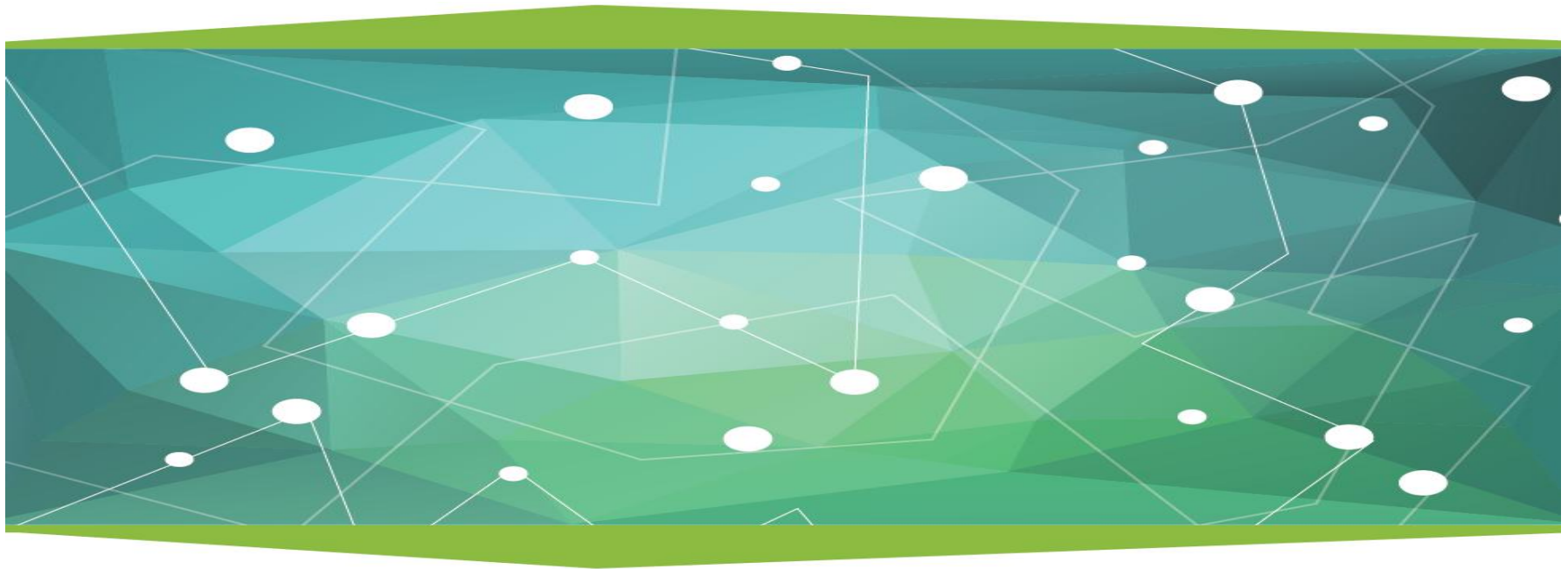




CT Micro Company Profile



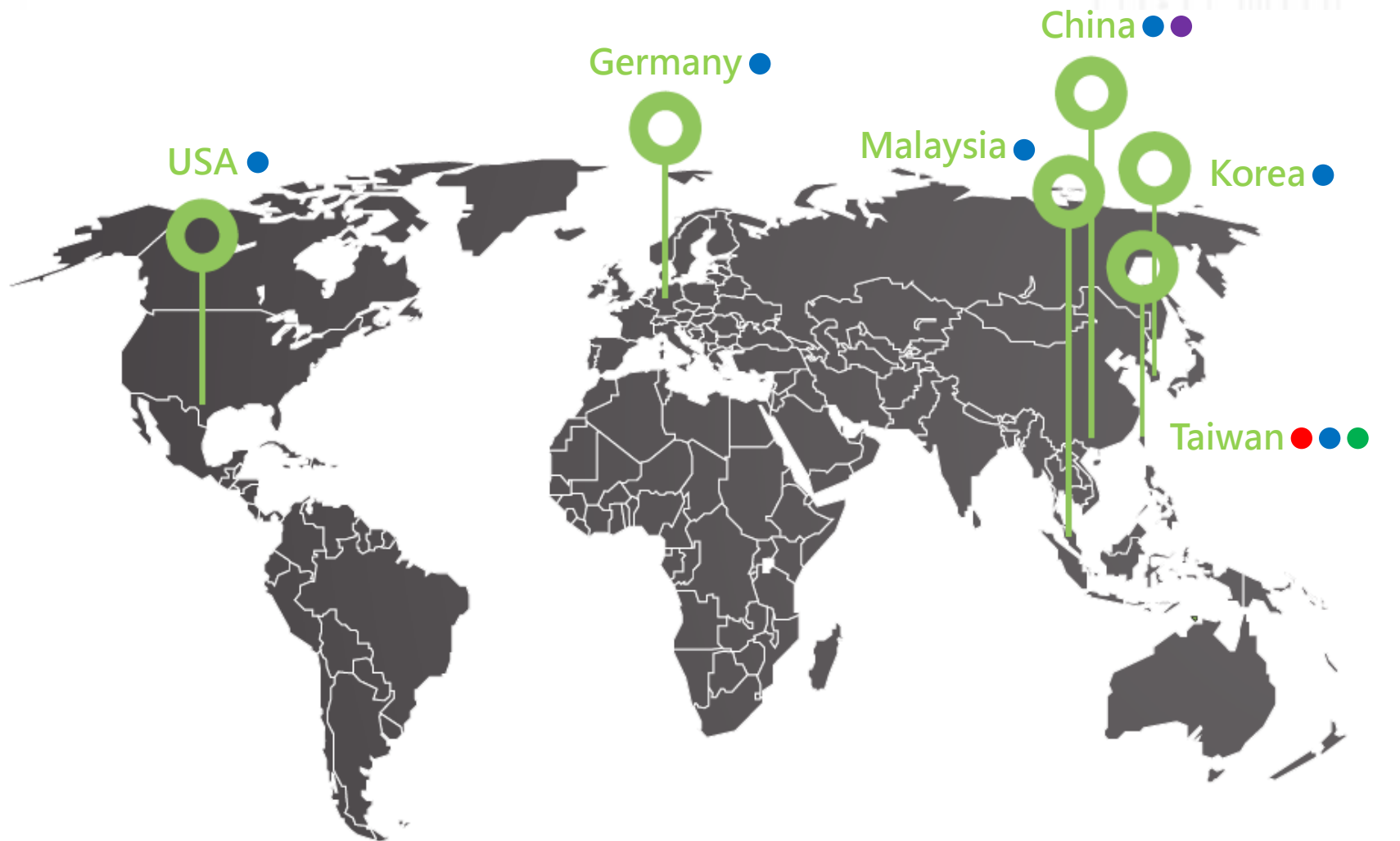
Marketing

2025.Feb

Customer Oriented and Technology Driven

www.ct-micro.com

CT Global Network



● Headquarter ● R&D Center ● Manufacturing Site ● Business Center

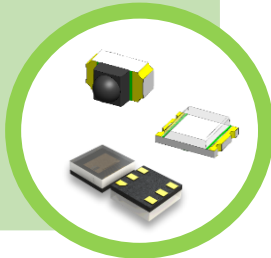
Customer Oriented and Technology Driver

www.ct-micro.com

Our Products

Infrared Component

- Emitter
- Photo Diode
- Photo Interrupter
- Photo Transistor
- ALS/UV Sensor



Visible LED

- PCB
- PLCC

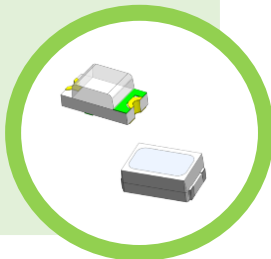
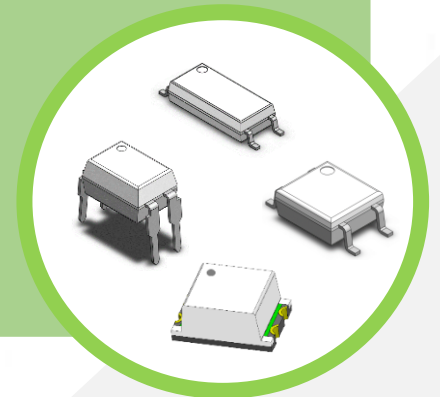
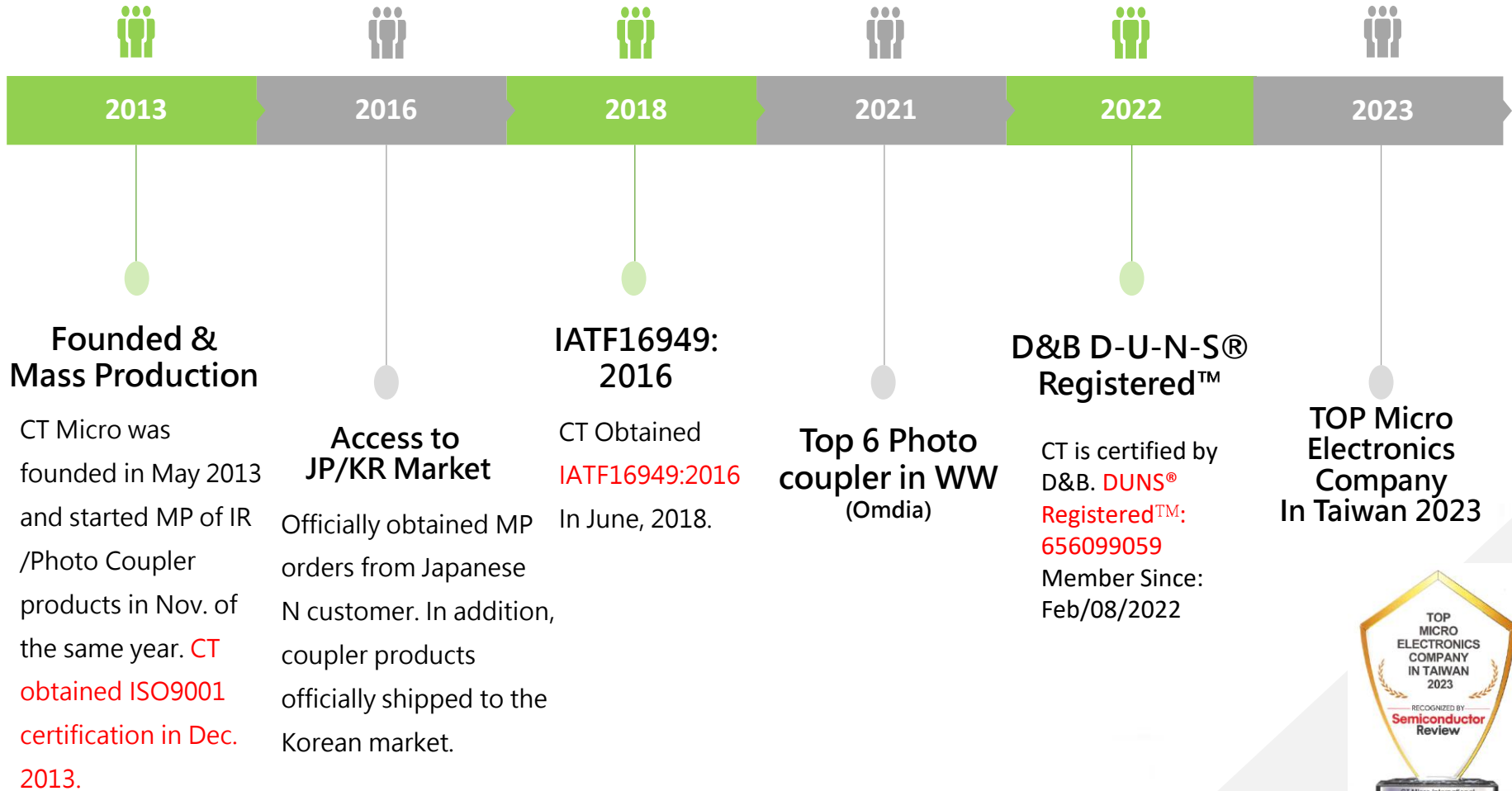


Photo Coupler/Regulator

- Darlington
- High Power Transistor
- High Speed
- Isolated IGBT MOSFET Gate Driver
- Isolated Smart IGBT MOSFET Gate Driver
- Linearity Coupler
- Photo MOS Relays
- Photo Triac
- Schmitt Trigger
- Transistor



CT Milestones



Customer Oriented and Technology Driver.

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Why CT Micro

Team

- The core members have Fairchild and Vishay manufacturing and engineering experience.
- R&D team with more than 15 years of photo coupler and infrared product experience.

R&D

- CT designs our own Photo Transistor and Diode.
- Professional optical R&D combined with optical simulation software, provide faster, more accurate and high-quality optical products, which meets the needs of both standard and customized requirements.



Quality

- Systematic development and production :
ISO9001 & IATF16949
(IATF16949 certification was canceled due to no following-up vehicle orders have been placed.)
- Green Initiatives :
ISO14001 & ISO 45001
- Zero defect approach
- Quality-based development process
- Safety certification for photo coupler :
UL 、 VDE 、 CQC
<https://www.ct-micro.com/quality10.php?id=2>



Infrared Component & IR Major Application

IR Touch Application



Infrared LED
working with Photo Diode
or Photo Transistor.

EMITTER

Product Name	Dimension (mm)	Viewing Angle (°)	Peak Wavelength (nm @ I _b = 20mA)
1608-09	1.60*0.80*0.94	75	850/880/940/1050/1350
1608-11	1.60*0.80*1.11	100/70	850/880/940
2406-14	2.40*0.60*1.39	150/110	850/880/940
3010-20	3.00*1.00*2.00	160/150	850/880/940/1050/1350
3015-12	3.00*1.50*1.21	85	850/880/940/1050/1350
3016-24	3.00*1.60*2.34	60	850/880/940/1050/1350

RECEIVER

Product Name	Dimension (mm)	Spectrum Sensitivity (nm)
1608-09	1.60*0.80*0.94	400~1100
1608-11	1.60*0.80*1.11	400~1100
2406-14	2.40*0.60*1.39	400~1100
3010-20	3.00*1.00*2.00	400~1100
3015-12	3.00*1.50*1.21	400~1100
3016-24	3.00*1.60*2.34	400~1100
3328-11	3.30*2.70*1.10	400~1100
3930-11	3.90*3.00*1.10	400~1100

MOSFET

Product Name	Dimension (mm)	Type	V _{DS} (V)	I _{DS} (A)
CTL04229S-R3	SOT-23	P	-20	-4.2
CT3A01-R3	SOT-23	N	20	3.2
CTL0383NS-R3	SOT-23	N	30	3.8
CT3400A-R3	SOT-23	N	30	5.8

Smart Wear Application

CUSTOMIZED LED

EMITTER

Product Name	Dimension (mm)	Viewing Angle (°)	Peak Wavelength (nm @ _{I_f} =20mA)
1608-09	1.60*0.80*0.94	75	520/620/660/850/880/940/1050
1615-07	1.60*1.50*0.70	120	520/620/660/910/940
3015-12	3.00*1.50*1.21	85	520/620/660/880/940/1050/1350
3328-11	3.30*2.70*1.10	120	520/620/660/880/940/1050/1350

RECEIVER

Product Name	Dimension (mm)	Spectrum Sensitivity (nm)
3328-11	3.20*2.70*1.10	400~1100
3930-11	3.90*3.30*1.10	400~1100
4437-06	4.40*3.70*0.54	400~1100

Customer can use blue/green/red/IR/VCSEL as emitter for health management application and Photo Diode as receiver per customer requests.



MEP2326X09-H5



Visible LED & Photo-Interrupter/Sensors Applications

Home Appliance Application



Used for the backlight of home appliance control panels. Indicates the power-on, standby and shutdown status of home appliances, providing intuitive feedback on device operation.

LED Applications Package:

Mono Color: 0603 / 0805 /

LAMP F3 / LAMP F5

Full Color: 1616 / 1010

Top View Common Package

Size(L x W x H)(mm)

0.65 x 0.375 x 0.35

1.0 x 0.5 x 0.45

1.0 x 0.5 x 0.3

1.0 x 0.5 x 0.2

1.6 x 0.8 x 0.8

1.6 x 0.8 x 0.6

1.6 x 0.8 x 0.4

1.6 x 0.8 x 0.3

1.6 x 0.8 x 0.2

2.0 x 1.25 x 1.0

3.2 x 1.5 x 1.0

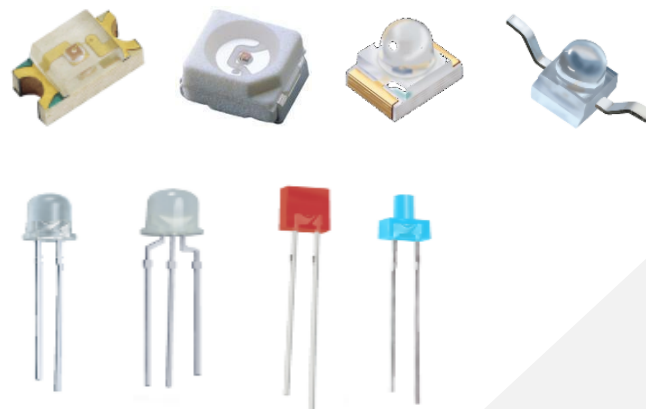
2.2 x 1.4 x 1.4

3.5 x 2.8 x 1.8

3.5 x 2.8 x 1.9

3.5 x 2.7 x 3.0

Mono color



Customer Oriented and Technology Driver.

PC Accessories Application

Links device status (e.g., battery, cooling mode) & conveys info via light colors & flashing frequencies;
Vibrant lighting for gaming/office, boosting PC immersion & personalization.

LED Applications Package:

Mono Color: 0603 / 0402

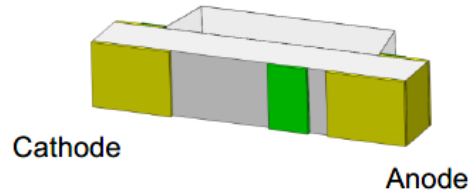
Full Color: 1616 / 1010

Top View	
Common Package	Size(L x W x H)(mm)
Bi-Color	1.6 x 1.3 x 0.4
	1.6 x 0.8 x 0.5
	3.5 x 2.8 x 1.9
Full Color	1.6 x 1.6 x 0.35
	1.0 x 1.0 x 0.25
	1.45 x 1.0 x 0.65
	3.5 x 2.8 x 1.9
	3.2 x 3.2 x 0.8



Customer Oriented and Technology Driver.

Special LED for Credit Card



Special super small and bright LED
for Traffic and Credit Card.



NFC Power can turn on the LED.

Photo Interrupter(ITR) Series

ITR Switch for industrial automation, consumer electronics, smart home, etc.

Diffuse/through-beam/mirror/slot types for specific scenarios

Category: Through-hole & SMD



Reflective Type	
Common Package	Size (mm)
LAMP	6.4x4.9x6.5
	8.7x4.5x5.9
	3.4x2.7x1.5
SMD	12.8x5.4x9.3
	4.0x3.0x2.0
	3.4x2.7x1.5

Transmissive Type	
Size (mm)	Gap Distance (mm)
6.4x4.2x5.4	3
24.4x6.0x10.4	3
18.1x6.0x10.5	3
14.0x6.0x11.6	6
14.0x6.0x10.0	5
12.8x6.4x6.9	5.2
6.4x4.2x5.4	3



Customer Oriented and Technology Driver.

1050nm/1350nm IR LED

Special wavelength for customized applications.
CT also have 1200nm/1400nm/1600nm products.

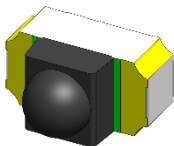
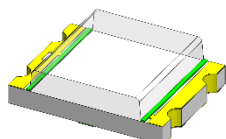
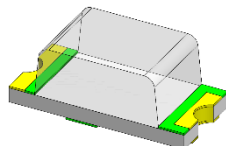
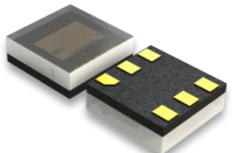
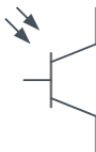
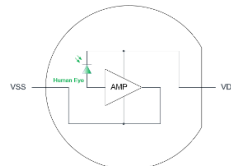
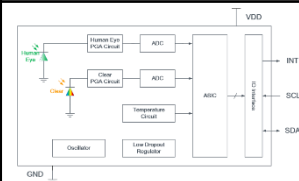
Optical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I _e	Radiant Intensity	I _F =20mA	-	0.65	-	mW/sr	
		I _F =70mA	-	2.0	-		
λ _p	Peak Wavelength	I _F =20mA	1030	1050	1070	nm	
Δλ	Spectral Bandwidth	I _F =20mA	-	80	-	nm	
θ _{1/2}	Angle of Half Intensity (X)	I _F =20mA	-	±80	-	deg	3
	Angle of Half Intensity (Y)			±75			

Optical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I _e	Radiant Intensity	I _F =20mA	0.4	0.8	-	mW/sr	
		I _F =70mA	-	2.6	-		
P _o	Total radiated power	I _F =20mA	-	1.25	-	mW	
λ _p	Peak Wavelength	I _F =20mA	-	1350	-	nm	
Δλ	Spectral Bandwidth	I _F =20mA	-	80	-	nm	
θ _{1/2}	Angle of Half Intensity	I _F =20mA	-	±30	-	deg	

Classification of Light Detector

Item	Photo Resistor	Photo Transistor	Photo Diode	Analog Light Sensor	Digital Light Sensor
Outline					
Functional Block Diagram					
Output Type	Resistance	Current	Current	Current	ADC Count
Spectral Response	Human Eye	Non-Human Eye	Non-Human Eye	Human Eye	Human Eye
Linearity	Poor	Good	Excellent	Excellent	Excellent
Temperature Response	Poor	Poor	Better than PT	Good	Good
Response Time	Slow	Slow	Fast	Slow	Slow
Cost	Low	Low	Low	High	High

CT MP products

CT customized

UVC PD/Sensor

1) UVC sensor

✓ Analog interface

- 3 pins package (VDD / GND / AOUT)
- 20uA / (mW/cm²) @ $\lambda = 270\text{nm}$ sensitivity

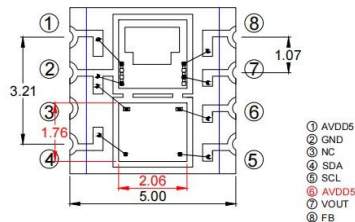
✓ Digital output

- 5 pins package (VDD / GND / SCL / SDA / INTB)
- 1 ~ 32X gain control
- Hysteresis and persist settings for interrupt
- Built-in 16 bits ADC
- Sleep mode for power saving
- Sampling rate is up to 100Hz

✓ Small and Compact Size

Applications

- ✓ Sterilization lamp monitor
- ✓ Pesticide residue detection
- ✓ UV-C monitor



改為8pin設計，用外部
接線方式連接1,6腳

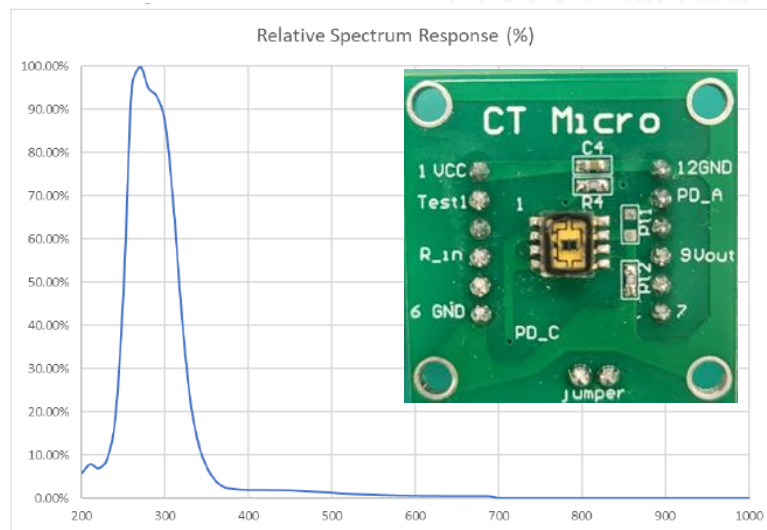


Figure 1 Relative Spectrum Response

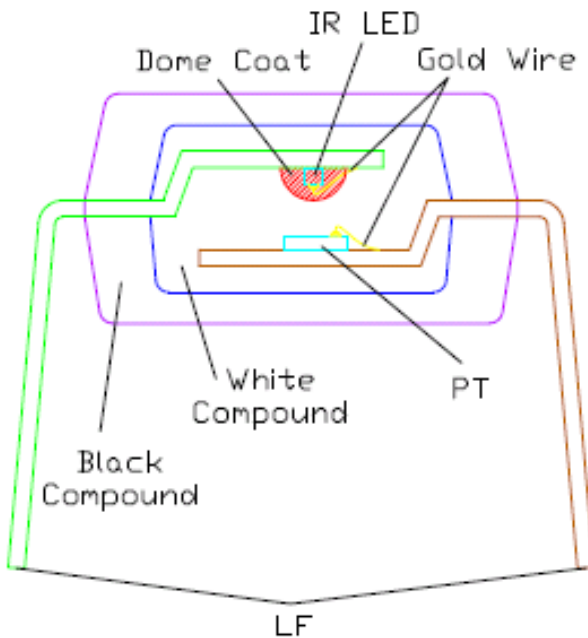
V_{DD} = 3.3V, under room temperature 25°C

Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
Operation Characteristics						
I _{UVC}	UVC sensor supply current			200		μA
I _{SD}	Shutdown current			2	5	μA
V _{BI}	Logic high, I ² C		1.26		V _{DD}	V
V _{IL}	Logic low, I ² C				0.4	V
UVC Sensor Characteristics						
λ _p	Peak sensitivity wavelength			270		nm
UVC _{FSCNT}	Full scale counts				65535	counts
UVC _{DARK}	Dark offset			0	5	counts
UVC _{SENSE}	Sensing tolerance		-5		5	%
UVC _{RSPA}	UVC current (analog output)	270nm, 1 mW/cm ²		20	5	uA
UVC _{RSPD}	UVC reading (digital output)	270nm, 1 mW/cm ²		8000		LSB

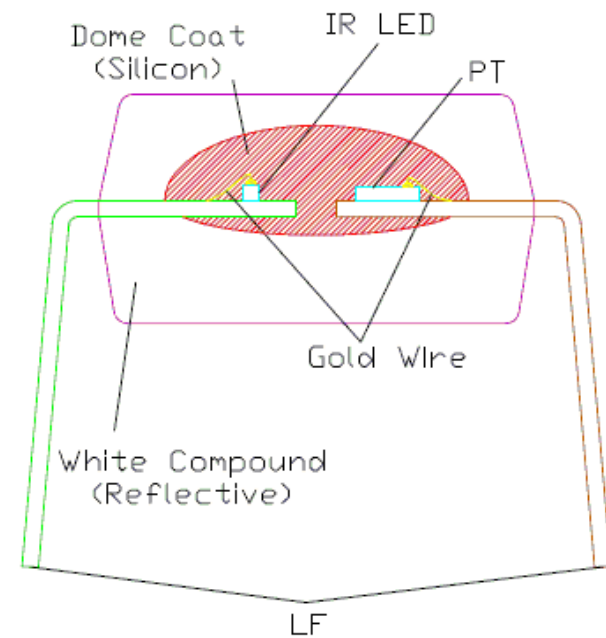


Photo Coupler & Applications

Traditional Photo Coupler



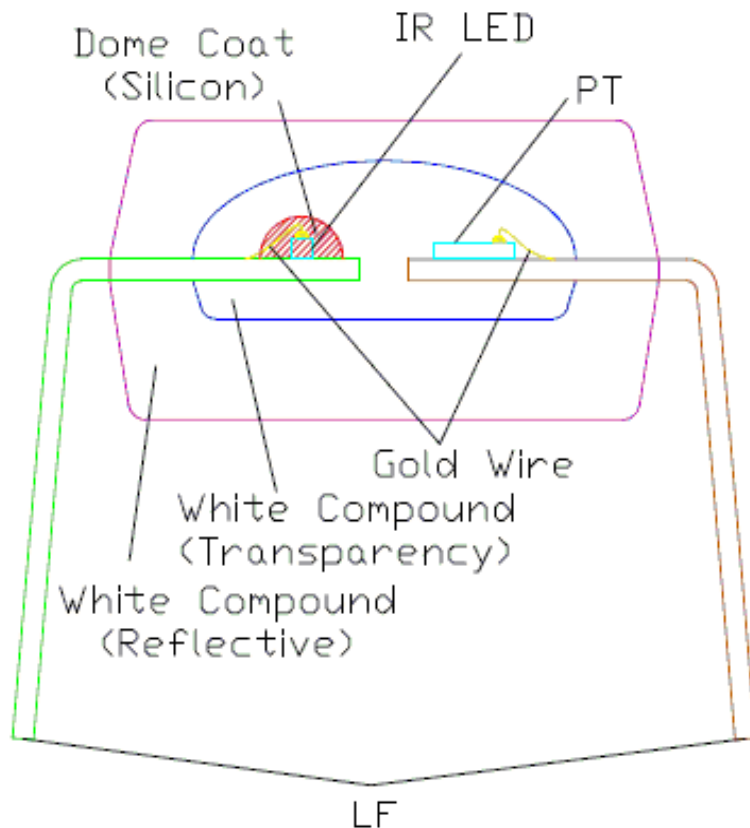
Traditional Over-Under



Traditional Co-Planar

CT DMC-Isolator® Photo Coupler

Double Molded Co-Planar(DMC-Isolator®) Patent US9,685758 B2

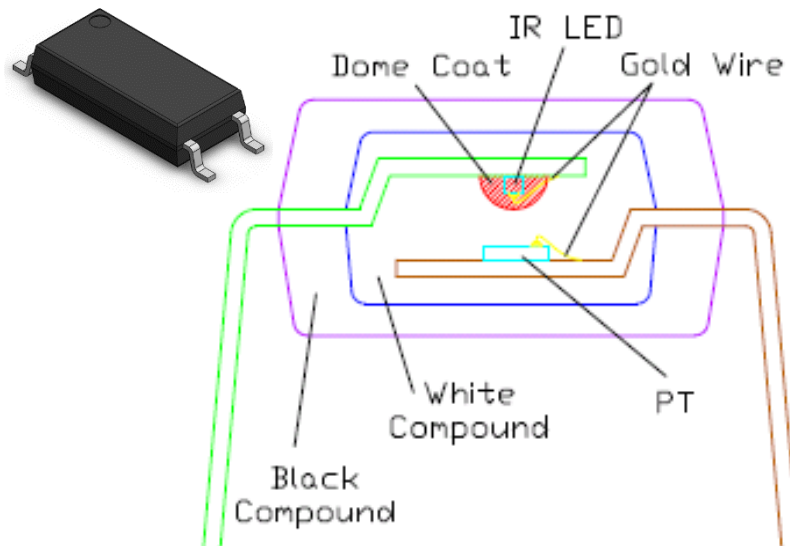


Features

- Fixed Isolation Gap
- Propriety Molding Compound
- Special Inner mold design to improve transfer ratio
- Special Silicon gel for Transfer Ratio improvement

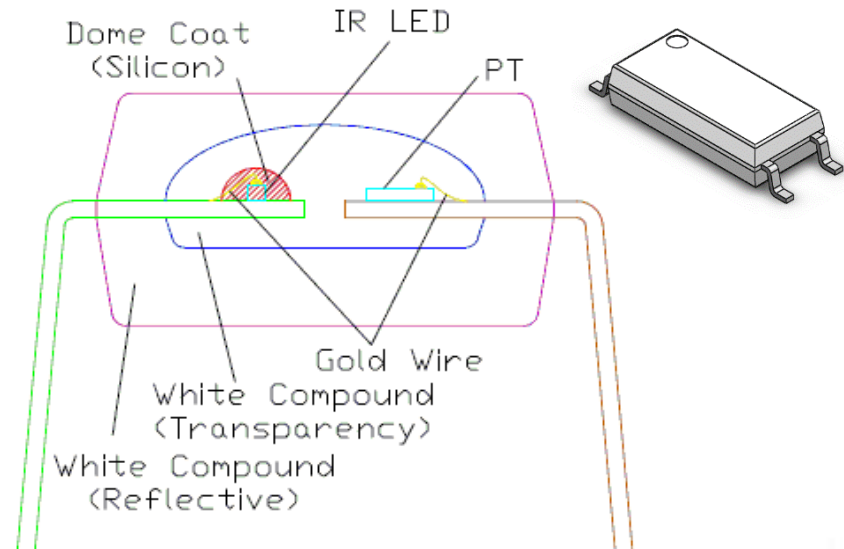
Structure Comparison

Traditional Over-Under



- Light transfer type: face to face
- Hard process than Co-Planar

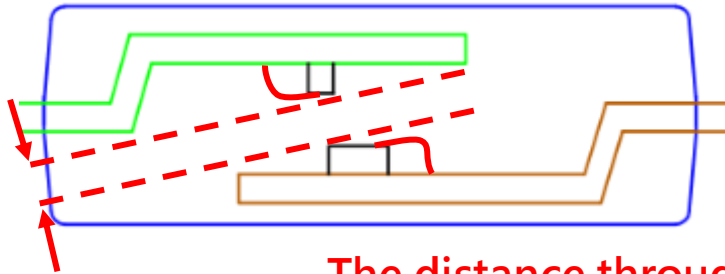
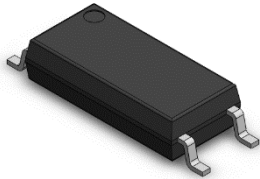
DMC-Isolator® Co-Planar



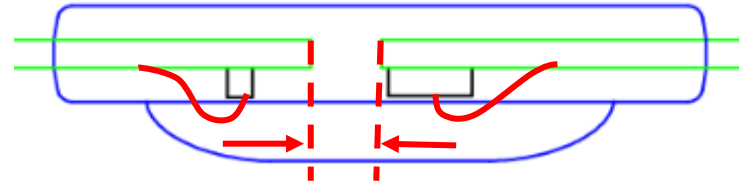
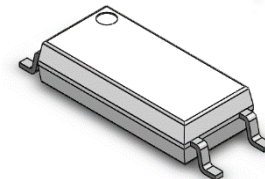
- Light transfer type: reflection
- The easiest coupler process

The structural design of the coupler must follow the safety house rules.
Over tolerance and poor process control will lead to isolation failure.

Coupler FMEA



The distance through isolation of coupler is $\geq 0.4\text{mm}$



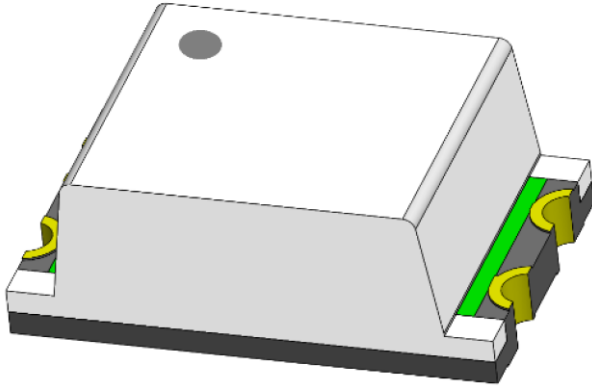
- The product Long Creepage is one of the super thin package.
- All the tolerance are restricted by the package limit and safety request.
- High of wire bond also one of the key inspection.

- The through distance of CT DMC-Isolator® package is trustworthy due to the distance has done when the lead frame forming. There is no need to control by process.

Advantages of CT DMC-Isolator®

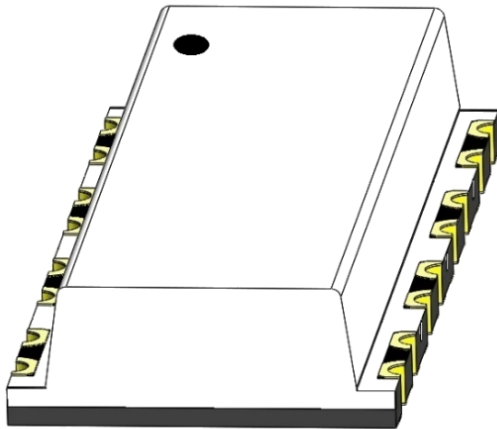
Pros and Cons			
Item	Conventional Over-Under	Traditional Co-Planar	CT DMC-Isolator® PKG
CMR	Normal	Good	Good
Isolation Voltage	Unstable	Stable & Good	Stable & Good
Process	Hard	Easy	Easy
Outline Size	High Restriction	Can be smaller and thinness	Can be smaller and thinness
Cost	Low	High	Low

CT DFN™ Photo Coupler

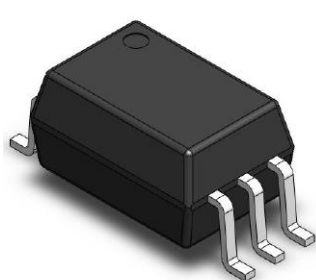


Features

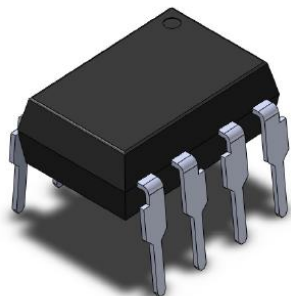
- The Max thickness is 1.5mm
(max 4.2*2.7*1.5mm for one channel)
- Good operating temperature range
-55°C~125 °C
- External creepage >2.8mm
2.5kV/min with internal creepage >0.4mm
- Low input current with Good CTR
100%~400% CTR @ $I_F=1\text{mA}$



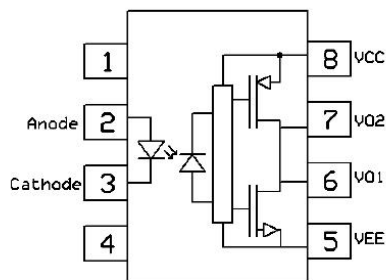
Isolated IGBT Gate Driver



SDIP6



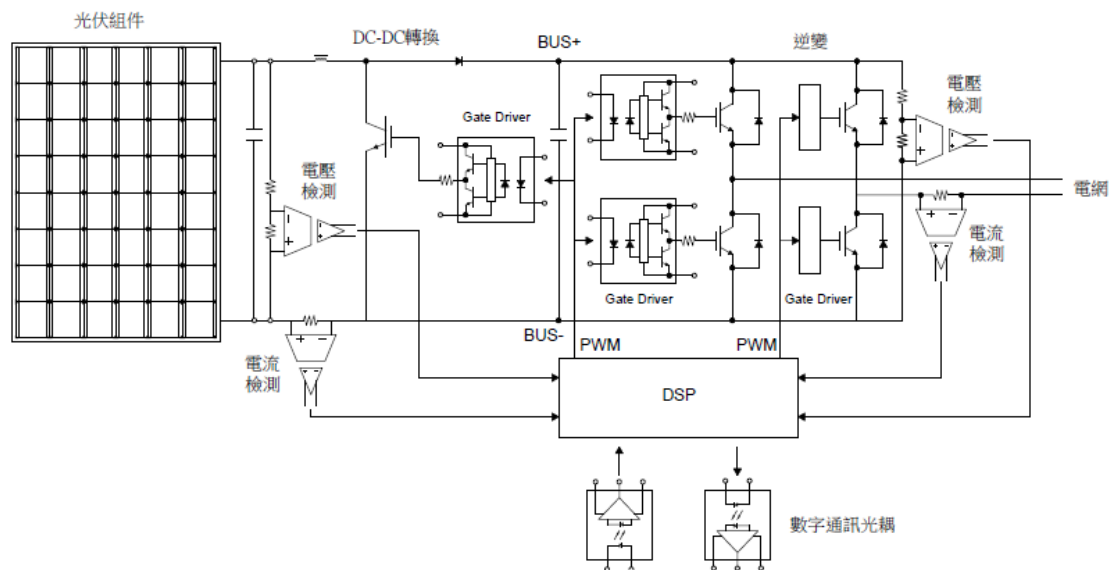
8Pin



Applications

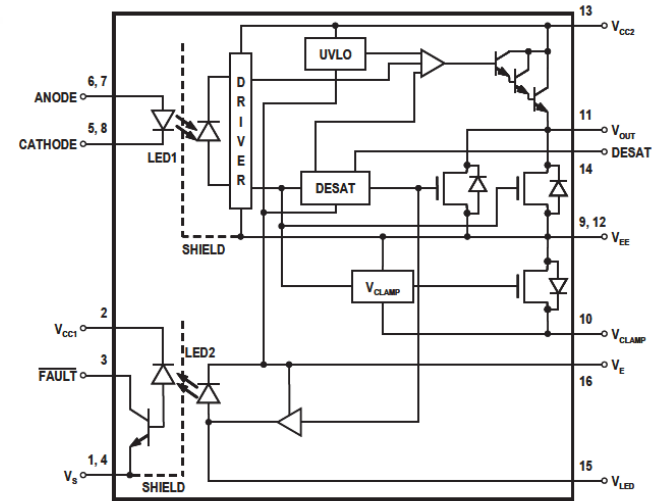
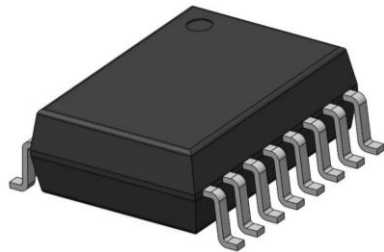
- UPS
- Inverter
- Solar Inverter
- Induction cooker
- Welder

Package	P/N	IOH/IOL	Vcc(V)
8Pin	CT3120 CT350	2.5A	15~30
8Pin	CT3150 CT250	1.0A	10~30
SDIP6	CTS70	2.5A	15~30
SDIP6	CTS701	0.6A	10~30
SDIP6	CTS314	1.0A	10~30
SDIP6	CTS341	3.0A	15~30
SDIP6	CTS343	4.0A	15~30



Smart IGBT Gate Drive

4A IGBT Gate Driver with Active Miller Clamp & VCEsat detection, auto fault detection. (Cross to ACPL-333J, ACPL332J)



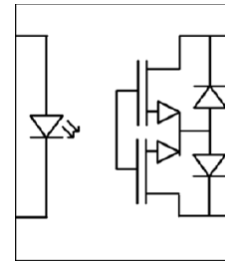
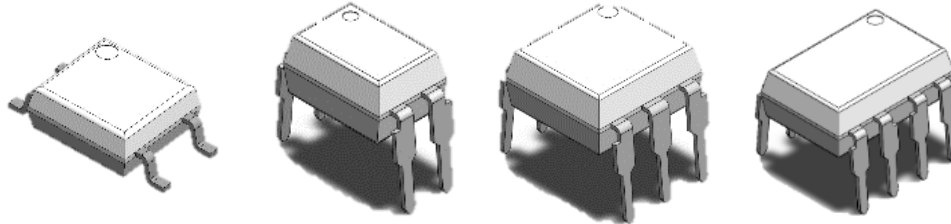
Package	P/N	IOH/IOL	Vcc (V)	TPHL/ TPLH	Active Miller Clamp	Auto reset fault time
16SOP	CT33X-J	4A	15~30	200ns	1.7A	26us

SSR/MOS Relay Product Family

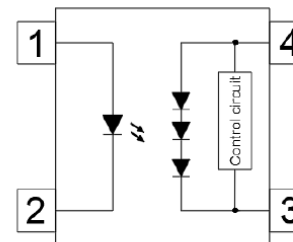
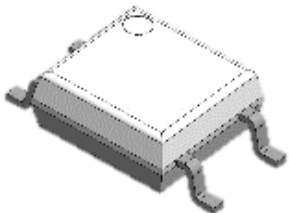
Applications

- Replace traditional mechanical relays
- Factory automation
- Security system
- Battery Management System (BMS)
- Smart Meter

1) SSR/MOS Relay:



2) Photovoltaic Generator (PVG) MOSFET driver



Break
Down
Voltage

CTR215
100V

CTR214
400V

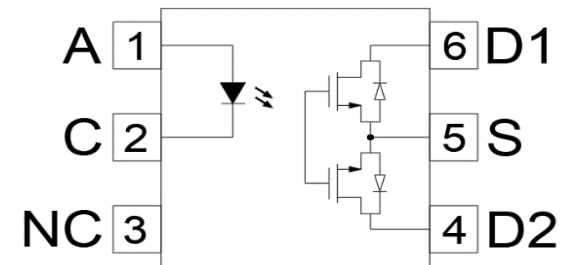
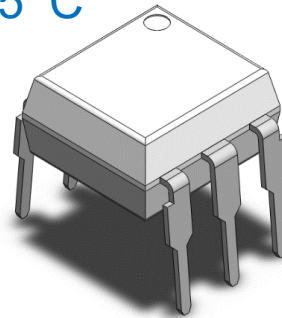
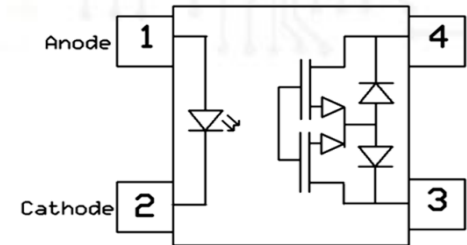
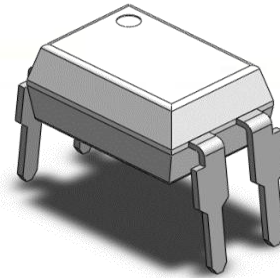
CTR216
600V

CTR216
1500V

SSR/MOS Relay - 4PIN/6PIN

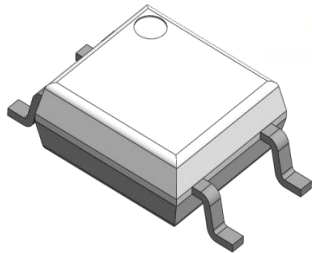
Features

- 1 Form A single relay
- High isolation 5000V
- 100V-600V output withstand voltage
- Operating temperature range - 40 °C to 85 °C
- Halogen free

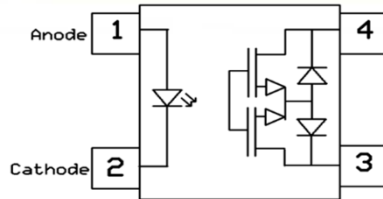


Part Number	Break Down Voltage (V)	Load Current (mA)	On Resistance typ.(Ω)	Turn on current Max. (mA)	TON/TOFF Typ. (ms)
CTR214-4L/6L	400	100	35	3	0.17/0.18
CTR214B-4L/6L	400	160	10	3	0.14/0.24
CTR215-4L/6L	100	500	0.6	3	1/0.3
CTR216-4L/6L	600	80	35	3	0.4/0.4
CTR258-5L	1500	30	200	3	1/0.5

SSR/MOS Relay – MFP/8PIN



MFP

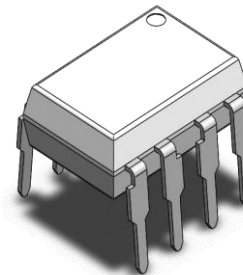


Features

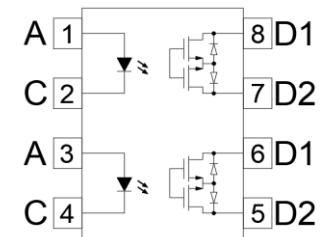
- 1 Form A single relay
- High isolation 3750V
- 100V-600V output withstand voltage
- Operating temperature range - 40 °C to 85 °C
- Halogen free

Features

- 2 independent 1 Form A single relay
- High isolation 5000V
- 100V-600V output withstand voltage
- Operating temperature range - 40 °C to 85 °C
- Halogen free



8PIN

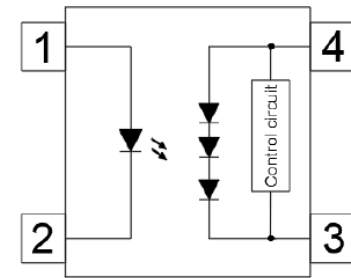
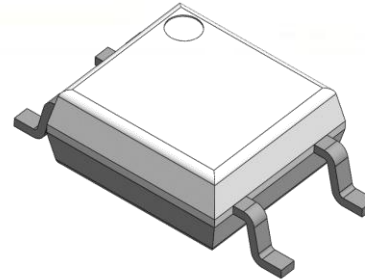


Part Number	Break Down Voltage (V)	Load Current (mA)	On Resistance typ.(Ω)	Turn on current Max. (mA)	TON/TOFF Typ. (ms)
CTR214-M4/8L	400	100	35	3	0.17/0.18
CTR214B-M4/8L	400	160	10	3	0.14/0.24
CTR215-M4/8L	100	500	0.6	3	1/0.3
CTR216-M4/8L	600	80	35	3	0.4/0.4

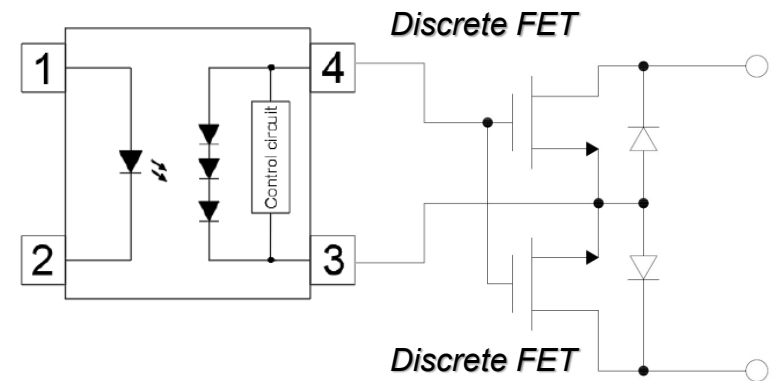
Photovoltaic Generator (PVG) MOSFET Driver

Features

- 2 independent 1 Form A single relay
- High isolation 3750V
- Operating temperature range - 40 °C to 100 °C
- Halogen free



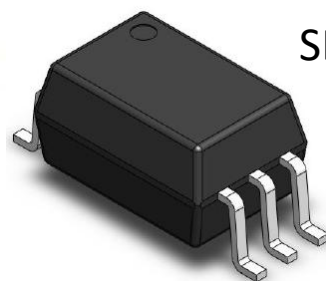
Part Number	Open Circuit Voltage VOC (V)	Short Circuit Current ISC(μA)	TON/ TOFF Typ. (μs)
CTM1271	7.8	6μA	50/30
CTM1281	16V	8μA	



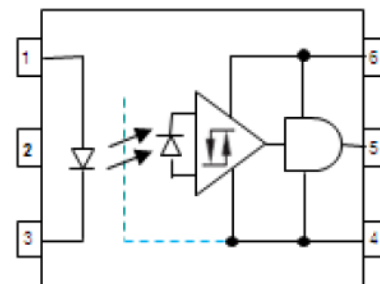
High CMR Intelligent Power Module(IPM) Interface Optocoupler

Features

- High isolation 5000V
- Positive logic
- Wide operating Vcc : 4.5V to 30V
- Operating temperature range - 40 °C to 100 °C
- Halogen free



SDIP6

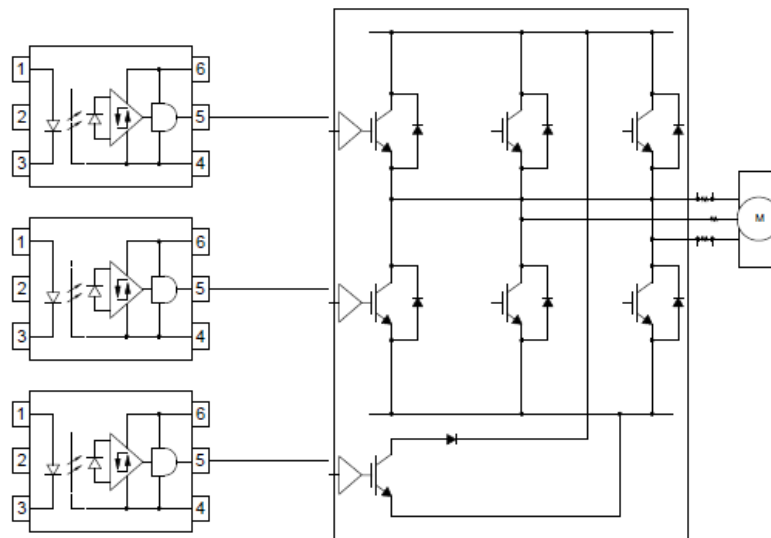


Application

Isolation for IPM Interface in Air-condition, Refrigerator, Washing machine, Servo motor

Part Number	Vcc(V)	ISOH/ ISOL (mA)	IFT (mA) Max.	TPHL/ TPLH (ns)
CTS480	4.5 ~ 30V	+/-80	5	250

IPM



CT Photo Coupler

Package	DIP-4	DIP-6	DIP-8	Widebody-8L	MFP-4L	MFP-5L	Half Pitch MFP-4L	LCP-4L-W	LCP-5L-W	SDIP-6	DFN	Half Pitch MFP-16L	SOP-8
Outline													
Transistor	MP	MP	MP		MP	MP	MP	MP			MP	MP	MP
High Power Transistor	MP				MP								
Darlington Transistor	MP	MP			MP								
High Power Darlington	MP				MP								
High Speed Analog			MP	MP		MP			Samples	MP			MP
High Speed Digital			MP	MP		MP			Samples	MP			MP
Photo Triac	MP	MP	MP		MP								
Power Triac													
Photo SSR	MP	MP	MP		MP								
IGBT Gate Driver			MP	MP		Samples			Samples	MP			
Schmitt Trigger		MP											
Linearity				Samples									
Photovoltaic -Output		Samples				MP							

Application Examples (Home Appliances)



CUSTOMIZED LED EMITTER

Product Name	Dimension (mm)	Viewing Angle (°)	Peak Wavelength (nm @ $I_f=20mA$)
1608-09	1.60*0.80*0.94	75	940
3015-12	3.00*1.50*1.21	85	940

RECEIVER

Product Name	Dimension (mm)	Spectrum Sensitivity (nm)
3328-11	3.20*2.70*1.10	400~1100
3930-11	3.90*3.30*1.10	400~1100

PHOTO COUPLER

Product Name	Package	V_{iso} (rms) (V)
CT3053	DIP-6*	5000
CT3063	DIP-6*	5000
CT816	DIP-4*	5000
CT357	Full Pitch MFP-4L	3750
CTH217	Half Pitch MFP-4L	3750

Note: *Different lead forming options available.



GATE DRIVER

Product Name	Package	V_{iso} (rms) (V)
CT3120	DIP-8*	5000
CT3150	DIP-8*	5000
CTS700	SDIP-6	5000
CTS701	SDIP-6	5000
CTW3120	Widebody-8L	5000

Note: *Different lead forming options available.

HIGH SPEED COUPLER

Product Name	Package	V_{iso} (rms) (V)
CT5601	SDIP-6	5000
CTM611	Full Pitch MFP-5L	3750
CTM452	Full Pitch MFP-5L	3750
6N137	DIP-8*	5000

Note: *Different lead forming options available.

GENERAL PURPOSE COUPLER

Product Name	Package	V_{iso} (rms) (V)
CT357	Full Pitch MFP-4L	3750
CT816	DIP-4*	5000
CTH217	Half Pitch MFP-4L	3750

Note: *Different lead forming options available.

PHOTO TRIAC

Product Name	Package	V_{iso} (rms) (V)
CT3053	DIP-6*	5000
CT3063	DIP-6*	5000
CTT0223		
CTT1213	DIP-7*	5000
CTT3223		

Note: *Different lead forming options available.

Applications Examples

Smart Meters



SMART WATER METER

SMART GAS METER

SMART ELECTRIC METER

Voltage Regulator

Product Name	Package
CT483L	SOT-23
CT482	SOT-23

Photo Coupler

Product Name	Package	V _{iso} (rms) [V]
CT816	DIP-4*	5000
CT817	DIP-4*	5000
CT356, CT357	Full Pitch MFP-4L	3750
CT4217	Half Pitch MFP-4L	3750
CT3010-W, CT3011-W, CT3012-W, CT3013-W, CT3014-W, CT3015-W, CT3016-W, CT3017-W, CT3018-W, CT3019-W	Long Creepage-4L	5000

Note: *Different lead forming options available.

High Speed Coupler

Product Name	Package	V _{iso} (rms) [V]
GN137	DIP-8*	5000
CT2531	DIP-8*	5000
CT2561	DIP-8*	5000

Note: *Different lead forming options available.

PSU/Charger/Adapter/BMS/Inverter



High Voltage

Low Voltage

Battery Cells

Battery Monitor

Photo Coupler

MCU, Signal Conditioning

Power Supply

Input Rectifier & Filter Circuit

Switching Circuit

Rectifier Circuit

Output

Control IC

Photo Coupler

Voltage Regulator

Photo Coupler

Product Name	Package	V _{iso} (rms) [V]
CT816	DIP-4*	5000
CT817	DIP-4*	5000
CT357	Full Pitch MFP-4L	3750
CT4217	Half Pitch MFP-4L	3750
CT3010-W, CT3011-W, CT3012-W, CT3013-W, CT3014-W, CT3015-W, CT3016-W, CT3017-W, CT3018-W, CT3019-W	Long Creepage-4L	5000

Note: *Different lead forming options available.

Voltage Regulator

Product Name	Package
CT483L	SOT-23
CT482	SOT-23

General Purpose Coupler

Product Name	Package	V _{iso} (rms) [V]
CT816	DIP-4*	5000
CT817	DIP-4*	5000

Note: *Different lead forming options available.

Gate Driver

Product Name	Package	V _{iso} (rms) [V]
CT3120	DIP-8*	5000
CT3130	DIP-8*	5000
CT5700	SDIP-6	5000
CT5701	SDIP-6	5000

Note: *Different lead forming options available.



CT Micro Major Customers

Customers



Customer Oriented and Technology Driver.

www.ct-micro.com

Major Customers – China



奥海科技
AOHAI TECHNOLOGY



广东百威电子有限公司
Guangdong Baiwei Electronics Co., Ltd.

CVTE
Dream·Future

长虹
CHANGHONG



林洋
LINYANG

Hisense

欧陆通®
HONOTO

和晶科技
HODGEN

Huntkey 航嘉

HZ® 赫茨变频



KINGHOME



深科技
KAIFA



牛顿电气
NIUTON



出門問問
mobvoi

美的 Midea



Salcomp



TenPao

天邦达
TIAN POWER

TCL

USFULL



威胜集团
Wasion Group



深圳市舟海科技有限公司
ShenZhen ZhouHai Technology Co., Ltd.



Thank you



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