ORIENT

Photo MOS Product

Data Sheet

Part Number: OR-8XXA

Customer: _____

Date: _____

SHENZHEN ORIENT COMPONENTS CO ., LTD

Block A 3rd Floor No.4 Building,Tian'an Cyber Park,Huangge Rd,LongGang Dist,Shenzhen,GD

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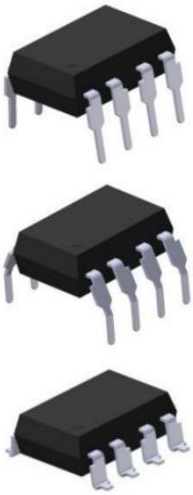
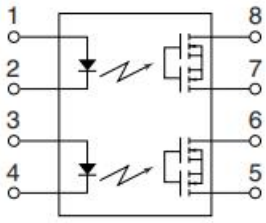
1. Features



(1) Compact 8-pin DIP size
(2) Applicable for 2 Form A use as well as two independent 1Form A use
(3) Controls low-level analog signals
(4) High sensitivity and high speed response
(5) Low-level off state leakage current of max. 1uA
(6) Wide operating temperature range of -40°C to 85°C
(7) High isolation voltage between input and output (Viso = 5000 Vrms)
(8) Safety approval
UL approved(No.E323844)
VDE approved(No.40029733)
CQC approved (No.CQC19001231254)
(9) In compliance with RoHS, REACH standards
(10) MSL Level 1



2, 4 LED Cathode
8, 7, 6, 5 MOSFET

2. Description

The OR-806A, OR-825A, OR-840A and OR-860A are solid state relays containing an AlGaAs infrared LEDs on the light emitting side (input side) optically coupled to a high voltage output detector circuit. The detector consists of a photovoltaic diode array and MOSFETs on the output side. The dual channel configuration is equivalent to 1 form A EMR. They are packaged in 8 pin DIP and available in surface mount SMD option.

3. Application Range

• High-speed inspection machines
• Telephones equipment
• Computer

4. Absolute Maximum Ratings (Ta=25℃)*1

Parameter		Symbol	Rated Value				Unit
			OR-806A	OR-825A	OR-840A	OR-860A	
Input	Average Forward Input Current	I_F	50				mA
	Reverse Input Voltage	V_R	5				V
	Peak Forward Current*1	I_{FP}	1				A
	Power Dissipation	P_{IN}	75				mV
Output	Break Down Voltage*2	V_L	60	250	400	600	V
	Continuous Load Current*2	I_L	550	150	120	50	mA
	Pulse Load Current*3	I_{LPeak}	1.2	0.5	0.3	0.15	A
	Power Dissipation	P_{out}	800				mW
Total Power Dissipation		P_T	850				mW
Isolation Voltage*4		Viso	5000				Vrms
Operating Temperature		T_{OPR}	-40 ~ + 85				℃
Storage Temperature		T_{STG}	-40 ~ + 125				
Soldering Temperature*5		T_{SOL}	260				

Notes:

*1. f =100Hz, Duty Cycle = 0.1%

*2. Indicate the peak AC and DC values

*3.A connection: 100ms (1 shot), VL = DC or Peak AC

*4.AC for 1 minute, R.H. = 40 ~ 60% R.H. In this test, pins 1, 2 are shorted together, and pins 3, 4 are shorted together.

*5.For 10 secondsOpto-electronic Characteristics

5. Electro-Optical Characteristics (Ta=25℃ unless specified otherwise)

Parameter			Symbol	Min.	Typ.	Max.	Unit	Condition
Input	Forward Voltage		V_F	---	1.18	1.5	V	I_F = 10mA
	Reverse Current		I_R	---	---	1	μA	V_R = 5V
Output	Off State leakage Current		I_{leak}	---	---	1	μA	I_F = 0mA, V_L = Max.
	On Resistance	OR-806A	Rd(ON)	---	0.7	2.5	Ω	I_F = 10mA, I_L = Max, t = 1s
		OR-825A		---	6.5	15		
		OR-840A		---	20	30		
		OR-860A		---	40	70		
	Output Capacitance	OR-806A	C(out)	---	85	---	pF	V_L = 0V, f = 1MHz
		OR-825A		---	60	---		
		OR-840A		---	45	---		
		OR-860A		---	30	---		
Transfer Characteristics	LED turn on Current	OR-806A	IF(on)	---	1	3	mA	I_L = Max.
		OR-825A		---	1.1	3		
		OR-840A		---	1.25	3		
		OR-860A		---	0.9	3		
	LED turn off Current	OR-806A	IF(off)	0.4	0.9	---	mA	I_L = Max.
		OR-825A		0.4	1.0	---		
		OR-840A		0.4	1.15	---		
		OR-860A		0.4	0.8	---		
	Turn On Time	OR-806A	Ton	---	0.25	1	ms	I_F = 10mA, I_L = Max, R_L = 200Ω
		OR-825A		---	0.25	1		
		OR-840A		---	0.25	1		
		OR-860A		---	0.25	1		
	Turn Off Time	OR-806A	Toff	---	0.05	0.5		
		OR-825A		---	0.05	0.5		
		OR-840A		---	0.05	0.5		
		OR-860A		---	0.05	0.5		
	Isolation Resistance		R_{I-O}	5×10^{10}	1×10^{12}	---	Ω	V_{I-O} = 500V DC
	Isolation Capacitance		C_{I-O}	---	1.5	---	pF	V = 0V, f = 1MHz

6. Order Information

Part Number

OR-8XXAU-Y-Z

Note

8XXA = Part Number. (806A ,825A ,840A or 860A)

U = Lead form option (S, M or none)

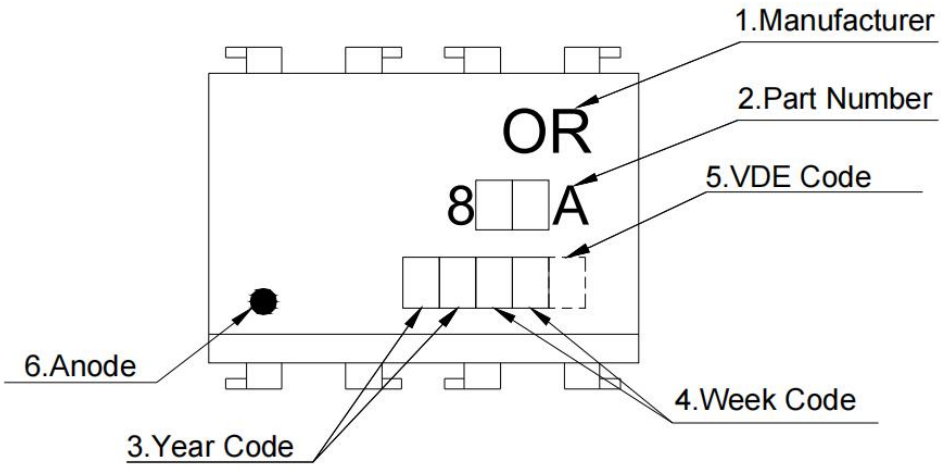
Y = Tape and reel option (TA,TA1 or none).

Z = 'V' code for VDE safety (This options is not necessary).

* VDE Code can be selected.

Option	Description	Packing quantity
None	Standard SMD Option	45 units per tube
M	Wide lead bend (0.4 inch spacing)	45 units per tube
TA	Surface mount lead form (low profile) + TA tape & reel option	1000 units per reel
TA1	Surface mount lead form (low profile) + TA1 tape & reel option	1000 units per reel

7. Naming Rule

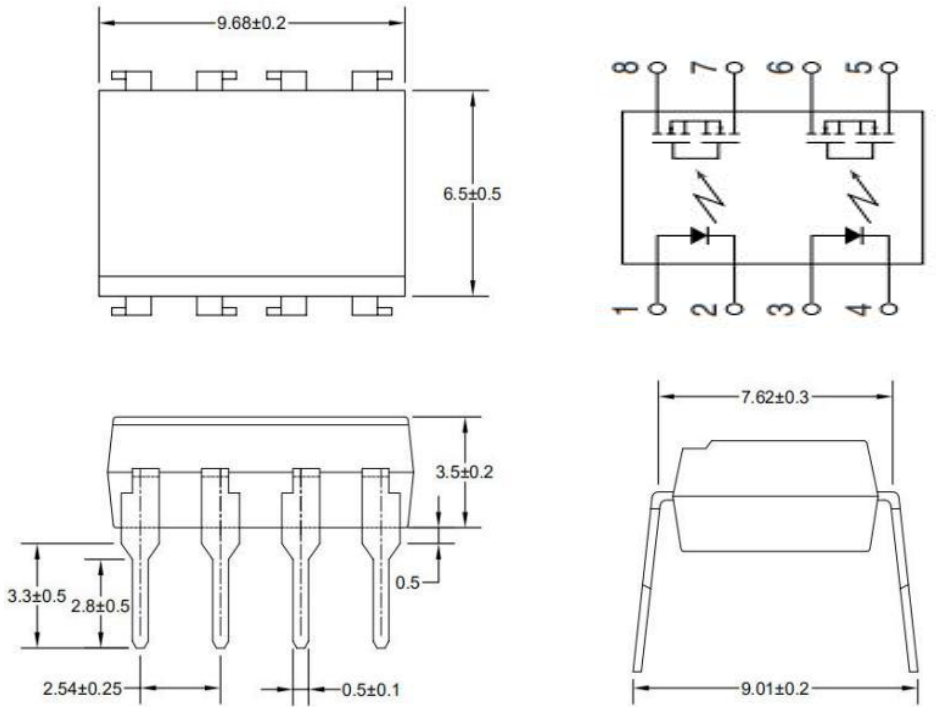


NOTE:

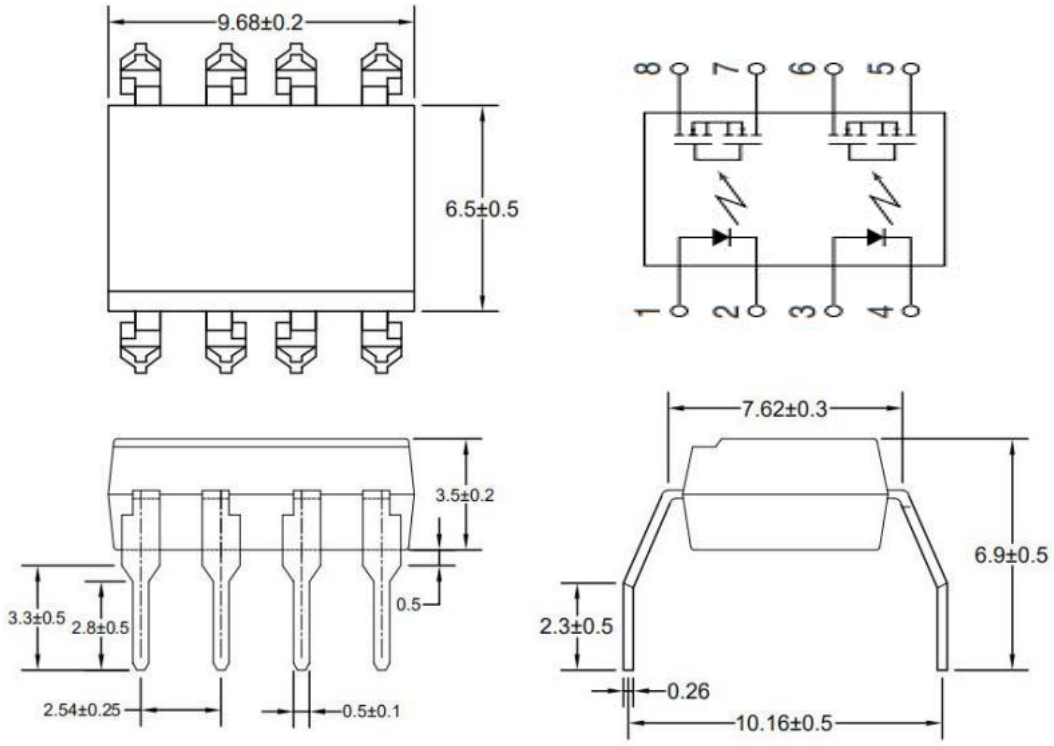
1. Manufacturer : ORIENT.
2. Part Number : 806A, 825A, 840A or 860A.
3. Year Code □□ : '21' means '2021' and so on.
4. Week Code □□: 01 represents the first week, 02 represents the second week, and so on.
5. VDE Code ⬚. (Optional)
6. Anode.

8. Outer Dimension

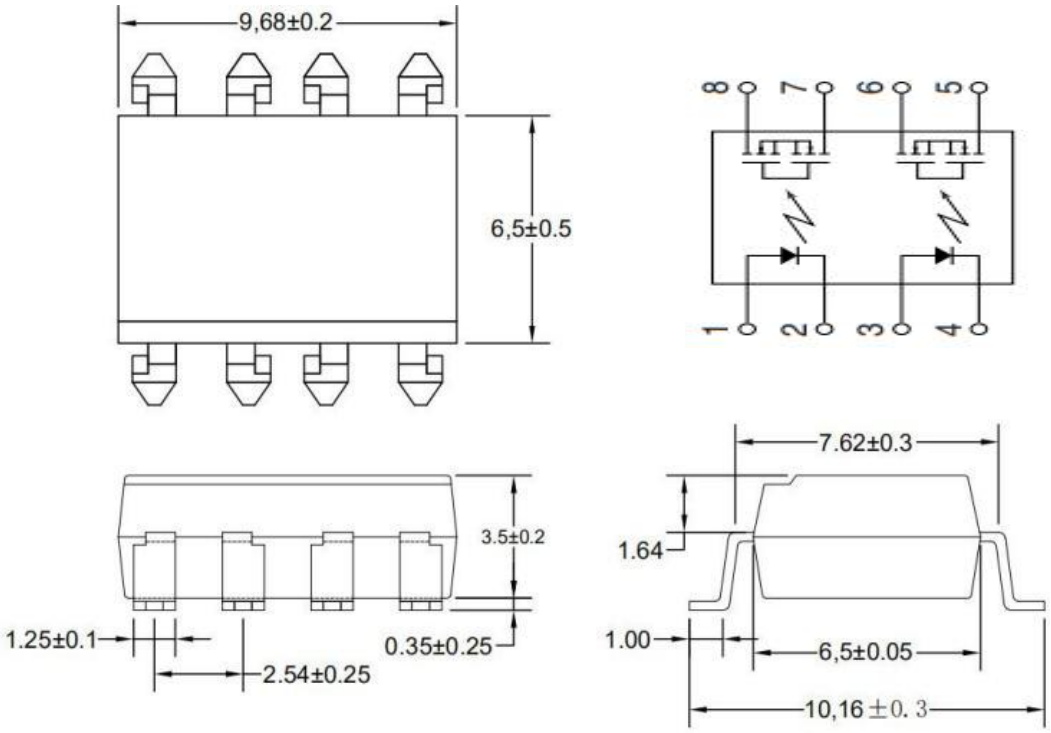
(1) OR-8XXA



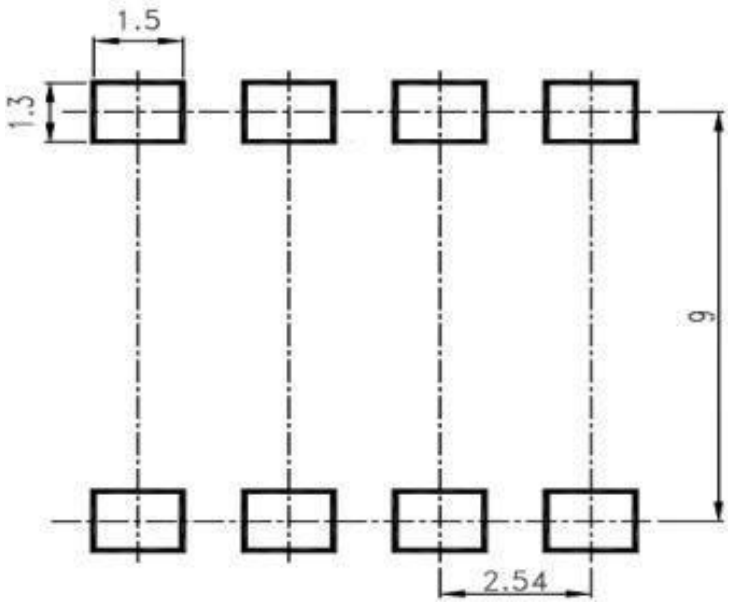
(2) OR-8XXAM



(3) OR-8XXAS



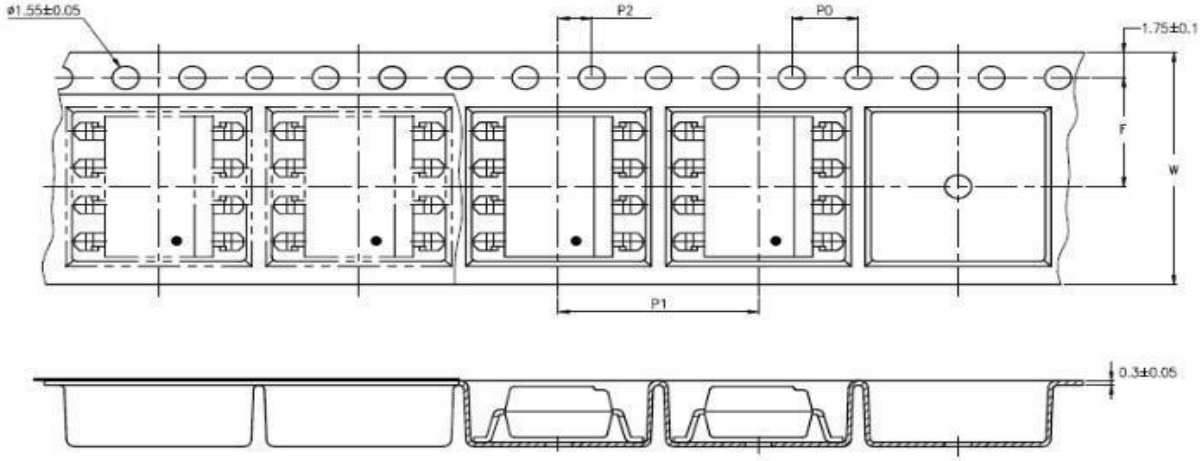
9. Recommended Foot Print Patterns (Mount Pad)



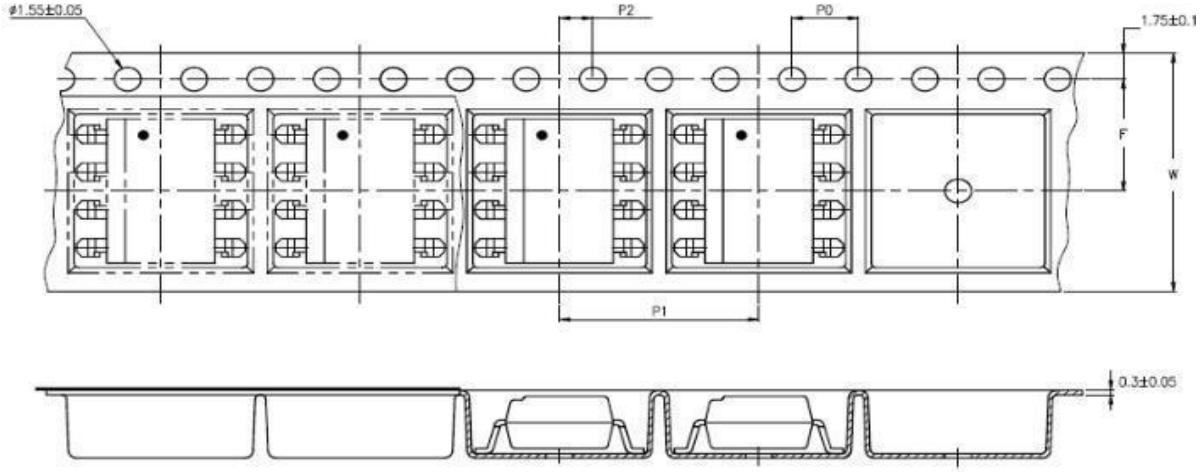
(unit：mm)

10. Taping Dimensions

(1) OR-8XXA-TA



(2) OR-8XXA-TA1



type	symbol	Size: mm (inches)
bandwidth	W	16±0.3 (0.63)
pitch	P0	4±0.1 (0.15)
pitch	F	7.5±0.1 (0.295)
	P2	2±0.1 (0.079)
interval	P1	12±0.1 (0.472)

Encapsulation type	TA/TA1
Amount (pcs)	1000

11. Package Dimension

(1) package dimension

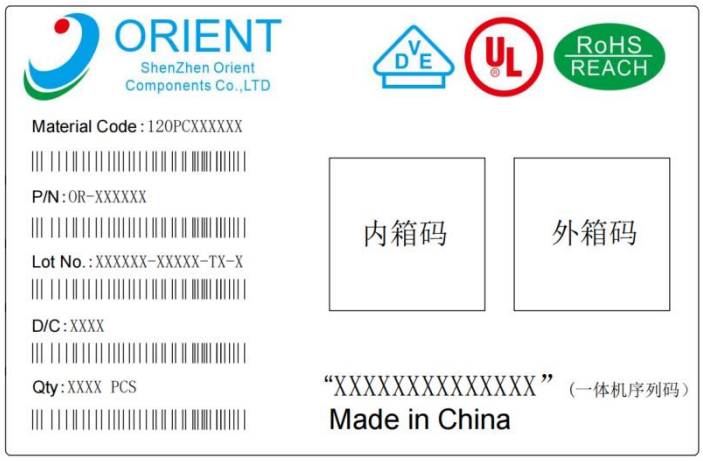
DIP/M type

Packing Information	
Packing type	Tube
Qty per Tube	45pcs
Small box (Inner) Dimension	525*128*60mm
Large box (Outer) Dimension	545*290*335mm
The Amount per Inner Box	2,250pcs
The Amount per Outer Box	22,500pcs

SOP type

Packing Information	
Packing type	Reel type
Tape Width	16mm
Qty per Reel	1,000pcs
Small box (inner) Dimension	345*345*58.5mm
Large box (Outer) Dimension	620x360x360mm
Max qty per small box	2,000pcs
Max qty per large box	20,000pcs

(2)Packing Label Sample



Note:

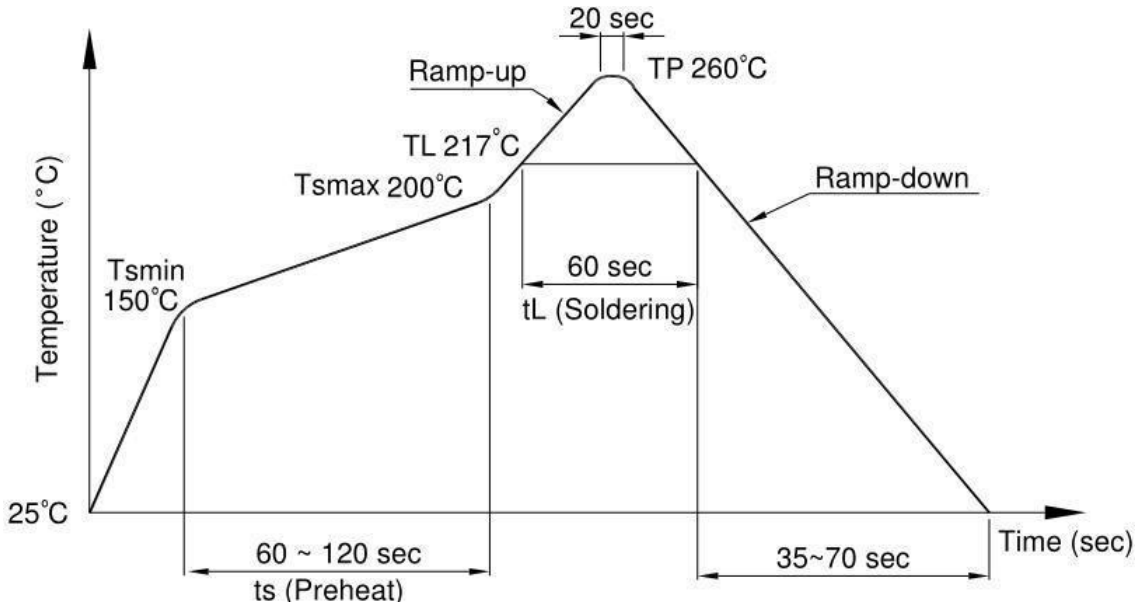
1. Material Code :Product ID.
2. P/N :Contents with "Order Information" in the specification.
3. Lot No. :Product data.
4. D/C :Product weeks.
5. Quantity :Packaging quantity.

12. Temperature Profile Of Soldering

1. IR Reflow soldering (JEDEC-STD-020C compliant)

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

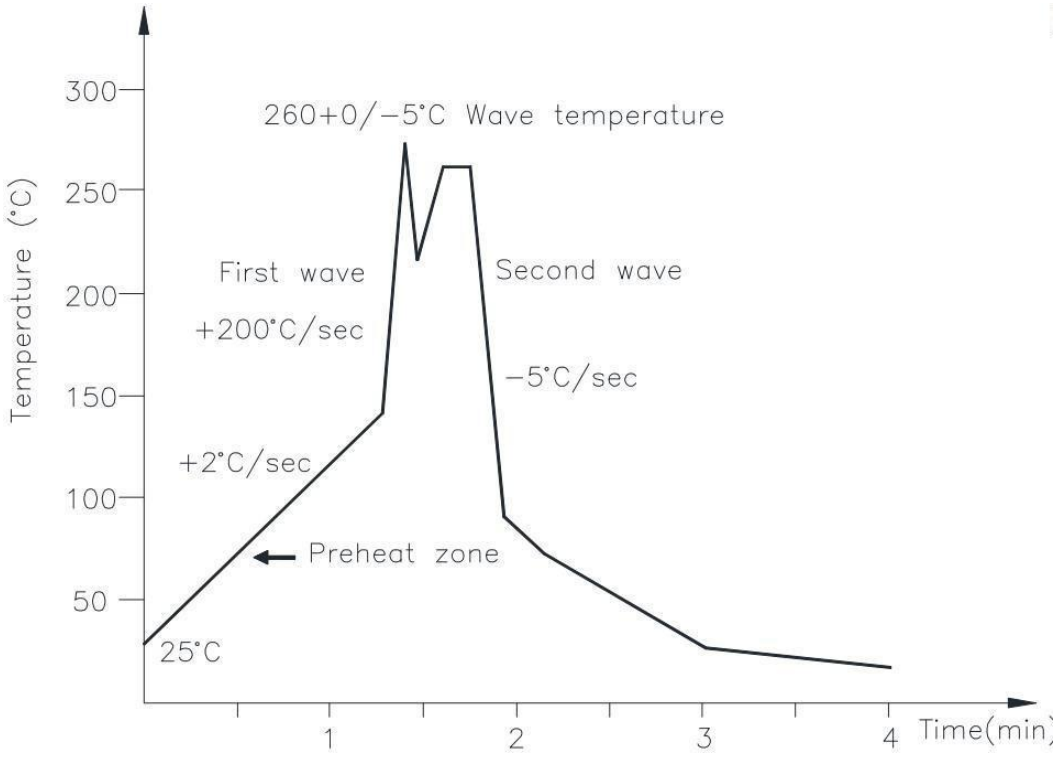
Profile item	Conditions
Preheat - Temperature Min (T Smin) - Temperature Max (T Smax) - Time (min to max) (ts)	 150˚C 200˚C 90±30 sec
Soldering zone - Temperature (TL) - Time (t L)	 217˚C 60 sec
Peak Temperature	260˚C
Peak Temperature time	20 sec
Ramp-up rate	3˚C / sec max.
Ramp-down rate from peak temperature	3~6˚C / sec
Reflow times	≤3



13. Wave soldering (JEDEC22A111 compliant)

One time soldering is recommended within the condition of temperature.

Temperature Time	260+0/-5˚C 10 sec
Preheat temperature Preheat time	5 to 140˚C 30 to 80 sec



2. Hand soldering by soldering iron

Allow single lead soldering in every single process. One time soldering is recommended.

Temperature Time	380+0/-5˚C 3 sec max

14. Typical Electro-Optical Characteristics Curves

Figure 1-1. Load current vs Ambient temperature

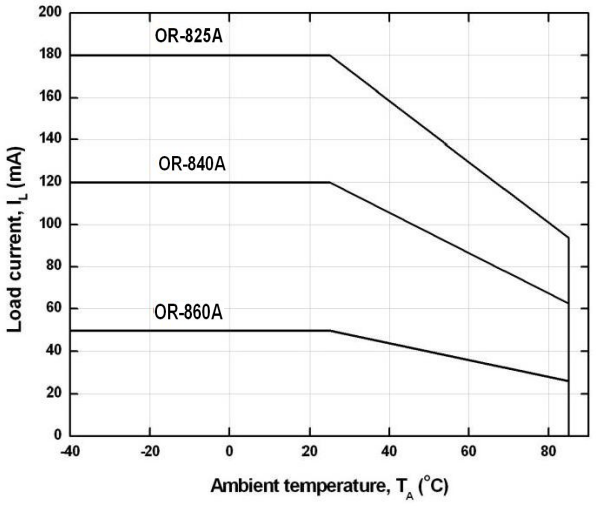


Figure 1-2. Load current vs Ambient temperature

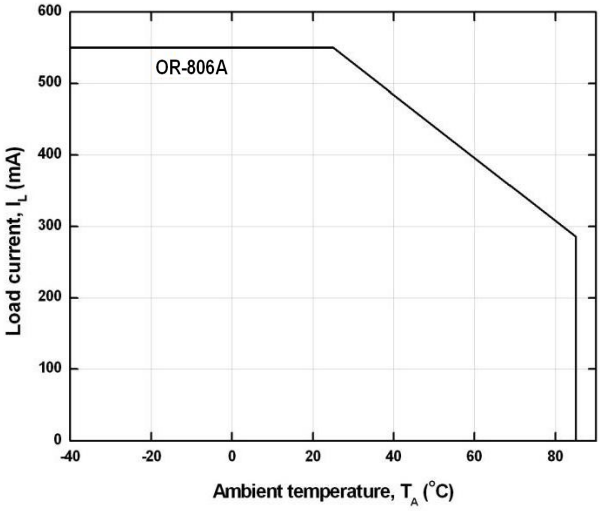


Figure 2-1. On Resistance vs Ambient Temperature

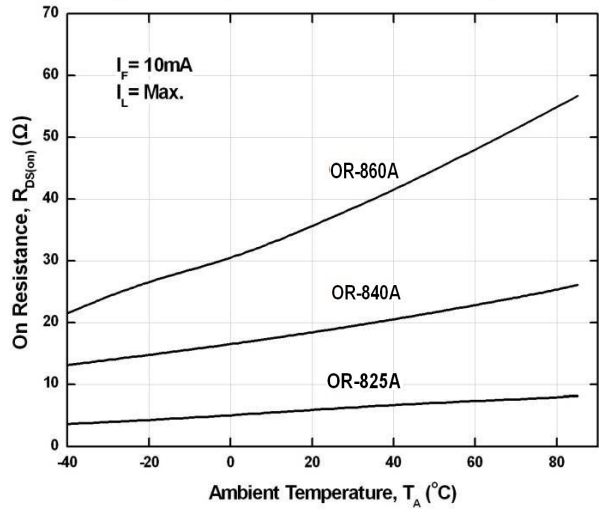


Figure 2-2. On Resistance vs Ambient Temperature

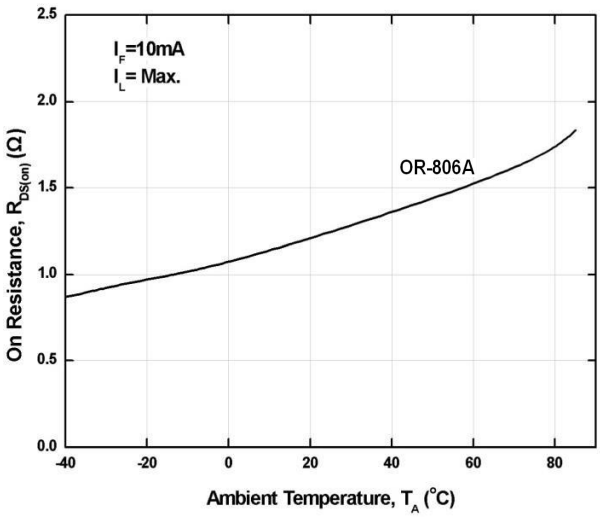


Figure 3. Switching Time vs Ambient Temperature

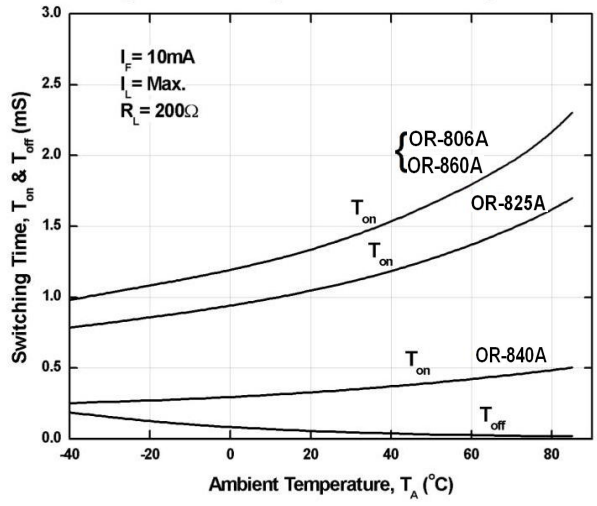


Figure 4-1. Turn On Time vs LED Forward Current

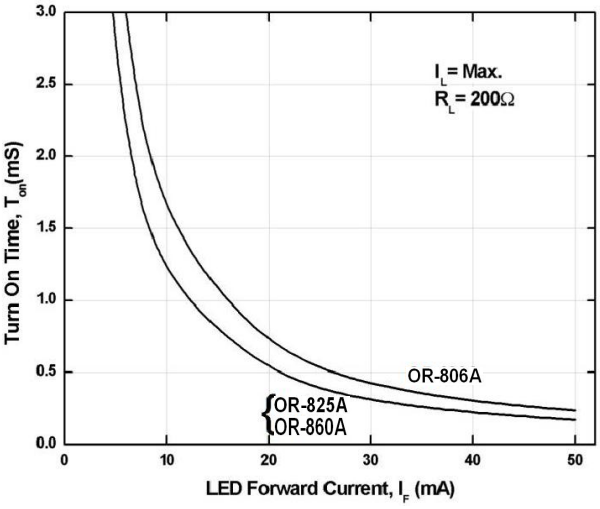


Figure 4-2. Turn On Time vs LED Forward Current

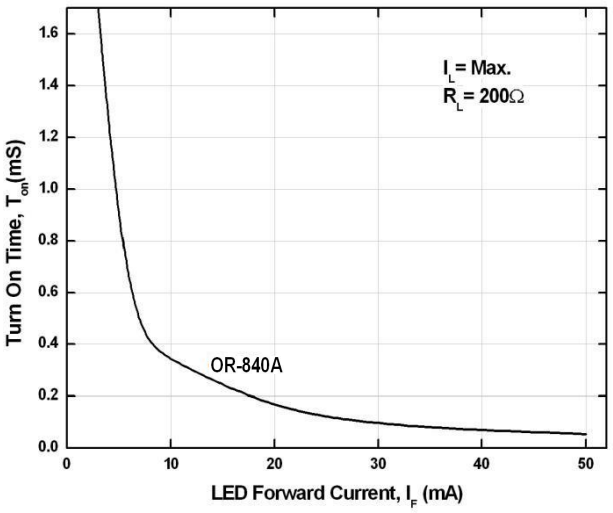


Figure 5. Turn Off Time vs LED Forward Current

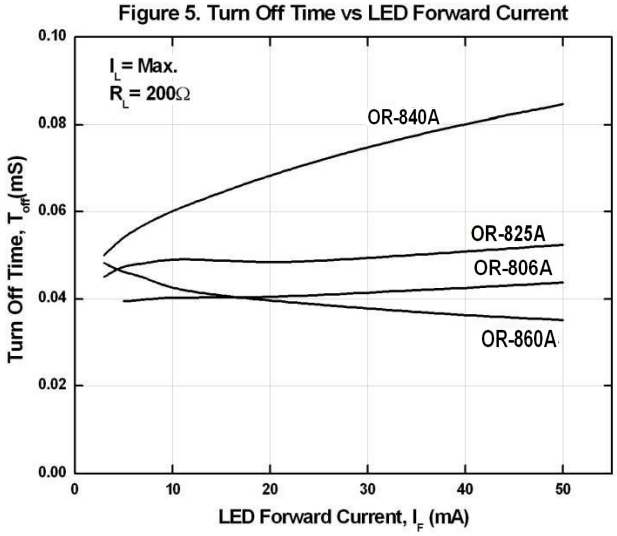


Figure 6. Normalized LED Operate on Current vs Ambient Temperature

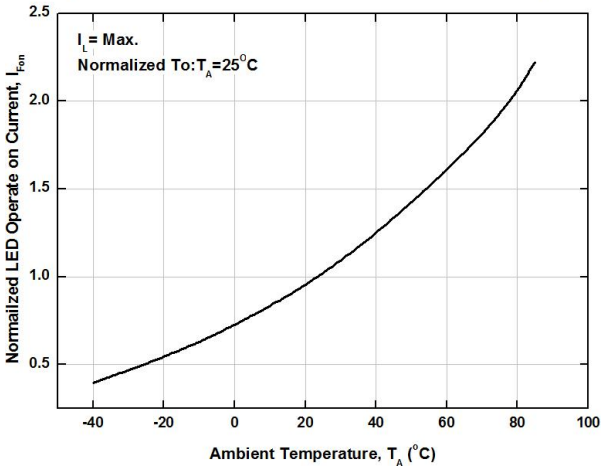


Figure 7. Normalized LED Turn off Current vs Ambient Temperature

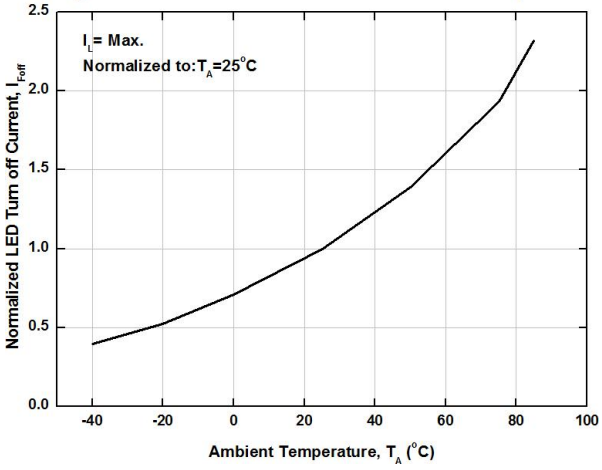


Figure 8. LED Dropout Voltage vs Ambient Temperature

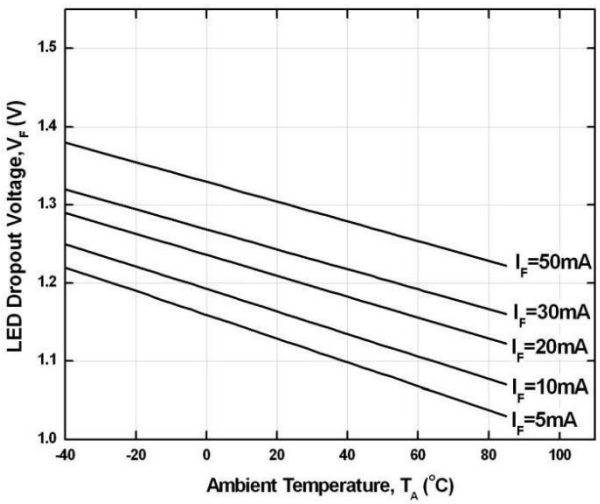


Figure 9-1. Load Voltage vs Load Current

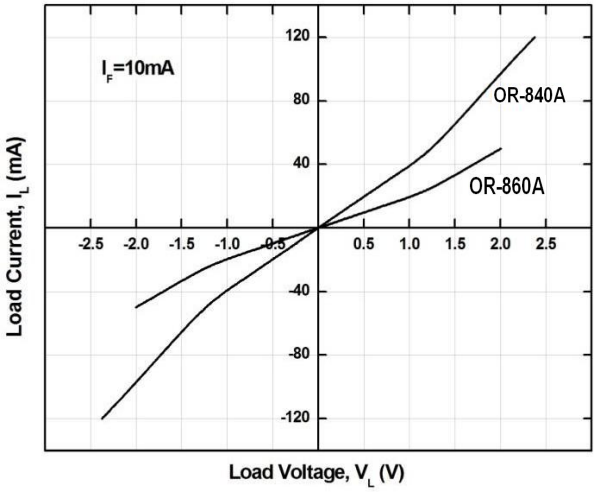


Figure 9-2. Load Voltage vs Load Current

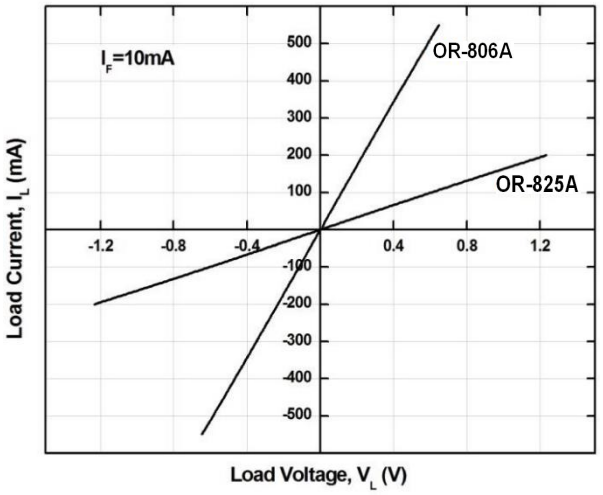


Figure 10. Off State Leakage Current vs Load Voltage

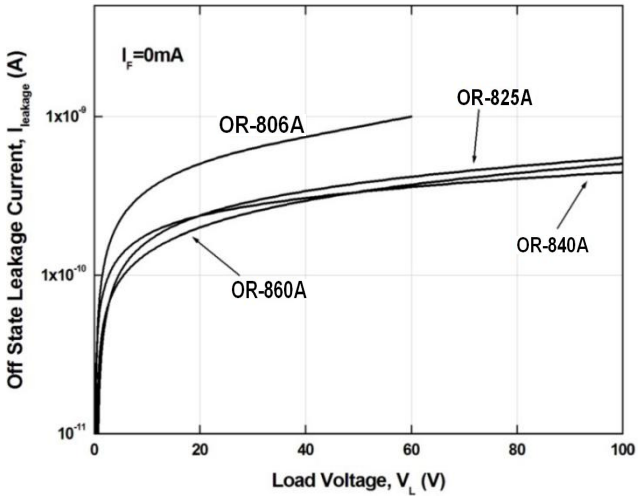
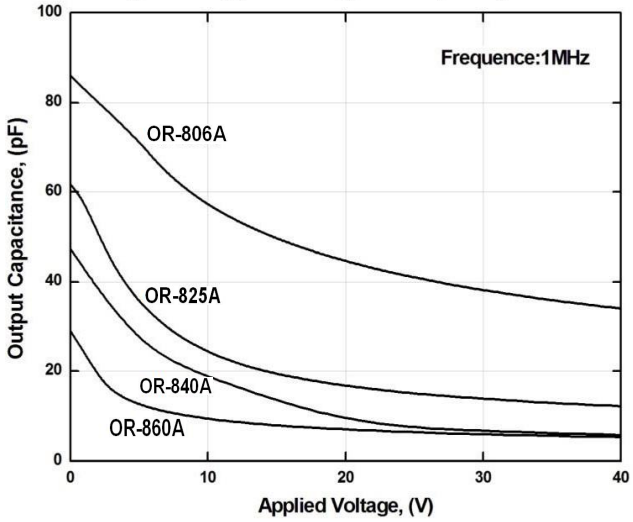
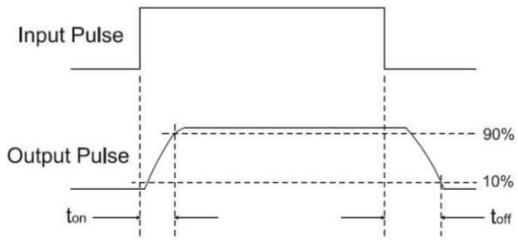


Figure 11. Applied Voltage VS Output Capacitance



Turn on/Turn off Time



单击下面可查看定价，库存，交付和生命周期等信息

>>ORIENT(奥伦德)