



## JOR258D6 Series

### DIP6, 1 Form A 1500V PhotoMOS Relay

#### Description

The JOR258D6 photorelay consists of infrared light-emitting diode, photoelectric generator, and optical MOSFET coupling.

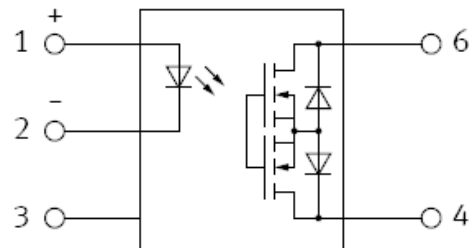
#### Features

- Load voltage: 1,500 V
- Load current: 20 mA
- Distance between output terminals are longer than 6-pin DIP package

#### Applications

- Isolation detection
- Voltage monitoring
- Signal control

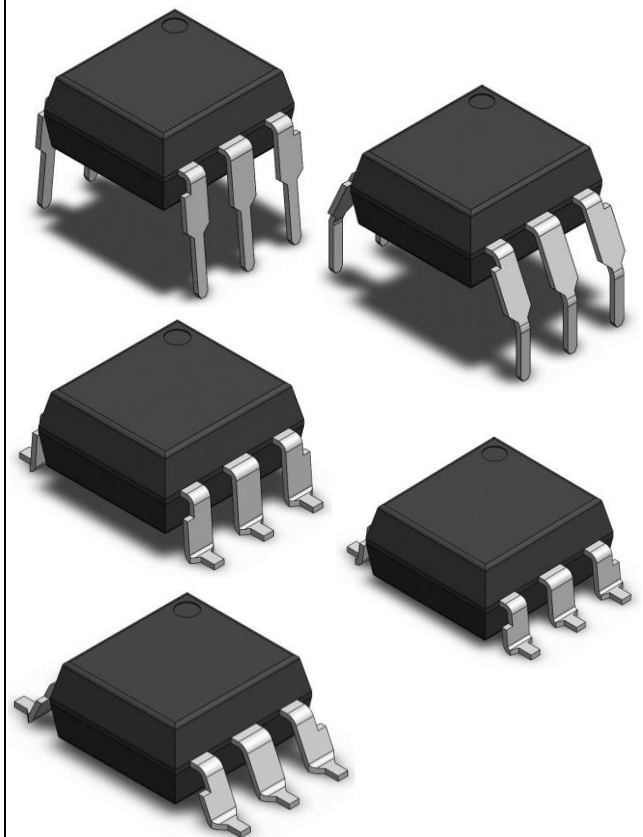
#### SCHEMATIC



#### PIN DEFINITION

1. Anode	6. Drain
2. Cathode	5. NC
3. NC	4. Drain

#### PACKAGE



ABSOLUTE MAXIMUM RATINGS				
PARAMETER		SYMBOL	Rating	UNIT
Input	Forward Current	I <sub>F</sub>	20	mA
	Reverse Voltage	V <sub>R</sub>	6	V
	Junction Temperature	T <sub>J</sub>	125	°C
	Power Dissipation	P	50	mW
Output	Load voltage (peak AC)	V <sub>L</sub>	1500	V
	Continuous load current	I <sub>L</sub>	20	mA
	Peak load current	I <sub>peak</sub>	60	mA
	Junction Temperature	T <sub>J</sub>	125	°C
	Output Power Dissipation	P <sub>o</sub>	360	mW
Total Power Dissipation		P <sub>tot</sub>	400	mW
Isolation Voltage (Note 1)		V <sub>iso</sub>	5000	V <sub>rms</sub>
Operating Temperature		T <sub>opr</sub>	-40~+110	°C
Storage Temperature		T <sub>sig</sub>	-55~+150	°C
Soldering Temperature (Note 2)		T <sub>sol</sub>	260	°C

Note: Ambient temperature = 25°C, unless otherwise specified. Stresses exceeding the absolute maximum ratings can cause permanent damage to the device. Exposure to absolute maximum ratings for long periods of time can adversely affect reliability.

Note 1: AC For 1 Minute, R.H. = 40 ~ 60%

Isolation voltage shall be measured using the following method.

- (1) Short between anode and cathode on the primary side and between collector and emitter on the secondary side.
- (2) The isolation voltage tester with zero-cross circuit shall be used.
- (3) The waveform of applied voltage shall be a sine wave.

Note 2: For 10 Seconds

RECOMMENDED OPERATION CONDITIONS					
CHARACTERISTICS		SYMBOL	MIN.	MAX.	UNIT
LED Forward Current		I <sub>F</sub>	5	15	mA
JOR258D6	Load voltage (Peak AC)	V <sub>L</sub>	-	1200	V
	Continuous load current	I <sub>L</sub>	-	20	mA

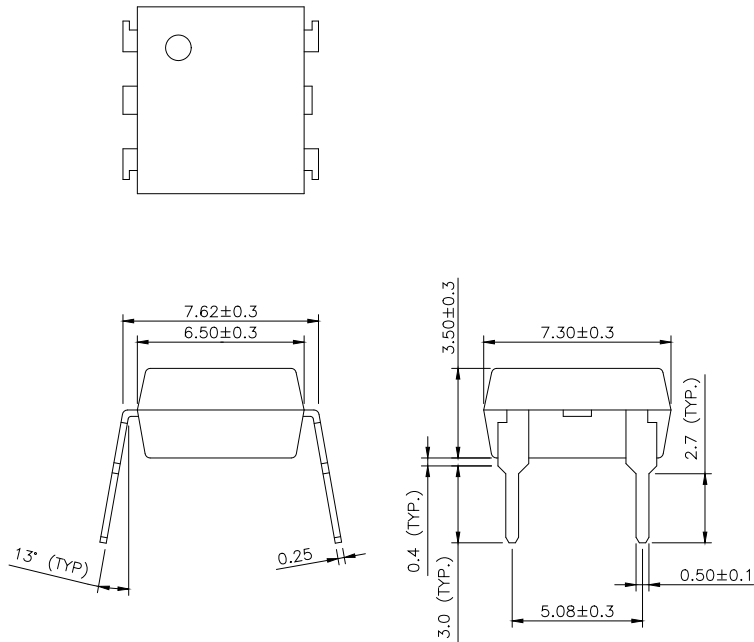
Note: Recommended operating conditions are given as a design guideline to obtain expected performance of the device. Additionally, each item is an independent guideline respectively. In developing designs using this product, please confirm specified characteristics shown in this document.

ELECTRICAL OPTICAL CHARACTERISTICS						
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
INPUT CHARACTERISTICS						
Forward Voltage	$V_F$	-	2.0	2.4	V	$I_F = 10 \text{ mA}$
Reverse Current	$I_R$	-	0.05	10	$\mu\text{A}$	$V_R = 5\text{V}$
OUTPUT CHARACTERISTICS						
Off state leakage current	$I_{\text{Leak}}$	-	0.1	10	$\mu\text{A}$	$I_F = 0\text{mA}$ $V_L = \text{Max}$
On resistance	$R_{\text{ON}}$	-	270	500	$\Omega$	$I_F = 10\text{mA}$ $I_L = \text{Max}$
COUPLE CHARACTERISTICS						
LED operate current	$I_{\text{FON}}$	-	0.1	3	mA	$I_L = 20\text{mA}$
LED turn off voltage	$V_{\text{FOFF}}$	0.8	1.7		V	$I_L \leq 10 \mu\text{A}$
Turn on time	$T_{\text{ON}}$	-	0.1	1	ms	$I_F = 10\text{mA}$ $I_L = \text{Max}$
Turn off time	$T_{\text{OFF}}$		0.1	0.2	ms	$I_F = 10\text{mA}$ $I_L = \text{Max}$

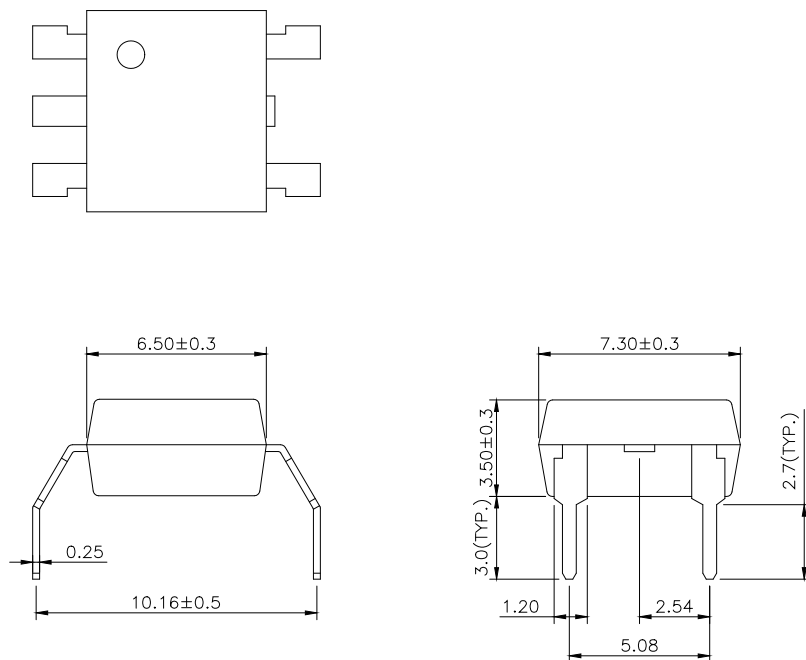
**PACKAGE DIMENSIONS (Dimensions in mm unless otherwise stated)**

**Through hole package Lead Forming**

**DIP type Dimension**



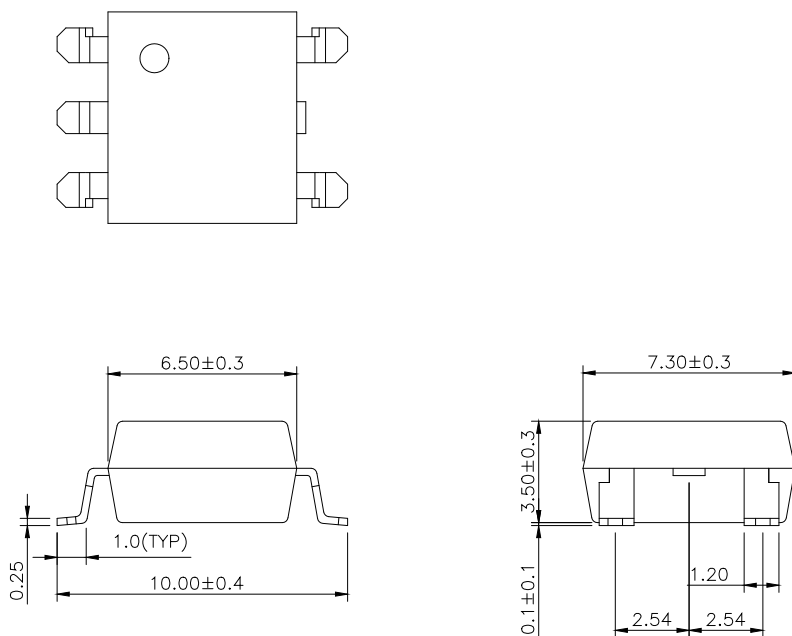
**M type Dimension**



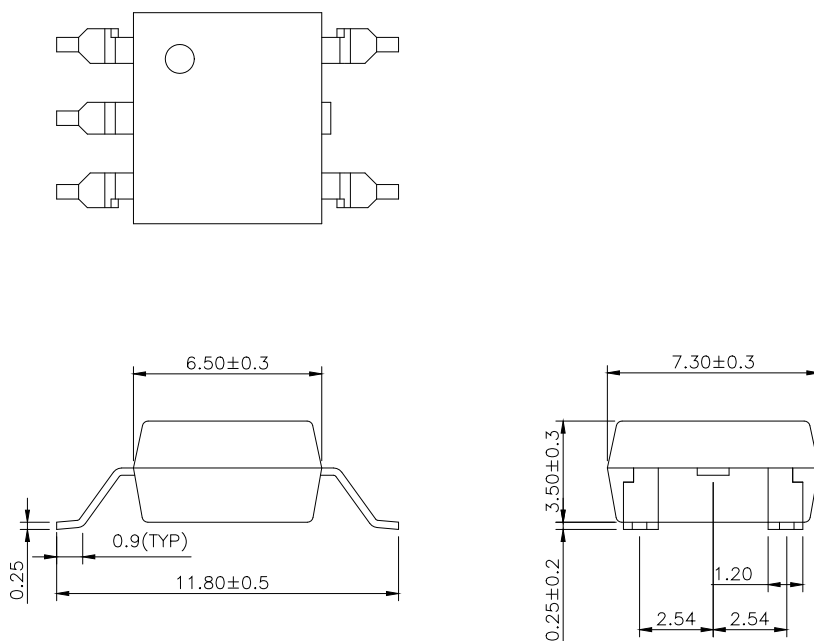
**PACKAGE DIMENSIONS (Dimensions in mm unless otherwise stated)**

**Surface Mount Lead Forming**

**SL type Dimension**

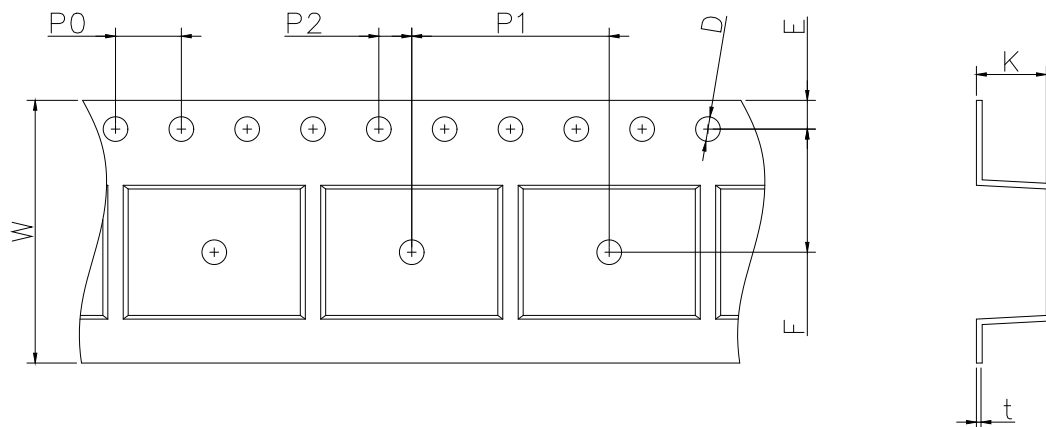


**SLM type Dimension**



**TAPING DIMENSIONS (Dimensions in mm unless otherwise stated)**

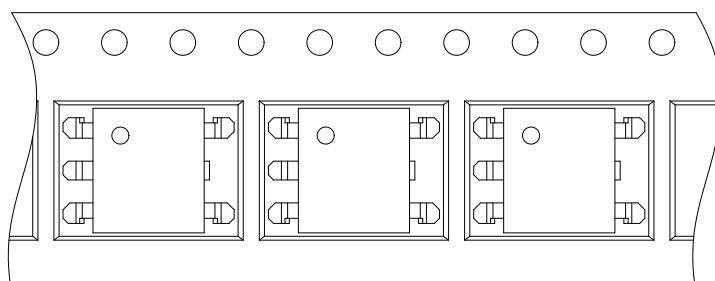
**SL type Taping Dimensions**



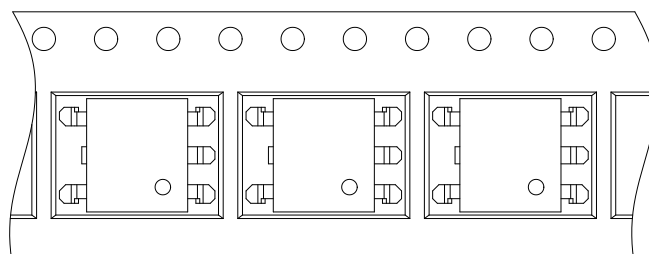
Dimension Symbol	D	E	F	P0	P1	P2	t	W	K
Dimension (mm)	1.55±0.2	1.75±0.2	7.5±0.2	4.0±0.2	12.0±0.2	2.0±0.2	0.35±0.2	16.0±0.3	4.25±0.2

**Tape & Reel Packing Specifications**

**Option T1**

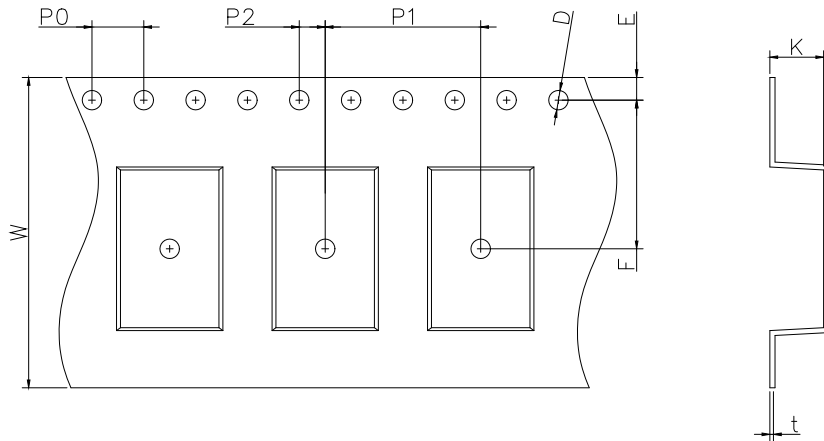


**Option T2**



**TAPING DIMENSIONS (Dimensions in mm unless otherwise stated)**

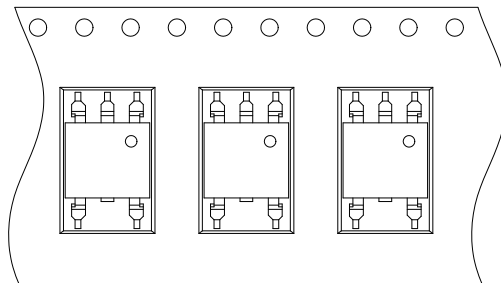
**SLM type Taping Dimensions**



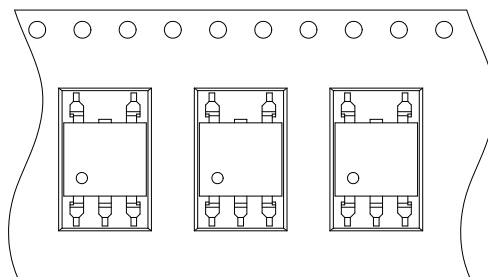
Dimension Symbol	D	E	F	P0	P1	P2	t	W	K
Dimension (mm)	1.5±0.2	1.75±0.2	11.5±0.2	4.0±0.2	12.0±0.2	2.0±0.2	0.4±0.2	24.0±0.3	4.15±0.2

**Tape & Reel Packing Specifications**

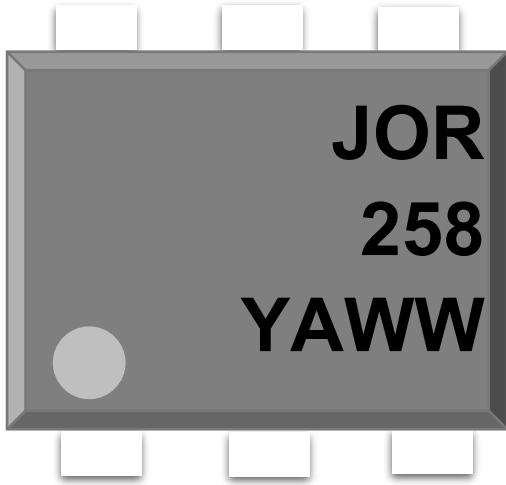
**Option T1**



**Option T2**



**MARKING INFORMATION**



JOR : Company Abbr.  
258 : Part Number  
YAWW : LOT NO.

**ORDERING INFORMATION**

**JOR258DX(Y)(Z)-G**

JOR – Company Abbr  
258 – Part Number  
D – DIP or SMD Package  
X – 6(Pin Count)  
Y – Lead Form Option (SL/None)  
Z – Tape and Reel Option (T1/T2)  
G – Green

**LABEL INFORMATION**

 捷捷微电 (深圳) 有限公司  
JIEJIE MICROELECTRONICS (Shenzhen) Co Ltd

Part No.:XXXXXXXXXX Bin Code: X



Lot No.: XXXXXXXXXXXX

Date Code: XXXX

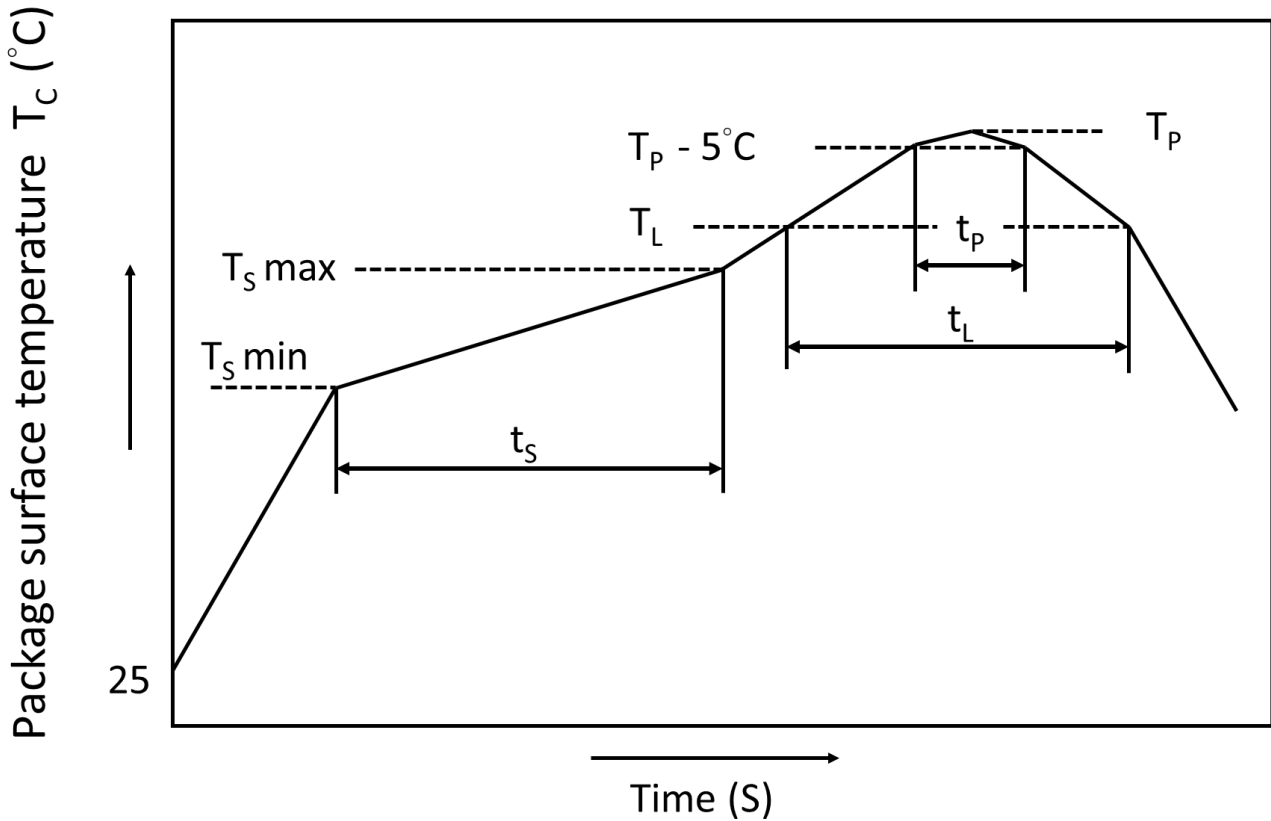
QTY: XXX PCS



**Precautions for Soldering**

IR Reflow soldering

One time soldering reflow is recommended within the condition of temperature and time profile shown below. Do not solder more than three times.



	Symbol	Min	Max	Unit
Preheat temperature	$T_s$	150	200	°C
Preheat time	$t_s$	60	120	s
Ramp-up rate ( $T_L$ to $T_P$ )			3	°C/s
Liquidus temperature	$T_L$	217		°C
Time above $T_L$	$t_L$	60	100	s
Peak Temperature	$T_P$		260	°C
Time during which $T_c$ is between ( $T_P - 5$ ) and $T_P$	$t_P$		20	s
Ramp-down rate			6	°C/s

**DISCLAIMER**

- Our company is continually improving the quality, reliability, function and design. Our company reserves the right to make changes without further notices.
- The characteristic curves shown in this datasheet are representing typical performance which are not guaranteed.
- Our company makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Our company disclaims (a) any and all liability arising out of the application or use of any product, (b) any and all liability, including without limitation special, consequential or incidental damages, and (c) any and all implied warranties, including warranties of fitness for particular
- The products shown in this publication are designed for the general use in electronic applications such as office automation, equipment, communications devices, audio/visual equipment, electrical application and instrumentation purpose, non-infringement and merchantability.
- This product is not intended to be used for military, aircraft, medical, life sustaining or lifesaving applications or any other application which can result in human injury or death.
- Please contact Our company sales agent for special application request.
- Immerge unit's body in solder paste is not recommended.
- Parameters provided in datasheets may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated in each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Our company's terms and conditions of purchase, including but not limited to the warranty expressed therein.
- Discoloration might be occurred on the package surface after soldering, reflow or long-time use. It neither impacts the performance nor reliability.