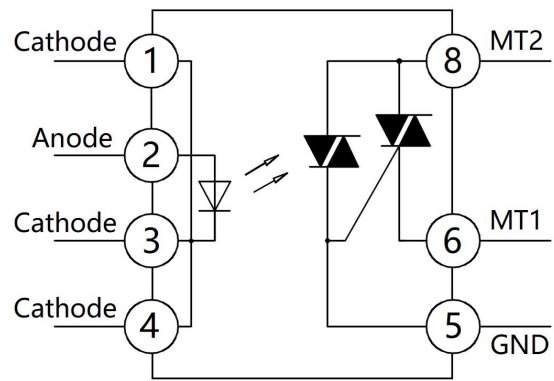
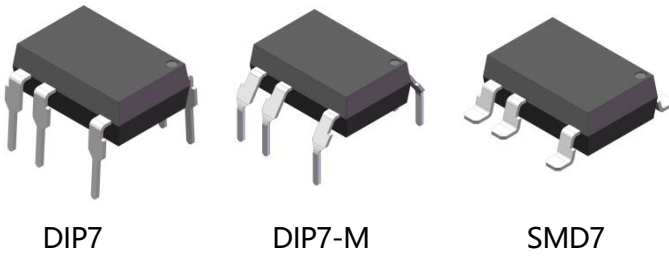


Product packaging logic diagram



Pin Configuration

Features

- Low trigger current IFT 10mA
- Peak off state voltage 600V
- Load current 0.3, 0.6, 0.9, 1.2A
- High isolation voltage between input and output (Viso = 5000Vrms)
- Operating Temperature: -55°C~100°C
- Environmentally friendly products, compliant with CQC, UL, and VDE requirements

Mechanical Data

- Case: DIP7、DIP7-M、SMD7
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solder ability-per MIL-STD-202, Method 208

Applications

- Industrial Automation and Control.
- PLC and frequency converter, servo drive system, industrial robot.
- Zero crossing products are used for AC voltage regulation.
- Household appliances and consumer electronics: Motor forward and reverse heating control, speed regulation, etc
- Used for dimming control in lighting systems.
- Power System and Energy Management: Used for rectification, transformer protection, and power grid monitoring, Applied to uninterruptible power supply (UPS) and power protection equipment.
- Medical and Special Scenarios: Used for isolation and circuit protection of devices such as heart rate monitors and X-ray machines.



Ordering Information

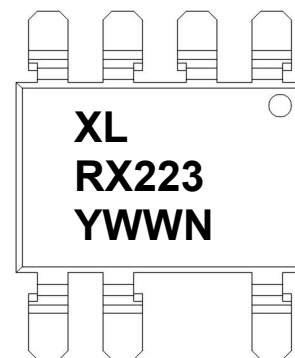
XL RX223 (X) (X) - (U) (N) (Y)
 ① ② ③ ④ ⑤ ⑥ ⑦

- ① Brand(XL)
- ② Product series(X:0,1,2,3)
- ③ Package type (DIP7: DIP7-M: M, SMD7: S)
- ④ Halogen option (None :Halogen free)
- ⑤ Lead frame (None: Copper)
- ⑥ Customer option 1 (0-9 or A-Z or none)
- ⑦ Customer option 2 (0-9 or A-Z or none)

Part Number	Package	Shipping Quantity	Marking Code
XLRX223	DIP7	65pcs / Tube	XLRX223
XLRX223M	DIP7-M	65pcs / Tube	XLRX223
XLRX223S	SMD7	1000pcs / Tape & Reel	XLRX223

Marking Information

- " XL" denotes brand
- " X" denotes IFT digit: 0, 1, 2, 3
- " Y" denotes Year : A(2024), B(2025), C(2026)
- " WW" denotes Week' s number
- " N" denotes the day of Week



Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter		Symbol	Value	Unit	
Input	Forward Current	IF	50	mA	
	Reverse Voltage	VR	5	V	
	Peak Forward Current*1	IFP	1	A	
	Power Dissipation	PD	75	mW	
Output	Power Dissipation	PC	300	mW	
	Off-state Output Terminal Voltage	VDRM	600	V	
	ON-state RMS current	XLR0223	IT(RMS)	0.3	A
		XLR1223		0.6	
		XLR2223		0.9	
		XLR3223		1.2	
	Non-repetitive surge current*3	XLR0223	ITSM	3	A
		XLR1223		6	
XLR2223		9			
XLR3223		12			

Thermal Characteristics

Parameter	Symbol	Value	Unit
Total Power Dissipation	P _{TOT}	375	mW
Isolation Voltage *1	V _{ISO}	5000	V _{rms}
Operating Temperature	T _{OPR}	-40 ~ +85	°C
Storage Temperature Range	T _{STG}	-40 ~ +125	°C
Soldering Temperature *2	T _{SOL}	260	°C

Notes:

1. 40 to 60% RH, AC for 1 minute. At this time, pins 1, 2 & 3 are shorted, and pins 4, 5 & 6 are shorted together.
2. For 10 seconds

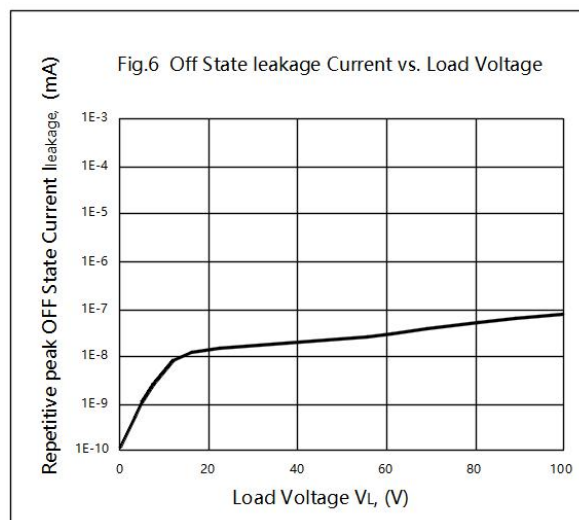
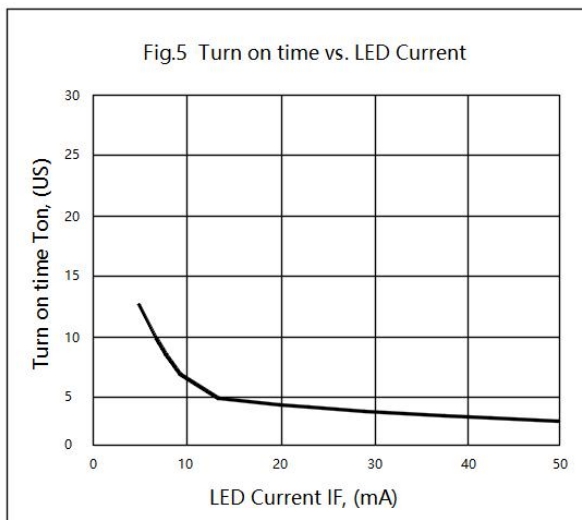
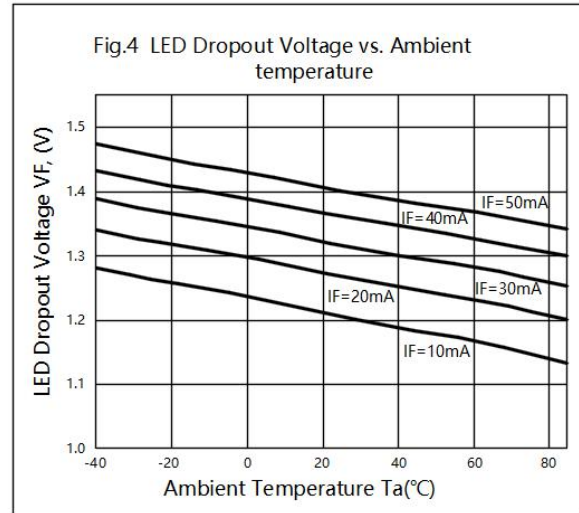
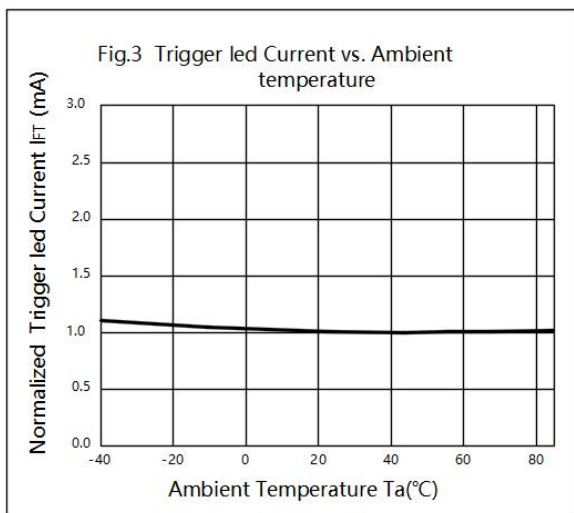
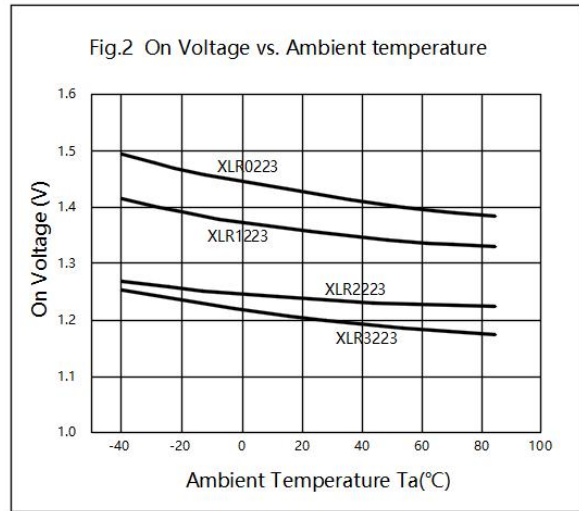
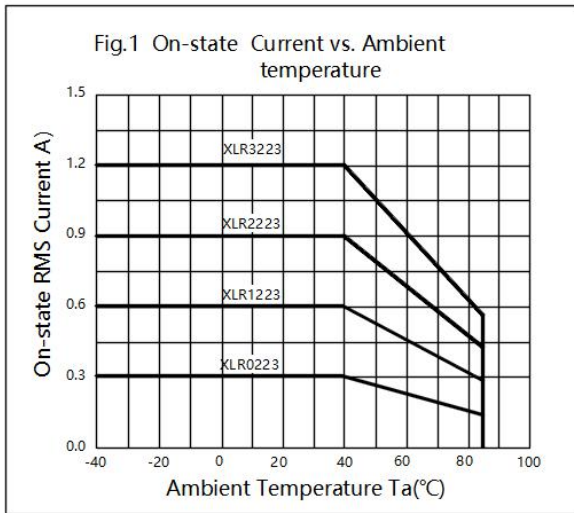
Electrical Characteristics (@ T_A = 25°C unless otherwise specified)

Parameter		Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input	Forward Voltage	V _F	I _F =20mA	-	1.2	1.4	V
	Reverse Leakage current	I _R	V _R =5V	-	-	10	μA
	Input Capacitance	C _{IN}	f=1kHz	-	45	-	PF
Output	Peak Blocking Current	I _{DRM}	V _{DRM} =600 V I _F =0mA	-	-	100	μA
	Peak on-state voltage	V _{TM}	I _F = 10mA, I _{TM} = MAX	-	-	2.5	V
	Critical Rate of Rise off-state voltage	dv /dt	V _{PEAK} = Rated V _{DRM}	200	-	-	V/ μs
Transfer Characteristics	Minimum trigger Current	I _{FT}	V _D =6V, R _L =100Ω	-	-	10	mA
	Holding Current	I _H	Terminal Voltage from "ON" to "OFF" "ON" state I _F =0mA	-	-	25	mA
	Turn On Time	T _{on}	I _F = 20mA, V _D = 6V, R _L =100Ω	-	10	100	us
	Isolation Resistance	R _{IO}	V _{IO} =500VDC	1X10 ¹¹	-	-	Ω
	Isolation Capacitance	C _{IO}	f=1MHz	-	0.25	-	PF

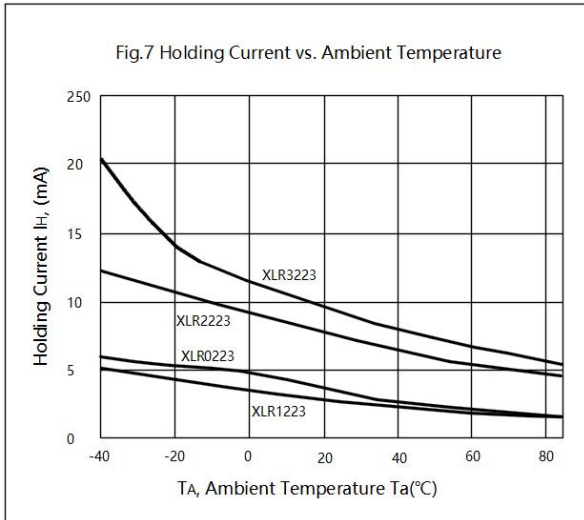
Notes:

1. The additional test voltage should be within dv/dt rated value.
2. This is static dv/dt, dv/dt is converted with changes of loading for the driven thyristor.
3. It is guaranteed that all devices trigger when I_F value is less than or equal to the maximum value of I_{FT}.

Ratings and Characteristics Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

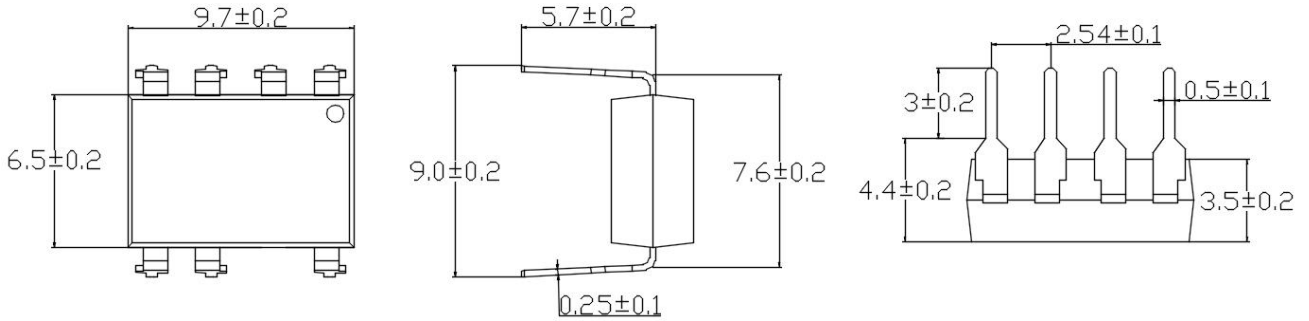


Ratings and Characteristics Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

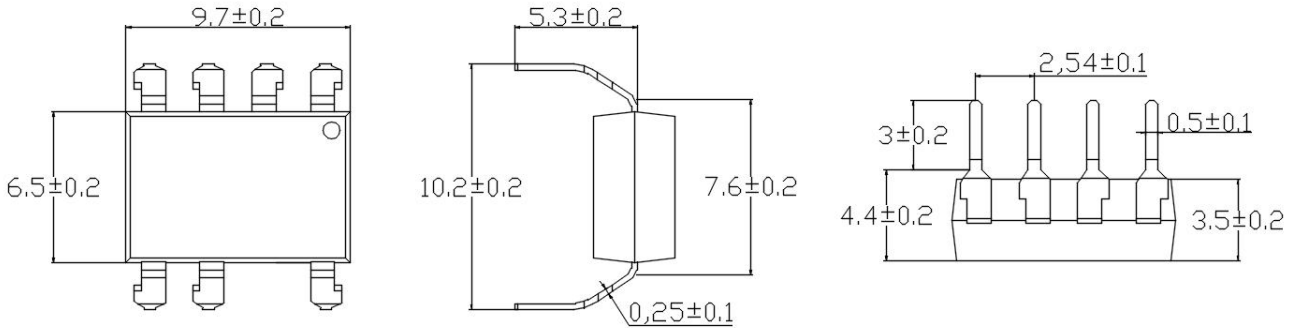


Package Outline Dimensions (unit: mm)

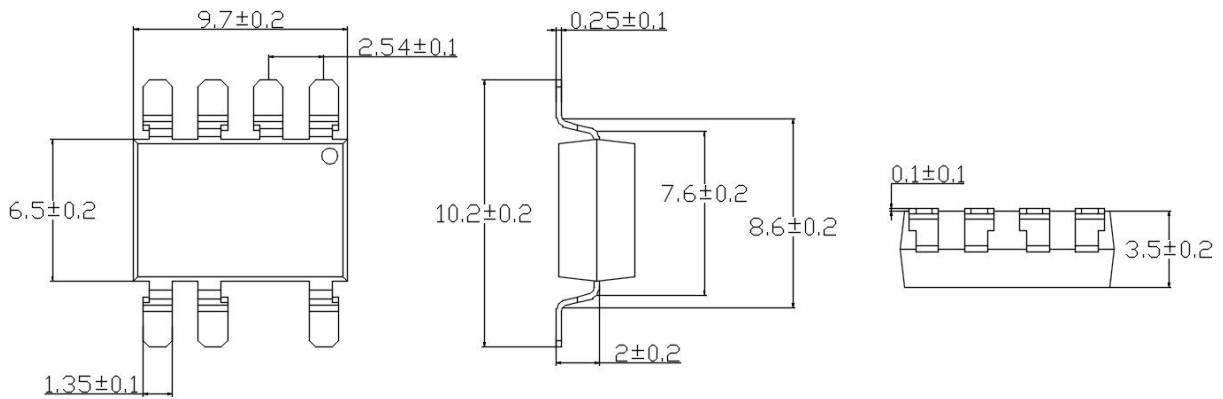
DIP7



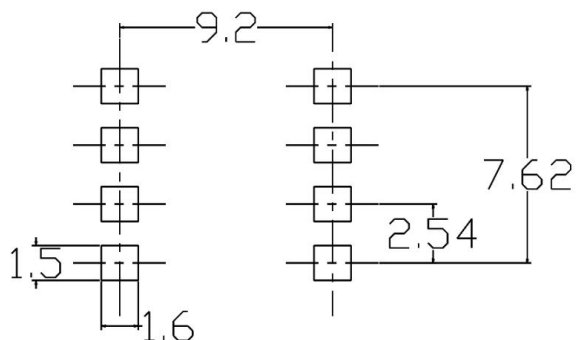
DIP7-M



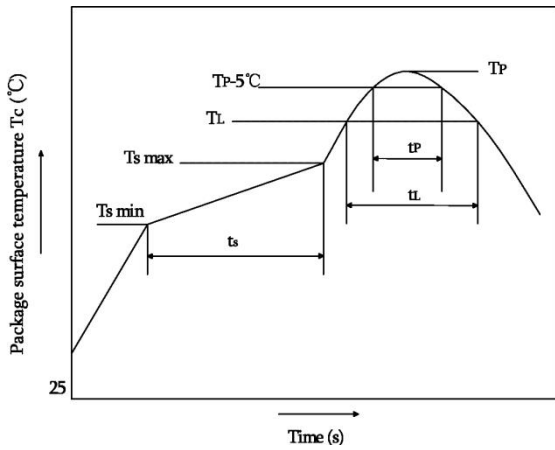
SMD7



SOLDERING FOOTPRINT (unit: mm)



Reflow soldering

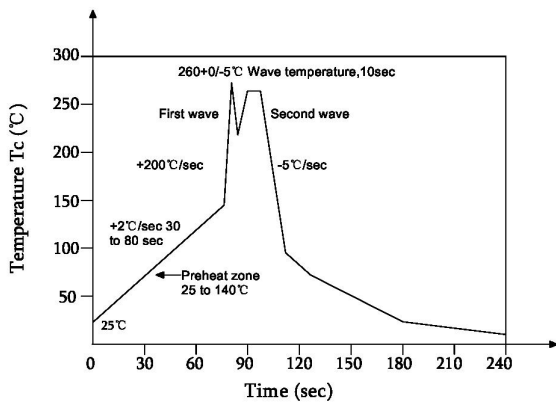


	Symbol	Min	Max	Unit
Preheat temperature	Ts	150	200	°C
Preheat time	ts	60	120	s
Ramp-up rate(TL to Tp)	-	-	3	°C/s
Liquidus temperature	TL	217		°C
Time above TL	tL	60	150	s
Peak temperature	Tp	-	260	°C
Time during which Tc is between (Tp-5) and Tp	tP	-	30	s
Ramp-down rate(Tp to TL)	-	-	6	°C/s

Note:

Reflow soldering is recommended at the temperatures and times shown, no more than three times.

Wave soldering



Profile feature	
Average ramp-up rate	~200°C/s
Heating rate during preheat	1°C/s to 2°C/s typical; 4°C/s maximum
Final preheat temperature Ts	~130°C
Preheat time (25°C to Ts)	>60s
Peak temperature Tp	260°C
Time within peak temperature tp	10s
Ramp-down rate	5°C/s maximum

Soldering with hand soldering iron

- A. Hand soldering iron is only used for product rework or sample testing.
- B. Hand soldering iron requirements: Temperature: 360 °C+5°C within 3s.

Packing

Package Type	Packing Form	Quantity per Tube & Reel	Quantity per Box	Quantity per Carton	Antistatic Bag Specification	Box Specification	Carton Specification	Note
DIP7	Tube(500mm)	65pcs/tube	50 tubes /box	10 boxes /ctn	190*670mm	520*105*50mm	545*372*235mm	Straight insert type material tube
DIP7-M	Tube(500mm)	65pcs/tube	50 tubes /box	10 boxes /ctn	190*670mm	520*105*50mm	545*372*235mm	Seagull foot (M foot) tube
SMD7	Reel(φ330mm)	1000pcs/reel	2 reels /box	5 boxes /ctn	380*420mm	350*340*60mm	365*330*370mm	Guard band 200mm /min.

■ Summary table

■ DIP8/DIP8-M (Tube)

Qty/tube: 65pcs. Qty/box: 3250pcs.

Qty/ctn: 32500pcs.

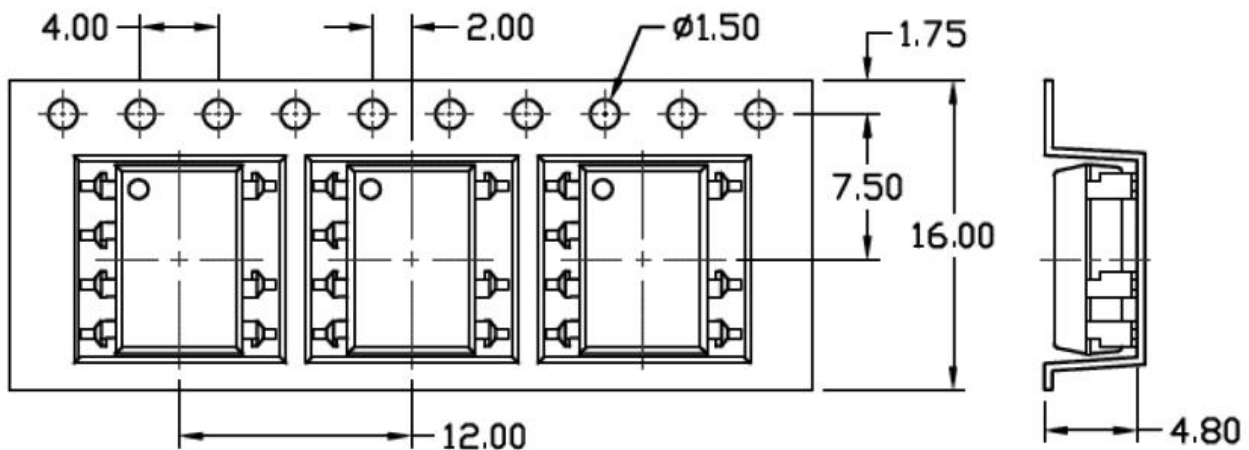
Schemati: (unit:mm)

■ SMD8 (Reel)

Qty/reel: 1000pcs. Qty/box: 2000pcs.

Qty/ctn: 20000pcs.

Schematic: (unit:mm)



Attention

- XINGLIGHT implements dynamic technical updates. Specifications are subject to change. Refer to the official website for the latest version.
- Users must strictly adhere to specified conditions. Failures caused by misuse (overload, high temperature, incompatible circuits) are excluded from warranty.
- Contact technical support for customized validation in critical applications (medical devices, industrial control).
- This document is valid until Dec 31, 2026. Updates will be notified on the official website.
- For further clarification on technical specifications or application solutions, please contact us through official channels.