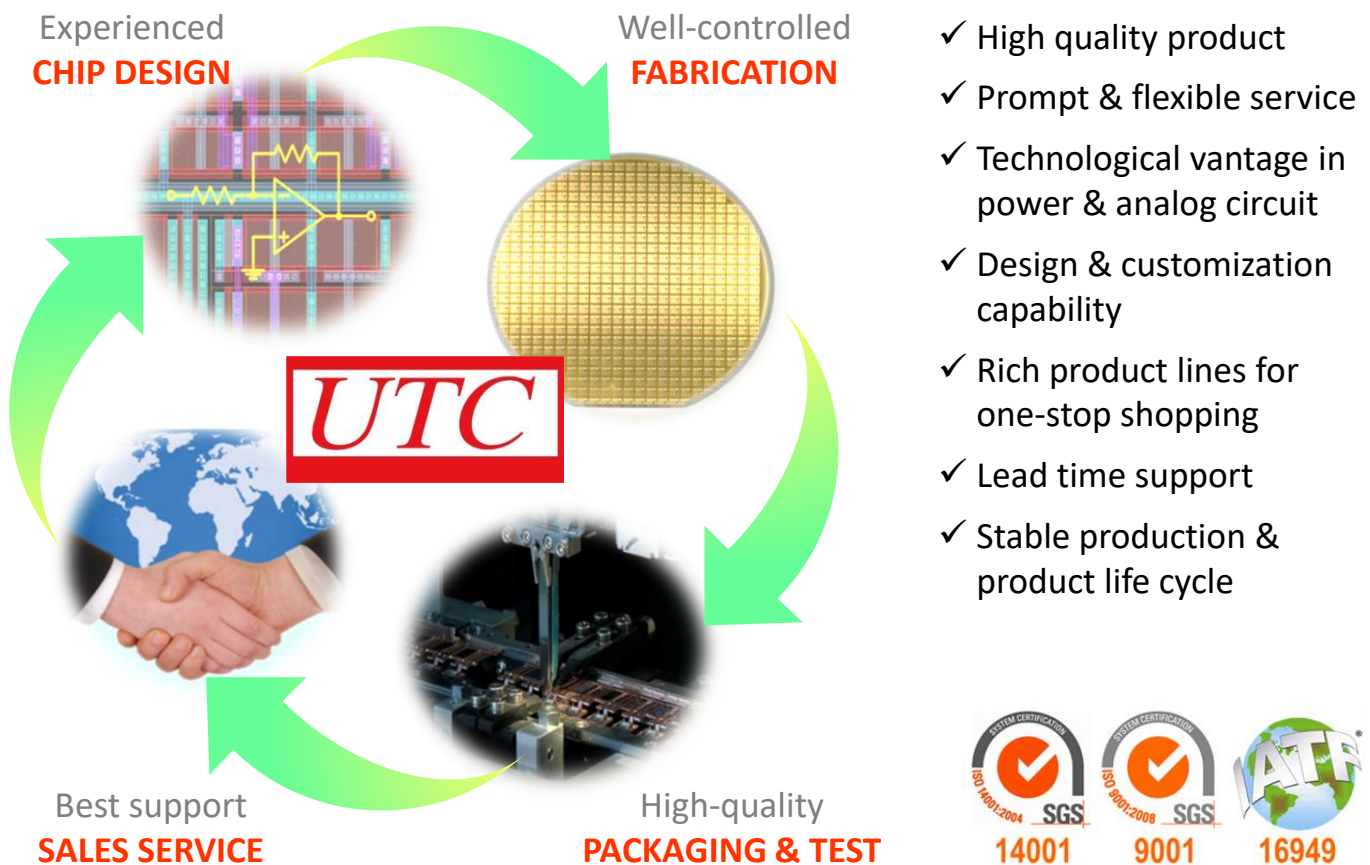


About UTC

UTC (**Unisonic Technologies Company**) is a renowned IDM semiconductor company with proficient design and manufacturing capabilities. Leveraging the vertical integration vantage of its fab, packaging factory and experienced development team, UTC has provided reliable support and supply to worldwide customers, hence earning recognition even in recent challenging years.

Since its founding in 1990, UTC has fully mastered the key resources and experience in semiconductor chip design, manufacturing, packaging, and testing. UTC has established a complete product portfolio in power and analog fields. Its diverse range of ICs include voltage regulators, power management circuits, diverse types of amplifiers, interface drivers, logic gates, and various application ICs. UTC also develops discrete semiconductors comprising low/middle/high-voltage MOSFET, IGBT, TRIAC, SCR, TVS, power rectifiers and Schottky diodes.

Driven by the global trend of low-consumption design and product miniaturization, UTC continues to cultivate its technological strength in delivering superior products for every applications, e.g. AC-DC power supply, lighting, mainboard power management, peripheral driving, consumer electronics, house appliances, commercial machines, and industrial applications.



Wafer sales service available for certain products

Major Product Category

UTC IC Product

Regulator / DC Power Management

- Switching regulator / buck converter *p.1, 4*
- Linear regulator / low- I_{GND} CMOS LDO
- Shunt voltage reference
- DDR termination voltage regulator
- Power switch / load switch IC
- Voltage detection reset / watchdog timer
- Li-ion cell protection / charger

Analog Signal Control

- Operational amplifier *p.2, 3, 4*
- Voltage comparator
- Audio amplifier / related controller
- Analog multiplexer / switch / transceiver

Digital Signal Control

- 74-series & CD40-series logic gate *p.2, 3*
- SPDT-mux / switch / bus transceiver
- Shift register / flip-flop / latch
- Signal voltage translation / level-shift

Control IC (AC-DC Power & Lighting)

- Green-mode PWM controller & switcher *p.1, 5*
- LED lighting driver IC (isolated / non-iso / linear)
- CC / CV control (TL431 + op amplifier)
- Photo-coupler (transistor / TRIAC output)
- Supporting IC (PD charger, high-end power/lighting)
 - Gate driver
 - Regulator for V_{CC}
 - Sync. rectifier
 - No-load power reduction
 - Ripple-removing

Driver IC (Interface / Whitegoods / Industrial)

- RS-232, RS-485/422 line transceiver *p.2, 4, 7*
- Darlington driver array / relay driver
- Motor driver / fan driver
- Leakage detection / ground-fault interrupter

Special Application

- Hall-effect sensor latch *p.4*
- Analog phone / radio / alarm / melody IC
- Automotive accessory
- Control IC for lamp / panel / remote device

Discrete Component

Power MOSFET *p.6*

Rectifier Diode & FRED *p.7*

Schottky Power Rectifier *p.7*

Low- V_f MGBR/TGBR Rectifier *p.7*

TVS & Zener Diode *p.8*

JFET *p.8*

IGBT *p.7*

TRIAC *p.7*

SCR *p.7*

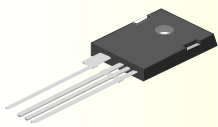
Bipolar Junction Transistor *p.7*

Darlington Transistor *p.7, 8*

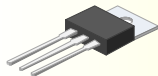
Small Transistor *p.8*

Package Portfolio

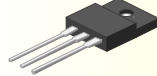
TO-247/TO-247-4
TO-3P/3PF/3PN



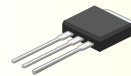
TO-220-2/3/4/5
TO-220B/Z7/Z9
(non-isolated)



TO-220F/F1/F2/F3
TO-220F-4/6
(isolated/molded)



TO-262 (I²PAK)
TO-251 (IPAK)

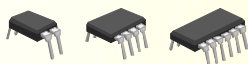


DO-201AD / DO-15 / DO-41

TO-126 TO-92 series
TO-126B/C



DIP-4/7/8/12/14
DIP-16/18/...40



HZIP-11/15/25
(H)SIP-3/4/...14

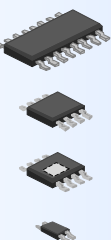
TO-263 (D²PAK) -3/5/7
TO-252 (DPAK) -3/4/5
LFPAK*



SOT-223 -2/3/5
SOT-89 -3/5



HSOP-8 SOP-8
(H)SOP-14...28
(H)TSSOP-x
(H)MSOP-x
SSOP-x QSOP-x
SMD-4 LSOP-4

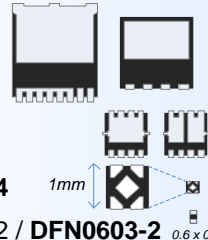


DFN3030
DFN2020
...
DFN1010-6
QFN5060
QFN3030



TOLL

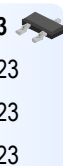
DFN8080
PDFN5x6
PDFN3x3
DFN1010-4
DFN1006-2 / DFN0603-2



SMC / SMB / SMA



SOT-23 SOD-123(S/F)
SOT-323 SOD-323(S/F)
SOT-523 SOD-523
SOT-723 SOD-723



UTC provides comprehensive power management ICs which are ideal for photo-voltaic inverters, energy storage, smart home, IoT devices, chargers, telecom application, lighting, and consumer electronics.

LDO

- ◆ Fixed and adjustable voltage regulator
 V_{IN} : 3V~40V, I_{OUT} : 0.1A~3.0A
 V_{IN} : -7V~-40V, I_{OUT} : -0.1A~-1.5A
 Voltage regulator with reverse protection
 Voltage regulator with EN or PoR flag.
 General purpose low-dropout regulator
 Ultra Low I_Q LDO: V_{in} max 36V, $I_Q < 2 \mu A$
 Low noise fast response; high PSRR LDO

DDR Termination Regulator

- ◆ Support DDR2, DDR3, DDR4
 V_{IN} 3V~6V, I_{out} 1.5A~3A

PWM Controller / Gate driver

- ◆ Voltage / current mode PWM controller
- ◆ Green mode PWM controller
- ◆ Quasi-resonant controller and switcher
- ◆ Non-isolated buck PWM controller
- ◆ Full/half-bridge driver

DC/DC Switching Regulator

- ◆ Buck / boost / inverting

LED Driver

- ◆ Illumination LED driver
- ◆ Backlight LED driver
- ◆ LED display driver

Shunt Regulator, CC/CV Combo Ctrl.

- ◆ Voltage reference: 0.8V, 1.24V, 2.5V, $\pm 0.5\%$
 Low $I_{KA(Min)} < 100 \mu A$
- ◆ CC/CV (const. current/voltage) controller for (battery) charger
 $V_{ref} \times 1 + op\ amplifier \times 2 (+\ comparator \times 2)$

System Reset IC / Watchdog IC

- ◆ Wide-range reset IC of fixed/adjustable delay
- ◆ Watchdog timer

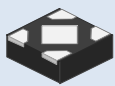
USB Power Switch / Load Switch

- ◆ USB power switch, current limit 0.4A~3.7A
- ◆ Load switch IC, I_{out} 1A~2A

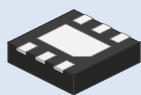
X-cap Discharge IC

- ◆ Reducing standby consumption of AC-DC

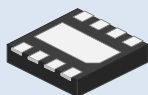
Synchronous Rectifier IC



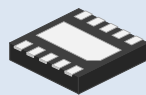
DFN1010-4



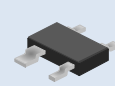
DFN1616-6



DFN3030-8



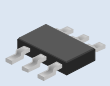
DFN3030-10



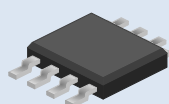
SOT-143



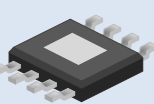
SOT-353



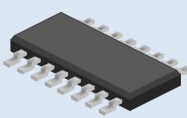
SOT-26



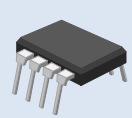
SOP-8



HSOP-8



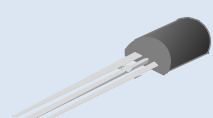
SOP-16



DIP-7A / DIP-8



SOT-89



TO-92

UTC supports worldwide customers with its stable supply and rich portfolio. These analog and digital ICs implement signal conditioning and bus management in signal chain of industrial control, consumer electronics and telecom.

U74 Tiny Logic & Standard Logic

Buffer, driver, transceiver, flip-flop, data latch, shift register, logic gate

- ◆ U74 Logic family HC / HCT, AC / ACT, AHC / AHCT, LV / LVC / LCX / LVX, AUP, AUC, AVC, CBT / CBTLV / 7SH, UCD40xx / UTC40xx / CD / TC

Analog Switch

Single or multi-channel analog switch, multiplexer, de-multiplexer, bus switch

Voltage Translator (Level-shifter)

Bi-directional level shifter, voltage-level translator

- ◆ UTXS family, UTXB family, ULSF family

Operational Amplifier

General-purpose operational amplifier
High-performance and small-package op amplifier

- ◆ Rail-to-rail I/O, low offset, high slew-rate, high bandwidth, low power

Voltage Comparator

General-purpose comparator
High-performance and special-purpose comparator

- ◆ Rail-to-rail I/O, low voltage, low power, open-drain / push-pull output

Interface IC

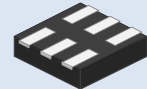
RS-232 / RS-485 family multi-channel multi-purpose transceiver

LIN and CAN bus transceiver

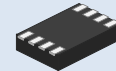
Audio line driver



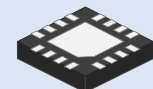
DFN0808-4
DFN1010-4



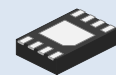
DFN1010-6



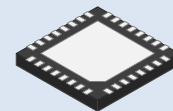
CDFN2030-8



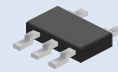
QFN-16(3x3)



DFN2030-8



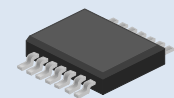
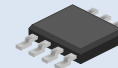
QFN-32(5x5)



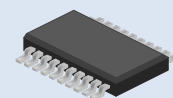
SOT-353
SOT-25



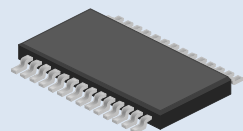
MSOP-8
SOP-8 (SOIC-8)



TSSOP-14



TSSOP-20



SSOP-28

Tiny Logic & Analog Switch & Translators

UTC's standard logic IC and low-power logic parts cover a wide range of general logic function, with over 450 parts of multiple series. These logic products apply in various fields including telecommunication, laptops, motherboards, graphic cards, medical equipment, industrial control, home appliances and automotive markets.

U74 Tiny Logic

Buffer, driver, transceiver, flip-flop, data latch, shift register, logic gate

- ◆ U74 HC / HCT family
- ◆ U74 AC / ACT family
- ◆ U74 AHC / AHCT family
- ◆ U74 LV / LVC / LCX / LVX family
- ◆ U74 AUP family
- ◆ U74 AUC family
- ◆ U74 AVC family
- ◆ U74 CBT family / 7SH family
- ◆ UCD40xx / UTC40 xx / CD / TC logic (high-voltage CMOS logic)

Analog Switch

Analog switch, multiplexer, de-multiplexer, bus switch

- ◆ Channels : 1~8 bits
- ◆ Mux / demux configuration: 1:1, 2:1, 3:1, 4:1, 8:1
- ◆ Low ON-state resistance product

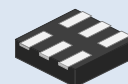
Voltage Translator (Level-shifter)

Bi-directional level shifter, voltage-level translator

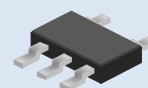
- ◆ UTXS family ($V_{CCA}=1.65\sim3.6V$, $V_{CCB}=2.3\sim5.5V$)
- ◆ UTXB family ($V_{CCA}=1.2\sim3.6V$, $V_{CCB}=1.65\sim5.5V$)
- ◆ ULSF family ($V_{CCA}=0.95\sim3.3V$, $V_{CCB}=1.8\sim5.5V$)



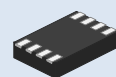
DFN0808-4



DFN1010-6
WDFN1410-6



SOT-553
SOT-353
SOT-25



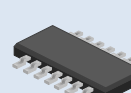
WDFN2030-8
WDFN2030-8C



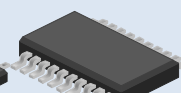
MSOP-8



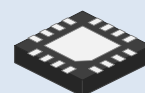
TSSOP-8



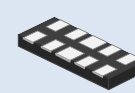
SOP-14



SSOP-20



WQFN3030-16



DFN2510-10

Hall Sensor / Motor Driver / Telecommunication Circuit / Leakage-current Detector / Audio Amplifier

UTC possesses excellent design capabilities to fulfill market trends. We keep developing and providing novel solutions to satisfy customer.

Hall Sensor

- ◆ Operating voltage: V_{CC} 2.5V~28V
- ◆ Pattern of magnetic detection: uni-polar / bi-polar / omni-polar / linear

Motor Drivers

- ◆ Brushless DC motor
 V_{CC} : 1.8V~7V, V_M : 2.3V~18V, I_{OUT} : 0.2~2A
- ◆ Brushed DC motor
 V_{CC} : 3.8V~16.8V, I_{OUT} : 0.5~2A

Li-ion Battery Protection & Charger

- ◆ Protection IC
High precision and multiple options of detection voltage, 1cell~4cells
- ◆ Charger IC
Simple and cost-effective linear charger IC

Telecommunication-Circuit

- ◆ The application includes household and office speaker-phone, intercom system, hands-free kit for mobile phones, and others

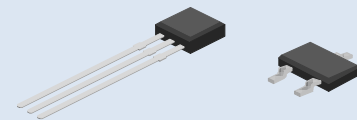
Leakage Current Detector

Ground Fault Interrupter

- ◆ For ELCB relay, water-heating devices, safety power socket

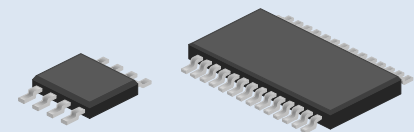
Audio Amplifiers

- ◆ Single channel audio power amplifier
- ◆ Dual channel audio power amplifier
- ◆ Multi-channel high power audio amplifier
- ◆ Stereo audio power amplifier with DC volume control
- ◆ Stereo headphone driver amplifier
- ◆ Audio related amplifier(audio line driver)



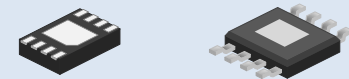
SIP-3

SOT-23



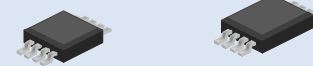
SOP-8

SOP-28



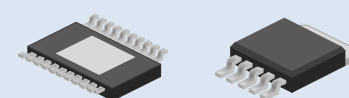
DFN2030-8

HSOP-8



MSOP-8

TSSOP-8

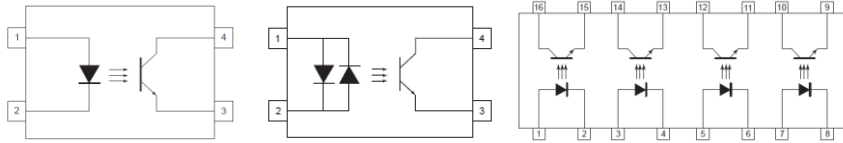


HTSSOP-20

TO-263-5

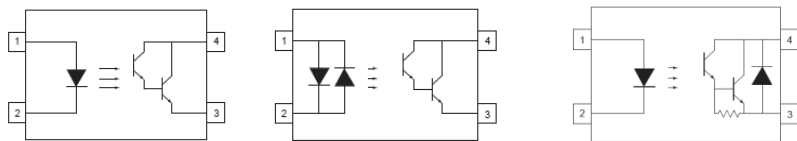
General-purpose Phototransistor Photocoupler

- ◆ DIP-4 / SMD-4 / LSOP-4 / SOP-4 / SSOP-4 / SOP-8 / SSOP-8 / SOP-16 / SSOP-16



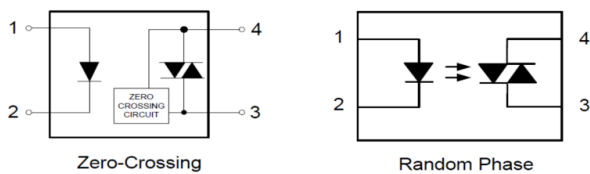
Darlington-transistor-output Photocoupler

- ◆ SOP-4 / SSOP-4 / DIP-4 / DIP-8 / SSOP-16 / DIP-16



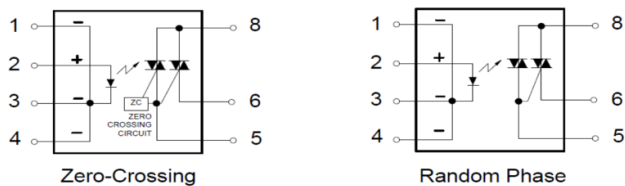
TRIAC-output Photocoupler

- ◆ Zero-crossing / random-phase 400V / 600V / 800V



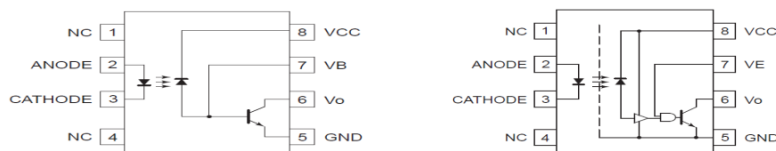
Solid-state-relay Photocoupler

- ◆ Zero-crossing / random-phase 600V



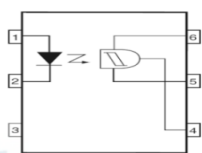
1MBd Transistor/10MBd Logic-gate-output Photocoupler

- ◆ 6N135 / 6N136 DIP8
- ◆ 6N137 DIP8

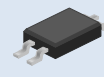


Schmitt-triggered Photocoupler

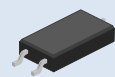
- ◆ H11L1 DIP6



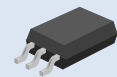
DIP-4



SMD-4



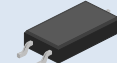
LSOP-4



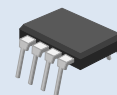
LSOP-6



SOP-4



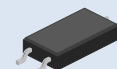
SSOP-4



DIP-8A



SOP-4



SSOP-4

UTC boasts its complete MOSFET lines, covering wide voltage and $R_{DS(ON)}$ range and different semiconductor structures. Our technology provides robustness and efficiency for power applications, e.g. energy storage, control boards, SMPS, consumer electronics, photo-voltaic inverter.

Trench MOSFET

- ◆ Full range trench MOSFET
N-CH 12V~ 250V, 0.1A~ 220A
P-CH -12V~ -250V, -0.1A~ -120A
- ◆ Split-gate MOSFET
N-CH 30V~100V, 10A~200A, 1.0m Ω ~160m Ω
- ◆ ESD-proof version available
- ◆ Multi-channel combo MOSFET

Planar MOSFET

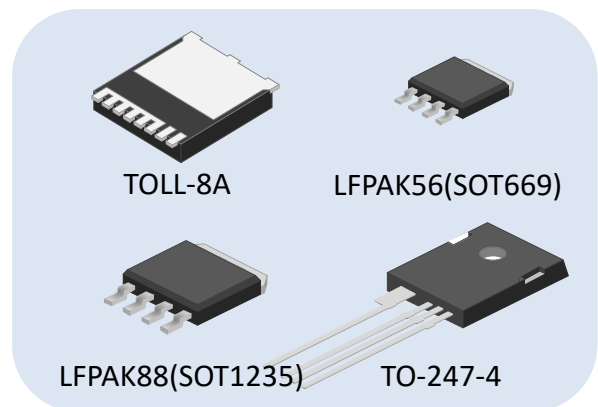
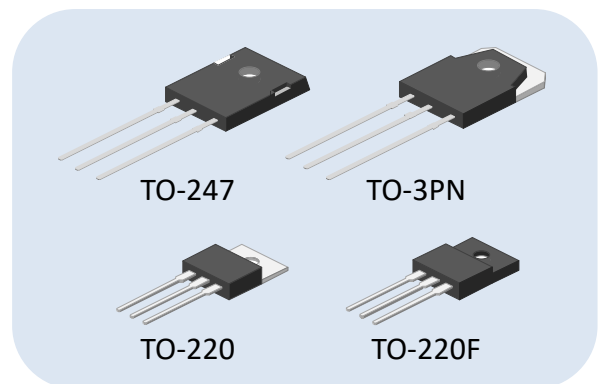
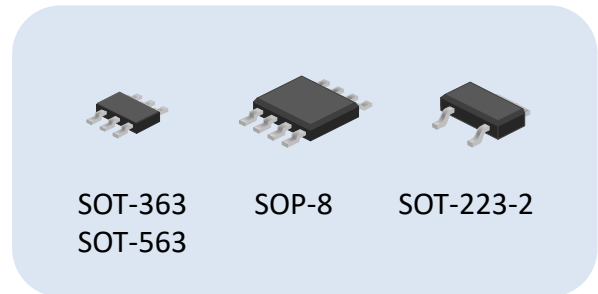
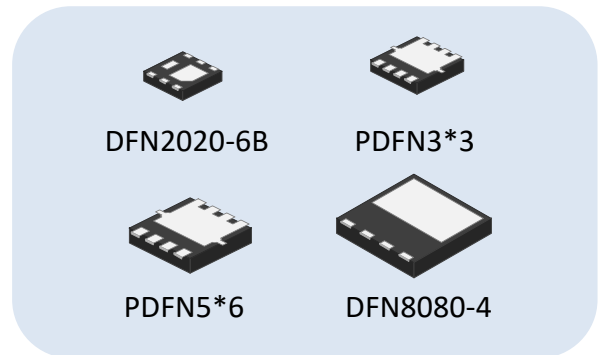
- ◆ Full range planar MOSFET
N-CH 55V~ 1500V, 0.02A~ 110A
P-CH -55V~ -500V, -0.1A~ -40A
- ◆ ESD-proof version available
- ◆ Multi-channel combo MOSFET
- ◆ Sense-FET
- ◆ Fast-recovery body-diode planar MOSFET

Super-junction MOSFET

- ◆ Multi-layer super-junction MOSFET
N-CH 500V~1200V, 1A~80A
- ◆ ESD-proof version available
- ◆ Fast-recovery body-diode super-junction MOSFET

Depletion-mode MOSFET

- ◆ 40V~1500V, 2 Ω ~ 700 Ω



IGBT / FRD / Schottky Rectifier / Thyristor / Transistor

Covering multiple lines of power components widely used in energy storage, charging posts, photo-voltaic inverters, industrial control, SMPS, smart white goods.

IGBT

- ◆ Structure: PT, NPT, FS, SPT
- ◆ Trench-gate type / planar type
330V~1350V, 4A~200A

FRD

- ◆ Ultrafast / superfast / hyperfast
- ◆ 200V~1700V, 3A~200A

Schottky Rectifier

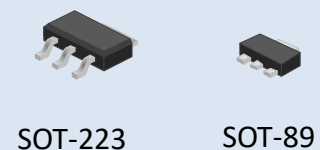
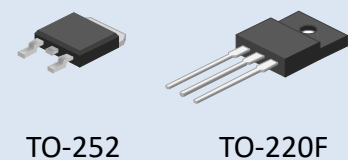
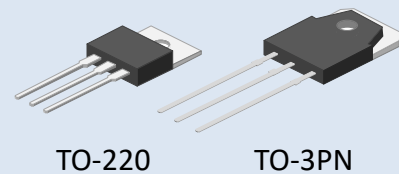
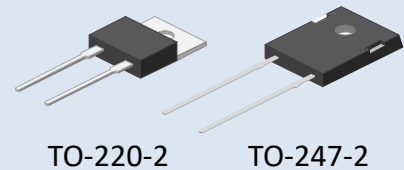
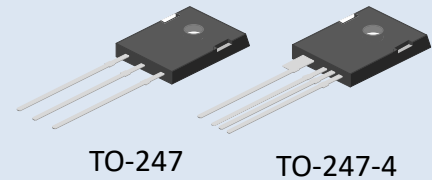
- ◆ Planar Schottky
30V~200V, 0.1A~100A
- ◆ MOS-structured Schottky
30V~300V, 0.2A~40A
- ◆ Trench Schottky
40V~100V, 0.2A~100A

Thyristor

- ◆ SCR
Standard SCR 400V~1200V 0.15A~100A
Sensitive SCR 200V~1000V 0.3A~100A
- ◆ TRIAC
3-Quadrant 400V~1200V 0.3A~25A
4-Quadrant 400V~1200V 0.3A~40A

Transistor

- ◆ Power Transistor
NPN 15V~1400V 0.5A~25A
PNP -15V~-600V -0.5A~-25A
- ◆ Darlington Transistor



Complete and diverse product lines of small-signal parts. We offer tiny package options suitable for customer compact design.

Small Signal Transistor

- ◆ Digital transistor (resistor-biased)
 - DTA-series PNP transistor 100mA R1 & R2 = 1kΩ ~ 100kΩ
 - DTB-series PNP transistor 500mA R1 & R2 = 1kΩ ~ 10kΩ
 - DTC-series NPN transistor 100mA R1 & R2 = 1kΩ ~ 100kΩ
 - DTD-series NPN transistor 500mA R1 & R2 = 1kΩ ~ 10kΩ
 - Combo dual digital transistor
- ◆ RF transistor
 - NPN 6V~ 30V Up to 12GHz
 - PNP -6V~-30V Up to 8GHz

TVS Diode

- ◆ Uni-direction TVS
- ◆ Bi-direction TVS
- ◆ Dual line CAN bus protector
- ◆ TVS array

Zener Diode

- ◆ 1.8V ~ 200V
- ◆ High precision

JFET

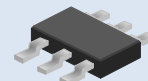
- ◆ General purpose N-ch & P-ch
- ◆ JFET for condenser microphone
- ◆ JFET for RF circuit

Darlington Transistor Array

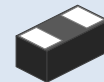
- ◆ 3-ch, 4-ch, 7-ch, 8-ch
 - Relay / stepper motor / LED control
- ◆ 1-ch condenser buzzer driver, 4-ch relay driver
 - Microwave oven application



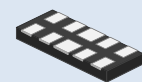
SOT-723



SOT-363 SOT-563



DFN0603-2



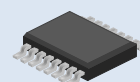
DFN2510-10



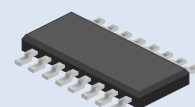
SOD-123 SOD-323



SOT-23S SOT-523



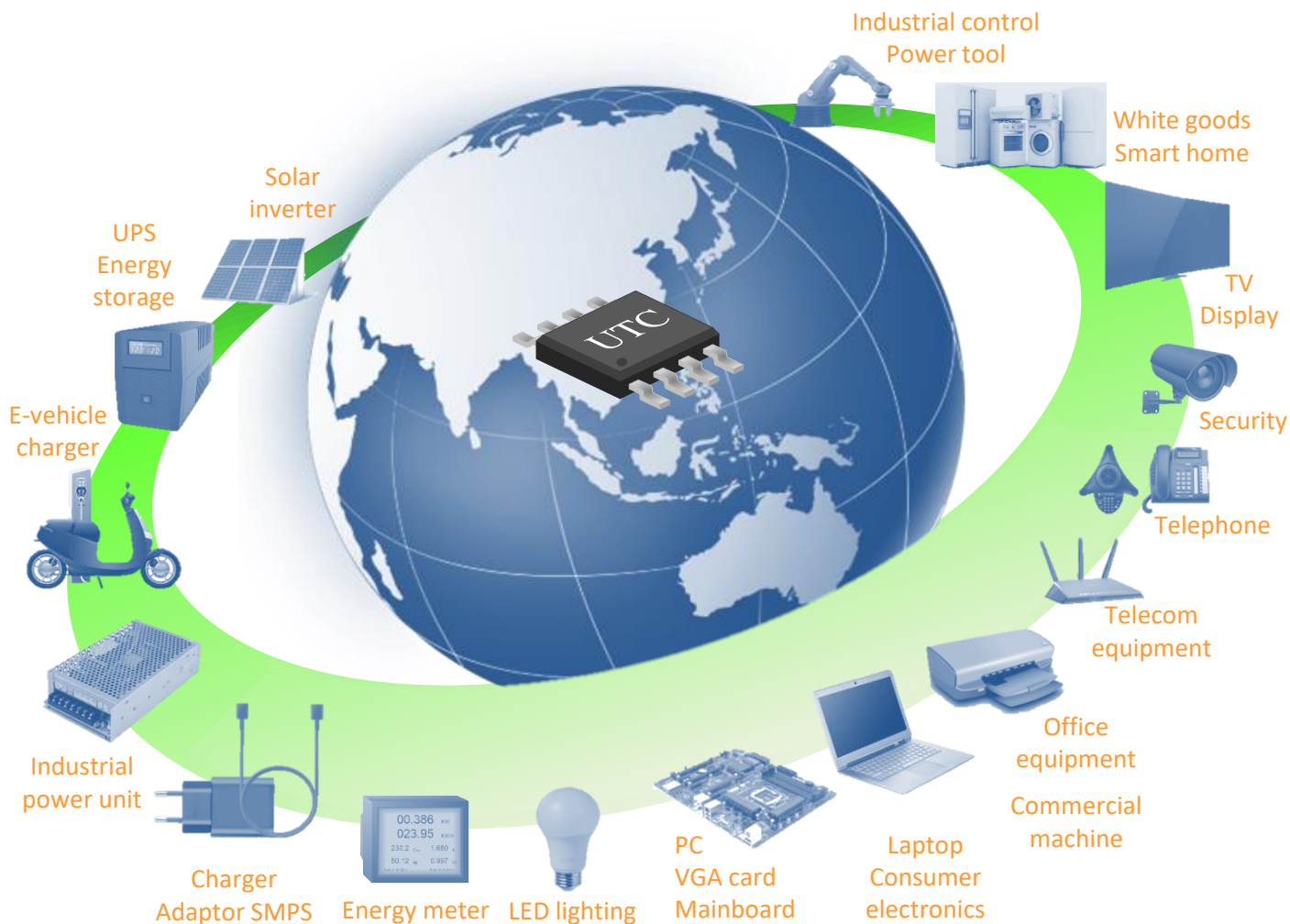
TSSOP-16



SOP-16



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