

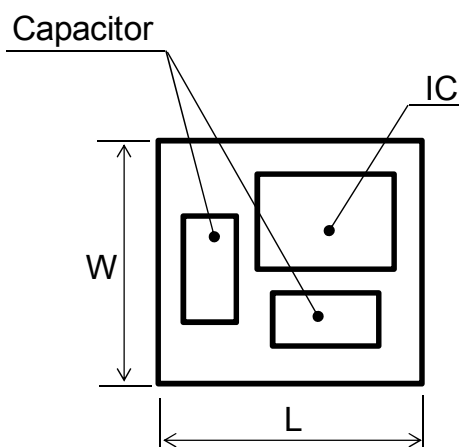
### 1. Features

- Low EMI noise and small footprint using inductor-imbedded ferrite substrate
- High efficiency using synchronous rectifier technology
- Selectable operating mode (PWM forced or PFM/PWM auto-select)
- Input voltage range: 2.7 - 5.5V
- Output voltage: 1.2 - 3.3V
- Maximum Load Current: 600mA
- Switching frequency: 6.0MHz

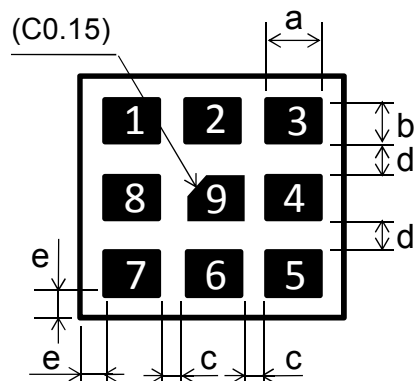
### 2. Mechanical details

#### 2-1 Outline

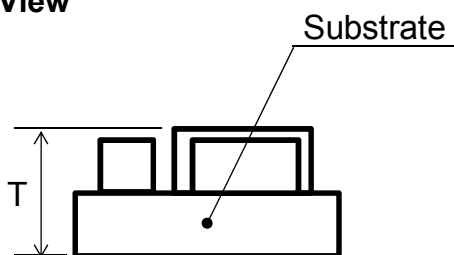
**Top View**



**Bottom View**



**Side View**



Unit:mm

Mark	Dimension	Mark	Dimension
L	2.5 +/- 0.2	a	0.45 +/- 0.1
W	2.3 +/- 0.2	b	0.35 +/- 0.1
T	1.2MAX	c	0.325
		d	0.375
		e	0.25 +/- 0.2

## 2-2 Pin configuration

No.	Symbol	I/O	Description
1	Mode	Input	Operation mode select pin H: Forced PWM mode, L: Auto PFM/PWM mode
2	GND	-	GND pin
3,4	Vout	Output	Voltage output pin
5	EN	Input	ON/OFF control pin H: Enable, L: Disable
6	GND	-	GND pin
7,8	Vin	Input	Voltage input pin
9	GND	-	GND pin

## 3. Ordering Information

Part number	Output Voltage	Device Specific Feature	MOQ
LXDC2UR12A-118	1.2V		T/R,3000pcs/R
LXDC2UR15A-119	1.5V		T/R,3000pcs/R
LXDC2UR18A-120	1.8V		T/R,3000pcs/R
LXDC2UR30A-143	3.0V		T/R,3000pcs/R
LXDC2UR33A-122	3.3V		T/R,3000pcs/R

## 4. Electrical Specification

### 4-1 Absolute maximum ratings

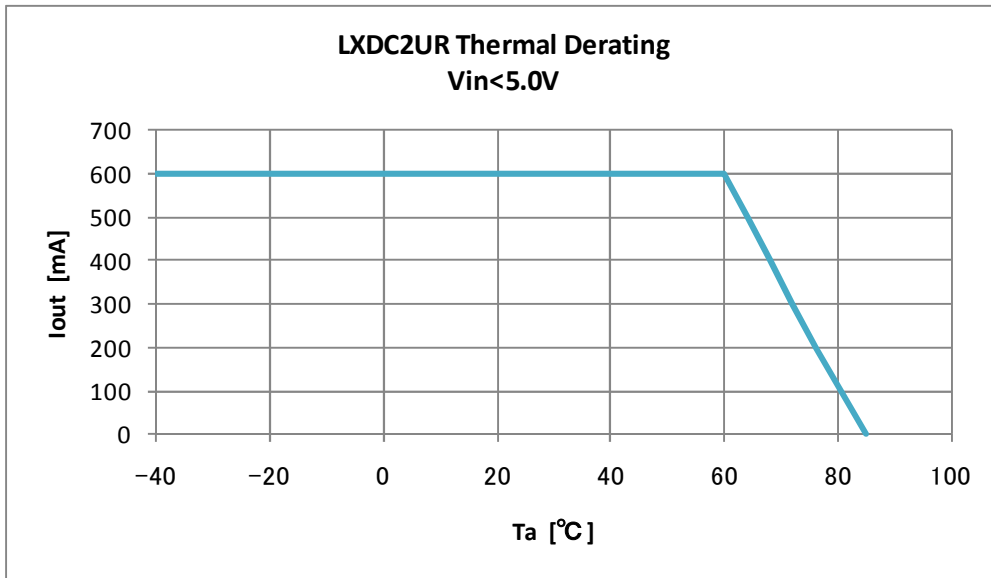
Parameter	Symbol	Rating	Unit
Maximum input voltage	V <sub>in</sub>	6.3	V
Operating temperature	T <sub>OP</sub>	-40 to +85	°C
Storage temperature	T <sub>STO</sub>	-40 to +85	°C

**4-2 Electrical characteristics (Ta=25°C)**

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit	
Input voltage	Vin	LXDC2UR12A-118	2.7	-	5.5	V	
		LXDC2UR15A-119	2.7				
		LXDC2UR18A-120	2.7				
		LXDC2UR30A-143	3.6				
		LXDC2UR33A-122	3.6				
UVLO voltage	UVLO		-	2.05	-	V	
Input leak current	Iin-off			0.1		uA	
Output voltage accuracy	Vout	Vin-Vout>0.6V	LXDC2UR12A-118	1.176	1.2	1.224	V
			LXDC2UR15A-119	1.47	1.5	1.53	
			LXDC2UR18A-120	1.746	1.8	1.854	
			LXDC2UR30A-143	2.94	3.0	3.06	
			LXDC2UR33A-122	3.234	3.3	3.366	
Load current range	Iout	LXDC2UR12A-118	0	-	600	mA	
		LXDC2UR15A-119	0	-	600		
		LXDC2UR18A-120	0	-	600		
		LXDC2UR30A-143	0	-	600		
		LXDC2UR33A-122	0	-	600		

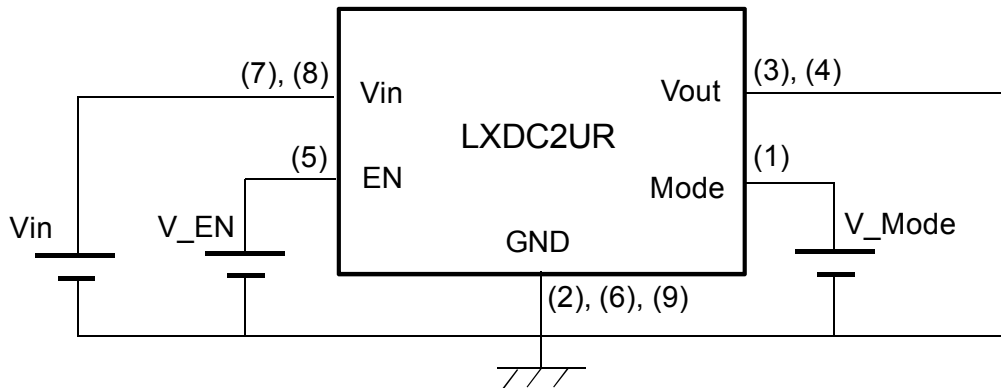
Parameter	Symbol	Condition		Min.	Typ.	Max.	Unit
Ripple voltage	Vrpl	Vin=3.6V, Iout=300mA, BW=100MHz	LXDC2UR12A-118	-	15	-	mV(p-p)
			LXDC2UR15A-119		15		
			LXDC2UR18A-120		15		
			LXDC2UR30A-143		15		
		Vin=5.0V, Iout=300mA, BW=100MHz	LXDC2UR33A-122		15		
Efficiency	EFF	Vin=3.6V, Io=300mA	LXDC2UR12A-118	-	82	-	%
			LXDC2UR15A-119		84		
			LXDC2UR18A-120	-	87	--	
			LXDC2UR30A-143	-	93	-	
		Vin=5.0V, Iout=300mA	LXDC2UR33A-122	-	90	-	
EN control voltage	VENH		1.4	-	Vin	V	
	VENL		0	-	0.4		
MODE Voltage	VMODEH		1.4	-	Vin	V	
	VMODEL		0	-	0.4		
SW Frequency	Fosc		-	6	-	MHz	
Start-up time	Ton				170	us	

### 4-3 Output Current Derating



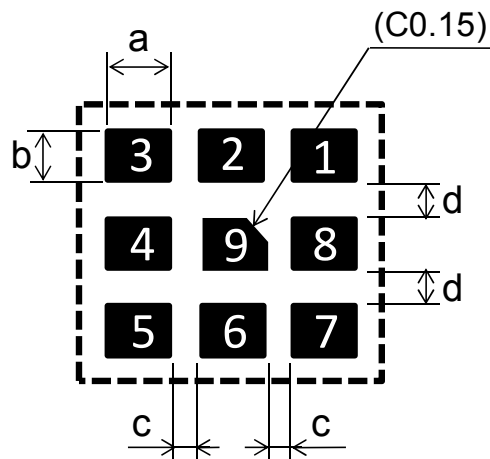
This product is used by the following temperature derating.

**5. Test Circuit**



**6. Reference Land Pattern**

Top View



Unit: mm

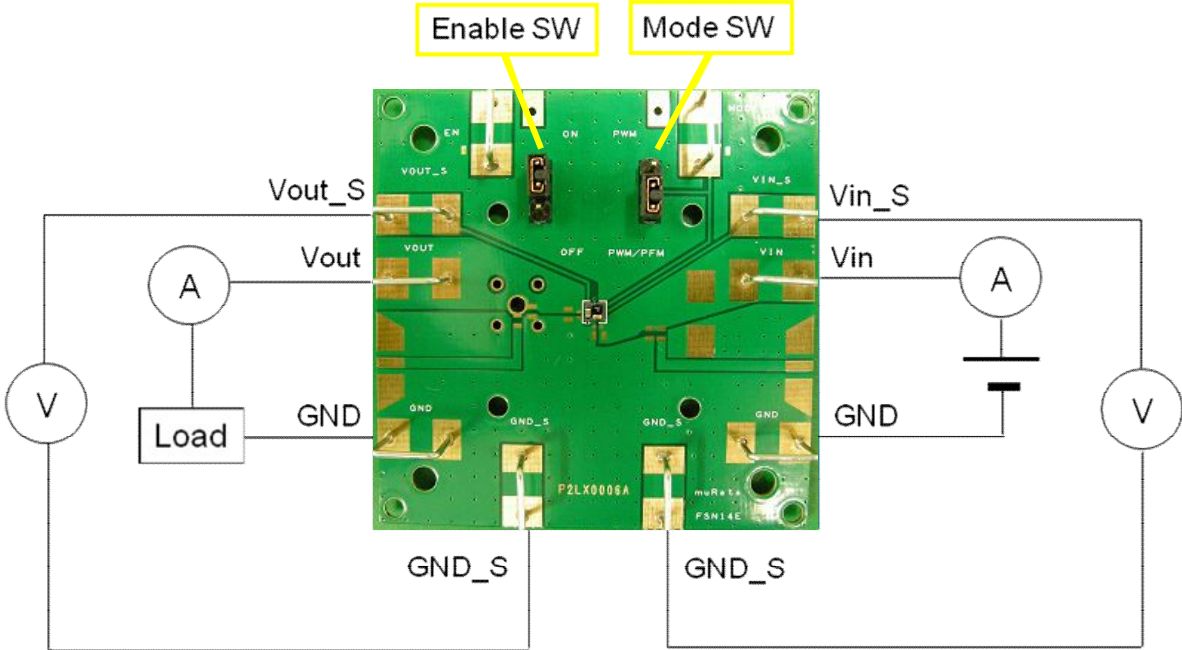
Mark	Dimension
a	0.45
b	0.35
c	0.325
d	0.375

Notes: this land layout is for reference purpose only.

7. Measurement Data

**Micro DCDC Converter evaluation board (P2LX0006)**

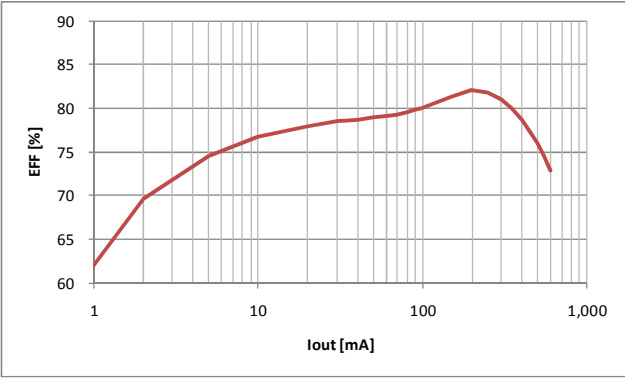
**Measurement setup**



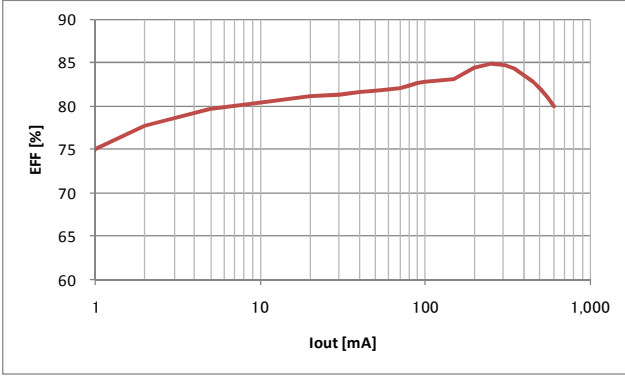
**Typical Measurement Data (reference purpose only) (Ta=25°C)**

**Efficiency**

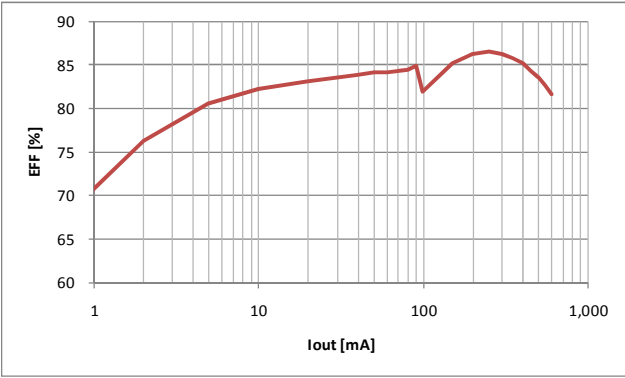
Vin=3.6V, Vout=1.2V



Vin=3.6V, Vout=1.5V



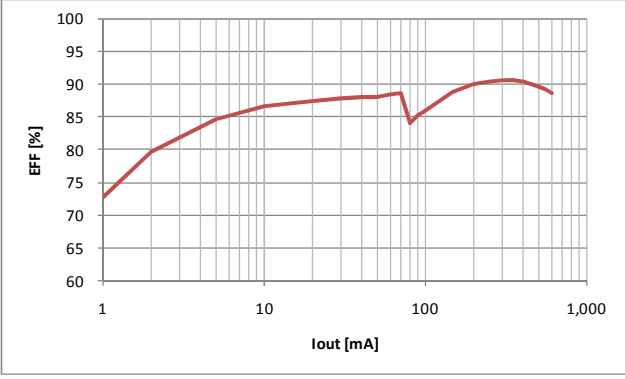
Vin=3.6V, Vout=1.8V



Vin=3.6V, Vout=3.0V



Vin=5.0V, Vout=3.3V

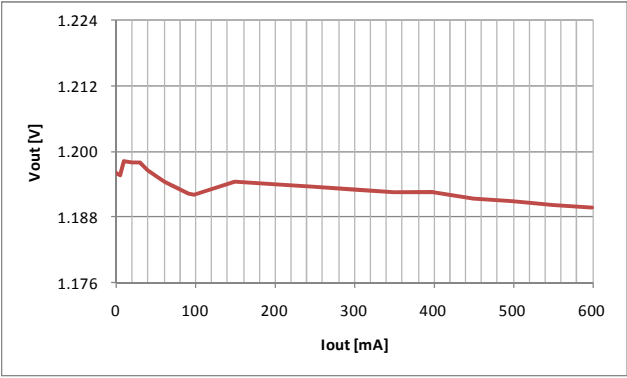




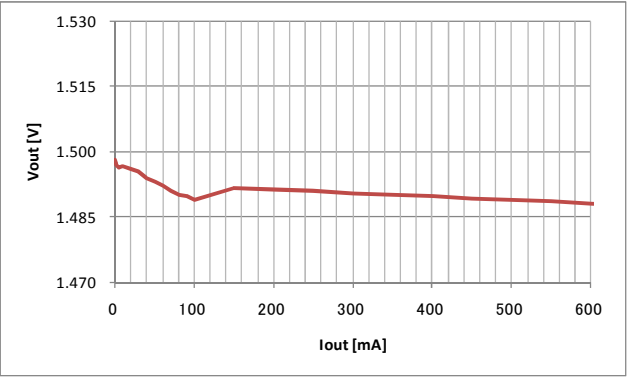
**Typical Measurement Data (reference purpose only) (Ta=25°C)**

**Load Regulation**

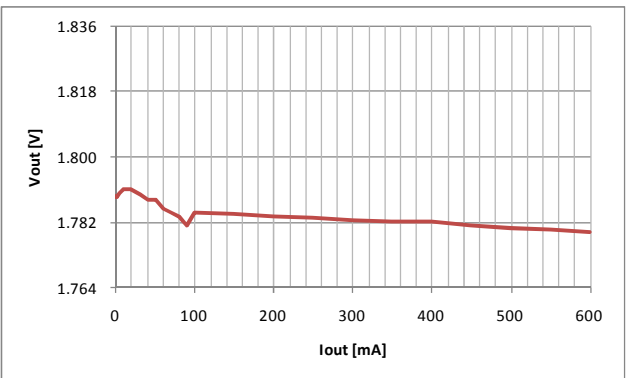
Vin=3.6V, Vout=1.2V



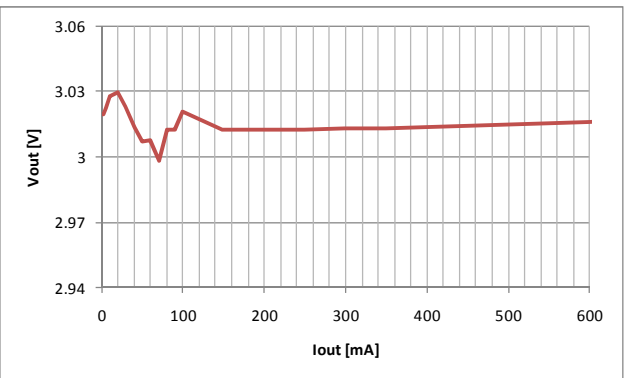
Vin=3.6V, Vout=1.5V



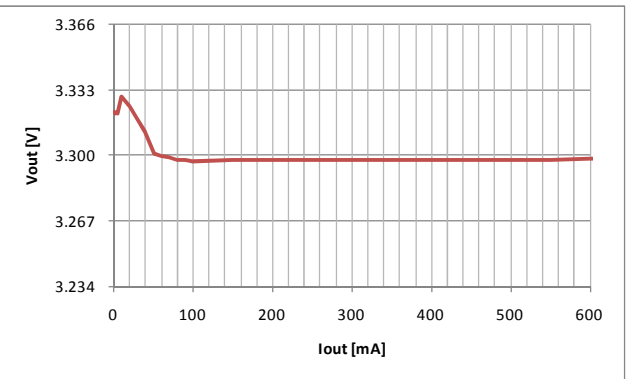
Vin=3.6V, Vout=1.8V



Vin=3.6V, Vout=3.0V



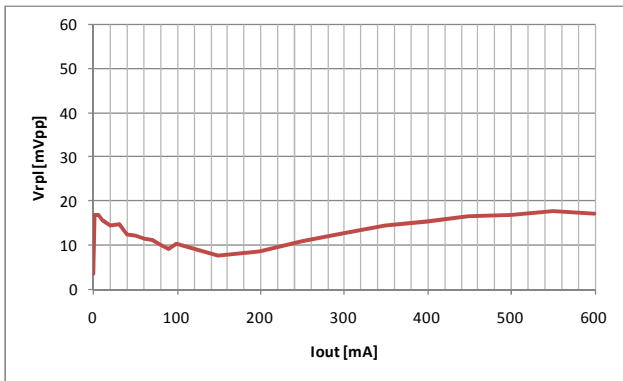
Vin=5.0V, Vout=3.3V



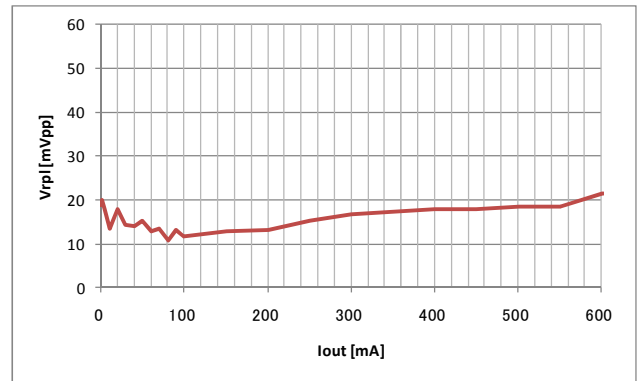
## Typical Measurement Data (reference purpose only) (Ta=25°C)

### Output Ripple-Noise

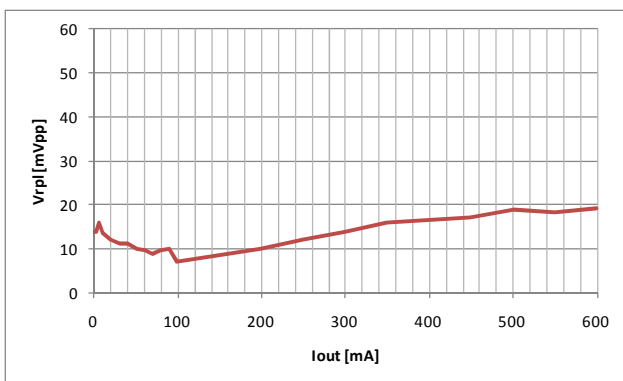
Vin=3.6V, Vout=1.2V, BW : 150MHz



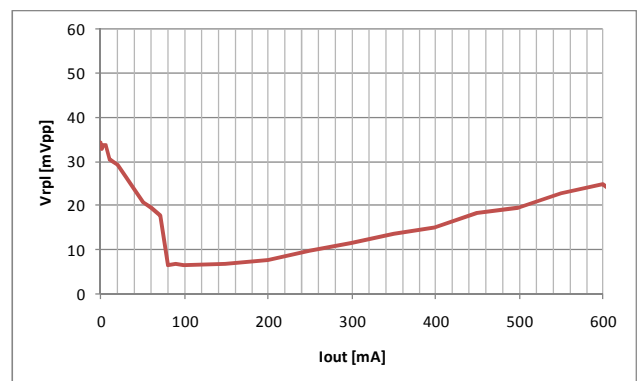
Vin=3.6V, Vout=1.5V, BW : 150MHz



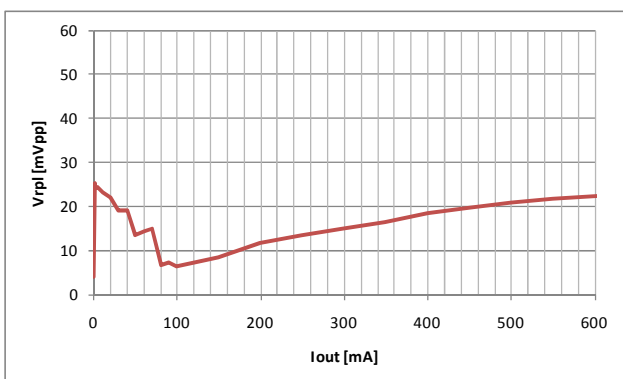
Vin=3.6V, Vout=1.8V, BW : 150MHz



Vin=3.6V, Vout=3.0V, BW : 150MHz



Vin=5.0V, Vout=3.3V, BW : 150MHz



#### Note:

1. This datasheet's specifications are subject to change or our products in it may be discontinued without advance notice. Please check with our sales representatives or product engineers before ordering.
2. This datasheet has only typical specifications because there is no space for detailed specifications. Therefore, please approve our product specifications or transact the approval sheet for product specifications before ordering.