

Optocouplers Product selection

Classification of optocoupler products

packaging	DIP4	SOP4	SOP5	LSOP4/6	DIP6	DIP8	SSOP4	SO8	SO16
products									
Transistor Output	ICPL-817	ICPL-181		ICPL-101X	CNY17	ICPL-827	ICPL-281		ICPL281-4
AC Input Transistor	ICPL-814	ICPL-354				ICPL-824	ICPL-280		ICPL280-4
Darlington	ICPL-815	ICPL-355			4NXX				
HV Darlington	ICPL-852	ICPL-352							
HV Transistor	ICPL-851	ICPL-351							
AC Input Darlington	ICPL-8145								
TRIAC	MOC30XX-4	MOC30XX-S			MOC30XX				
High Speed			ICPL-M453 ICPL-M601		ICPL-H11LX	ICPL-6N13X		ICPL-0530 ICPL-0630	
Photo Relay	ICPR-21X-4	ICPR-21XM			ICPR-21X-6	ICPR-21X-8			
IGBT Gate Driver			ICPL-155 ICPL-152	ICPL-314 ICPL-341		ICPL-3120 ICPL-3150			ICPL-330J ICPL-332J
IPM Gate Driver			ICPL-M480 ICPL-M481	ICPL-480 ICPL-481		ICPL-4506			

一、 Transistor output optocouplers

P/N	Viso (Vrms)	Input Type	CTR(%)	Channel	IF Max(mA)	VR Min(V)	BVCEO Min(V)	ICEO Max(nA)	Package	Topr (°C)
ICPL-817	5000	DC	50~600	1	60	6	35	100	DIP4	-55~110
ICPL-181	3750	DC	50~600	1	60	6	35	100	SOP4	-55~110
ICPL-814	5000	AC	20~300	1	60	6	80	100	DIP4	-55~110
ICPL-354	3750	AC	20~300	1	60	6	80	100	SOP4	-55~110
ICPL-851	5000	DC	50~600	1	60	6	350	200	DIP4	-55~100
ICPL-351	3750	DC	50~600	1	60	6	350	200	SOP4	-55~100
ICPL-101X	5000	DC	50~600	1	60	6	80	100	LSOP4	-55~110

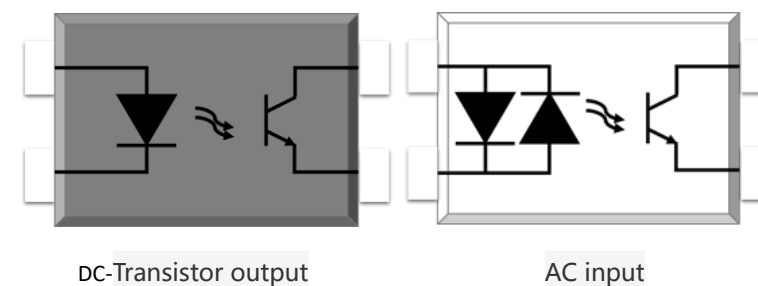
Product characteristics

- Minimum isolation voltage 5000Vrms(@DIP4), 3750Vrms(@SOP4),
- The CTR value is accurate and the range can be customized flexibly
- Operating temperature: -55°C~110°C
- RoHS & REACH, Halogen-free (optional)
- MSL level 1
- Certification: UL-UL1577, VDE-EN60747-5-5 (VDE0884-5), CQC-GB4943.1, GB8898

Application

- Switching power supply
- Cell phone charger
- Industrial Control
- Intelligence meter
- appliances
- Lighting Control
- Instrumentation
- Rail Transit

Functional Block Diagram



二、Darlington optocoupler

P/N	Viso (Vrms)	Input	CTR(%)	Channel	IF Max(mA)	VF Min(V)	BVCEO Min(V)	ICEO Max(nA)	Package	Topr (°C)
ICPL-815	5000	DC	600~7500	1	60	6	40	100	DIP4	-55~110
ICPL-355	3750	DC	600~7500	1	60	6	40	100	SOP4	-55~110
ICPL-852	5000	DC	600~7500	1	60	6	350	100	DIP4	-55~110
ICPL-352	3750	DC	600~7500	1	60	6	350	100	SOP4	-55~110

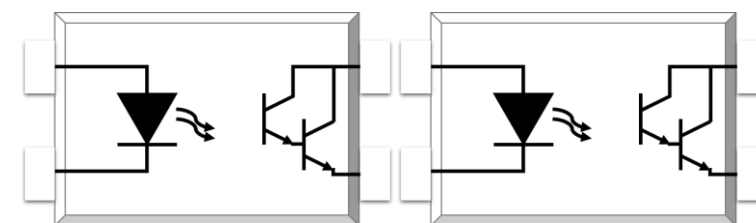
Product characteristics

- Minimum isolation voltage 5000Vrms(@DIP4), 3750Vrms(@SOP4),
- The CTR value is accurate and the range can be customized flexibly
- Operating temperature: -55°C~110°C
- RoHS & REACH, Halogen-free (optional)
- MSL level 1
- Certification :UL-UL1577, VDE-EN60747-5-5(VDE0884-5), CQC-GB4943.1, GB8898

Application

- PLC
- Inverter
- Frequency converter
- Communication
- I/O interface
- Servo drive
- appliances
- Instrumentation

Functional Block Diagram



Darlington,
tube output

High Voltage Darlington output

三、 High-speed optocoupler (Below 1Mbit/s)

P/N	Viso (Vrms)	Data Rate Mbit/s	CTR (%)	VCC Max(V)	VO Max(V)	VOL Max(V)	CMR Min(V/μs)	TPHL/TPLH Max(us)	Package	Topr (°C)
6N135	5000	1	7~50	30	20	0.4	1000	1.5/1.5	DIP8	-55~100
6N136	5000	1	19~50	30	20	0.4	1000	0.8/0.8	DIP8	-55~100
6N138	5000	0.1	300~2000	7	7	0.4	1000	10/35	DIP8	-55~100
6N139	5000	0.1	500~2000	18	18	0.4	1000	1.0/7.0	DIP8	-55~100
ICPL-4502	5000	1	19~50	30	20	0.4	15000	0.8/0.8	DIP8	-55~100
ICPL-4503	5000	1	19~50	30	20	0.4	15000	0.8/0.8	DIP8	-55~100
ICPL-M453	3750	1	20~50	7	20	0.4	15000	0.8/0.8	SOP5	-55~100

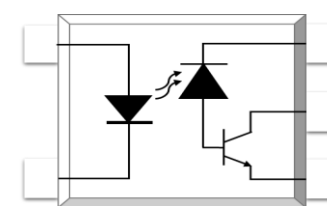
Product characteristics

- Minimum isolation voltage 5000Vrms(@DIP8), 3750 Vrms(@SOP5),
- DC input, transistor output
- Operating temperature -55°C~100°C
- RoHS & REACH, Halogen-free (optional)
- MSL level 1
- Certification: UL-UL1577, VDE-EN60747-5-5(VDE0884-5), CQC-GB4943.1, GB8898

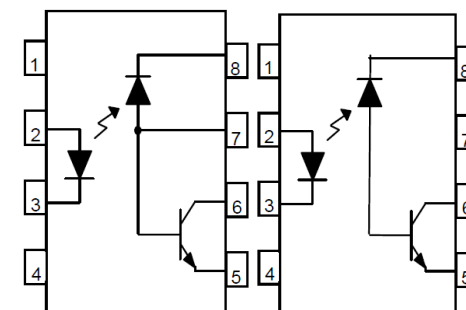
Application:

- PLC
- Inverter
- Servo drive
- Motion Control
- I/O
- Frequency converter
- Frequency appliances
- Instrumentation

Functional Block Diagram



ICPL-M453



6N135/6N136

ICPL-4502/4503

四、High-speed optocoupler (10Mbit/s)

P/N	Viso (Vrms)	Data Rate Mbit/s	VCC Max(V)	VO Max(V)	VOL Max(V)	IFT Max(mA)	CMR Min(V/μs)	TPHL/TPH Max(ns)	Package	Topr (°C)
ICPL-6N137	5000	10	7	7	0.6	5	10000	75/75	DIP8	-55~100
ICPL-M601	3750	10	7	7	0.6	5	10000	75/75	SOP5	-55~100
ICPL-0630	3750	10	7	7	0.6	5	5000	75/75	SOP8	-55~100
ICPL-0631	3750	10	7	7	0.6	5	10000	75/75	SOP8	-55~100
ICPL-0601	3750	10	7	7	0.6	5	5000	75/75	SOP8	-55~100
ICPL-063L	3750	10	7	7	0.6	5	5000	75/75	SOP8	-55~100

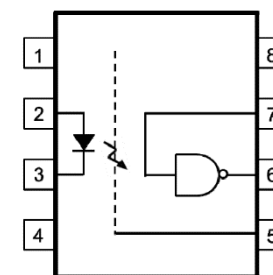
Product characteristics

- Minimum isolation voltage 5000Vrms(@DIP8), 3750 Vrms(@SOP5),
- DC input, transistor output, logic gate output
- t_{PHL}/t_{PLH} no more than 75ns
- Operating temperature -55°C~100°C
- Common-mode rejection ratio :10KV/μs
- RoHS & REACH, Halogen-free (optional)
- MSL level 1
- Certification: UL-UL1577, VDE-EN60747-5-5(VDE0884-5), CQC-GB4943.1, GB8898

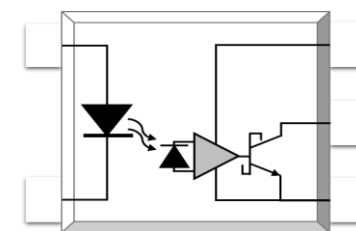
Application

- Industrial Bus
- Switching power supply
- Stepper motor control
- Frequency conversion control
- Computer interface
- Servo drive
- Motion Control
- Instrumentation

Functional Block Diagram



6N137



ICPL-M601

五、IGBT/IPM Drive optocoupler

P/N	Viso (Vrms)	IO Max(A)	VCC (V)	UVLO+ (V)	UVLO- (V)	IFLH Max(mA)	VFHL Min(V)	CMR Min(V/μs)	T _{PHL} /T _{PLH} Max(ns)	Package	Topr (°C)
ICPL-3120	5000	2.5	15~30	11.5~13.5	10~12	5	0.8	25000	500/500	DIP8	-40~100
ICPL-3150	5000	0.8	15~30	-	-	5	0.8	20000	200/200	DIP8	-40~100
ICPL-314P	5000	0.8	10~30	6.9~8.7	5.9~7.5	2	0.8	20000	110/110	SO6	-40~110
ICPL-314W	5000	0.8	10~30	6.9~8.7	5.9~7.5	2	0.8	20000	110/110	SO6	-40~110
ICPL-341P	5000	3	15~30	11.0~13.5	9.5~12.0	2	0.8	20000	110/110	SO6	-40~110
ICPL-341W	5000	3	15~30	11.0~13.5	9.5~12.0	2	0.8	20000	110/110	SO6	-40~110
ICPL-480P	5000	0.05	15~30	-	-	1.5	0.8	20000	220/200	SO6	-40~110

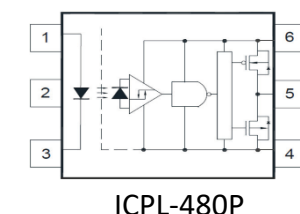
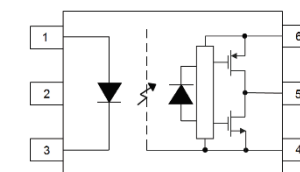
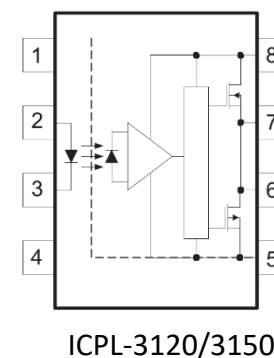
Product characteristics

- 0.8A/2.5A/3A Maximum peak current
- rail-to-rail output voltage
- Wide Voltage operating range: 10V~30V
- Wide Operating temperature -40°C~110°C
- The shortest delay, t_{PHL}/t_{PLH} no more than 110ns
- Undervoltage latch protection
- RoHS & REACH
- VDE,UL,CQC certification

Application

- Industrial inverter
- Servo drive
- Switching power supply
- Charging Post
- Solar inverter
- Wind power inverter
- Frequency appliances
- Energy storage equipment

Functional Block Diagram



六、Silicon controlled optocoupler (Zero Crossing)

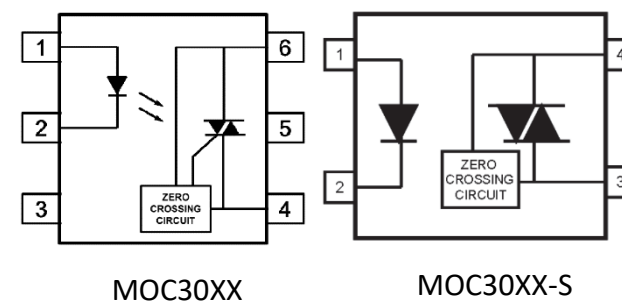
P/N	Viso (Vrms)	IFT Max(mA)	VDRM Min(V)	IDRM Max(nA)	VR Min(V)	Static dV/dt Min(V/us)	Package	Topr (°C)
MOC303X	5000	15,10,5	250	500	6	1000	DIP6	-40~100
MOC304X	5000	15,10,5	400	500	6	1000	DIP6	-40~100
MOC306X	5000	15,10,5	600	500	6	1000	DIP6	-40~100
MOC308X	5000	15,10,5	800	500	6	1000	DIP6	-40~100
MOC303X-4	5000	15,10,5	250	500	6	1000	DIP4	-40~100
MOC304X-4	5000	15,10,5	400	500	6	1000	DIP4	-40~100
MOC306X-4	5000	15,10,5	600	500	6	1000	DIP4	-40~100
MOC308X-4	5000	15,10,5	800	500	6	1000	DIP4	-40~100
MOC303X-S	3750	15,10,5	250	500	6	1000	SOP4	-40~100
MOC304X-S	3750	15,10,5	400	500	6	1000	SOP4	-40~100
MOC306X-S	3750	15,10,5	600	500	6	1000	SOP4	-40~100
MOC308X-S	3750	15,10,5	800	500	6	1000	SOP4	-40~100

Product characteristics

- Minimum isolation voltage 5000Vrms(@DIP6/4), 3750 Vrms(@SOP4),
- DC input, zero-crossover thyristor output
- Operating temperature :-40°C~100°C
- RoHS & REACH, Halogen-free (optional)
- Certification: UL, VDE, CQC and so on.

Application

- Intelligent sanitary ware products
- SMART home
- Motor drive
- Solenoid valve
- AC power switch
- Lighting Control
- Temperature control
- Measuring and controlling instruments
- Electromagnet control

Functional Block Diagram

七、Silicon controlled optocoupler (Random Phase)

P/N	Viso (Vrms)	IFT Max(mA)	VDRM Min(V)	IDRM Max(nA)	VR Min(V)	Static dV/dt Min(V/us)	Package	To _{pr} (°C)
MOC301X	5000	15,10,5	250	100	6	1000	DIP6	-40~100
MOC302X	5000	15,10,5	400	100	6	1000	DIP6	-40~100
MOC305X	5000	15,10,5	600	100	6	1000	DIP6	-40~100
MOC301X-4	5000	15,10,5	250	100	6	1000	DIP4	-40~100
MOC302X-4	5000	15,10,5	400	100	6	1000	DIP4	-40~100
MOC305X-4	5000	15,10,5	600	100	6	1000	DIP4	-40~100
MOC301X-S	3750	15,10,5	250	100	6	1000	SOP4	-40~100
MOC302X-S	3750	15,10,5	400	100	6	1000	SOP4	-40~100
MOC305X-S	3750	15,10,5	600	100	6	1000	SOP4	-40~100

Product characteristics

- Minimum isolation voltage 5000Vrms(@DIP6/4), 3750 Vrms(@SOP4),
- DC input, SCR output with random phase function
- Operating temperature :-40°C~100°C
- RoHS & REACH, Halogen-free (optional)
- MSL level 1
- Certification: UL, VDE, CQC

Application

- Intelligent sanitary ware products
- SMART home
- Motor drive
- Solenoid valve
- AC power switch
- Lighting Control
- Temperature control
- Measuring and controlling instruments
- Electromagnet control

Functional Block Diagram

