

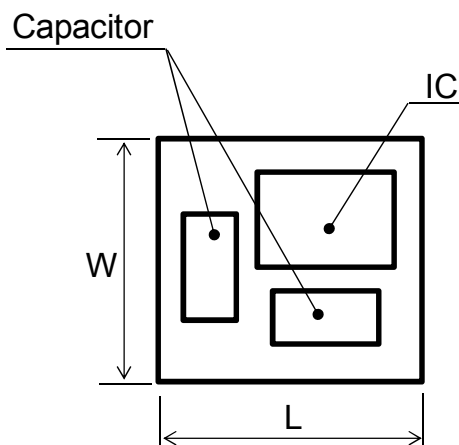
### 1. Features

- 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

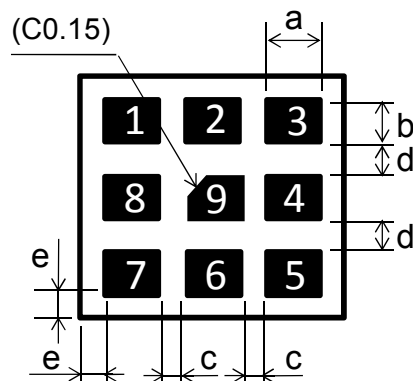
### 2. Mechanical details

#### 2-1 Outline

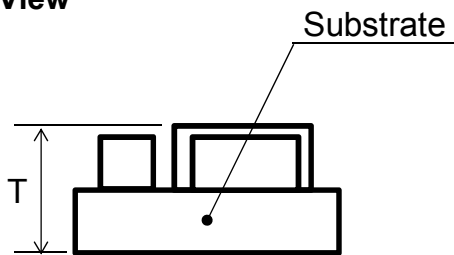
**Top View**



**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

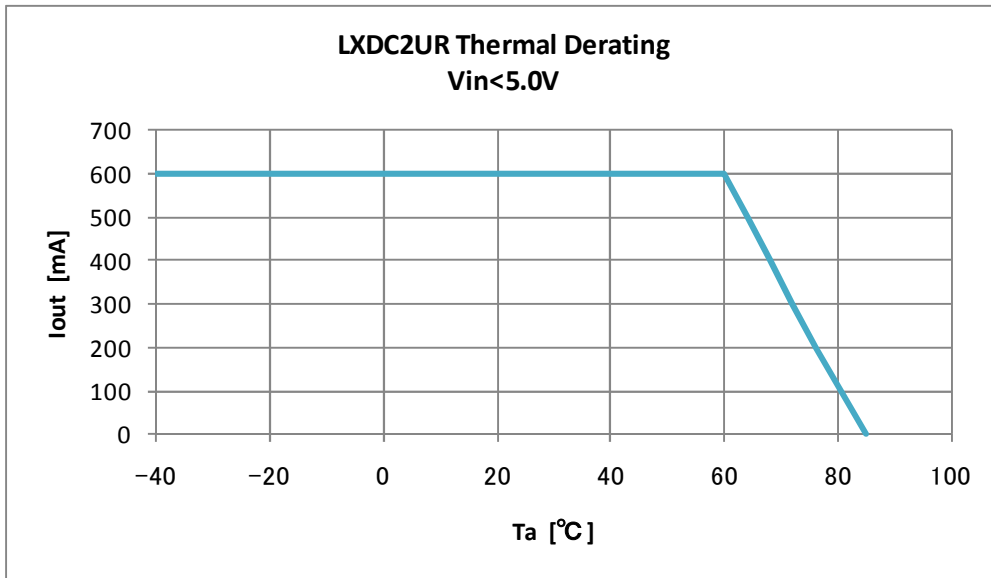
Parameter	Symbol	Rating	Unit
Maximum input voltage	V <sub>in</sub>	6.3	V
Operating temperature	T <sub>OP</sub>	-40 to +85	°C
Storage temperature	T <sub>STO</sub>	-40 to +85	°C

**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		

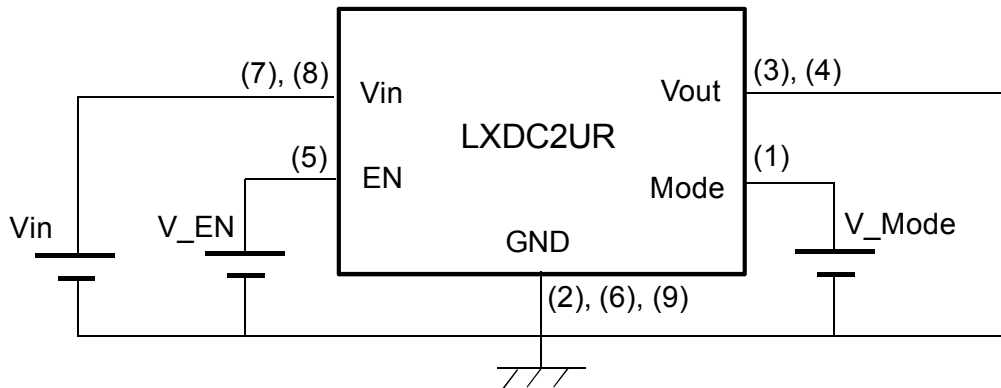
Parameter	Symbol	Condition		Min.	Typ.	Max.	Unit
Ripple voltage	Vrpl	Vin=3.6V, Iout=300mA, BW=100MHz	LXDC2UR12A-118	-	15	-	mV(p-p)
			LXDC2UR15A-119		15		
			LXDC2UR18A-120		15		
			LXDC2UR30A-143		15		
		Vin=5.0V, Iout=300mA, BW=100MHz	LXDC2UR33A-122		15		
Efficiency	EFF	Vin=3.6V, Io=300mA	LXDC2UR12A-118	-	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



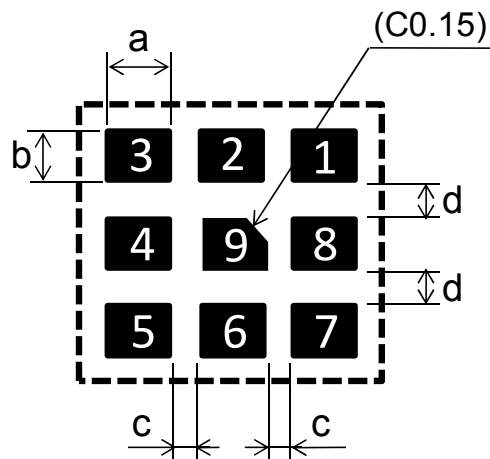
This product is used by the following temperature derating.

**5. Test Cricuit**



**6. Reference Land Pattern**

Top View



Unit: mm

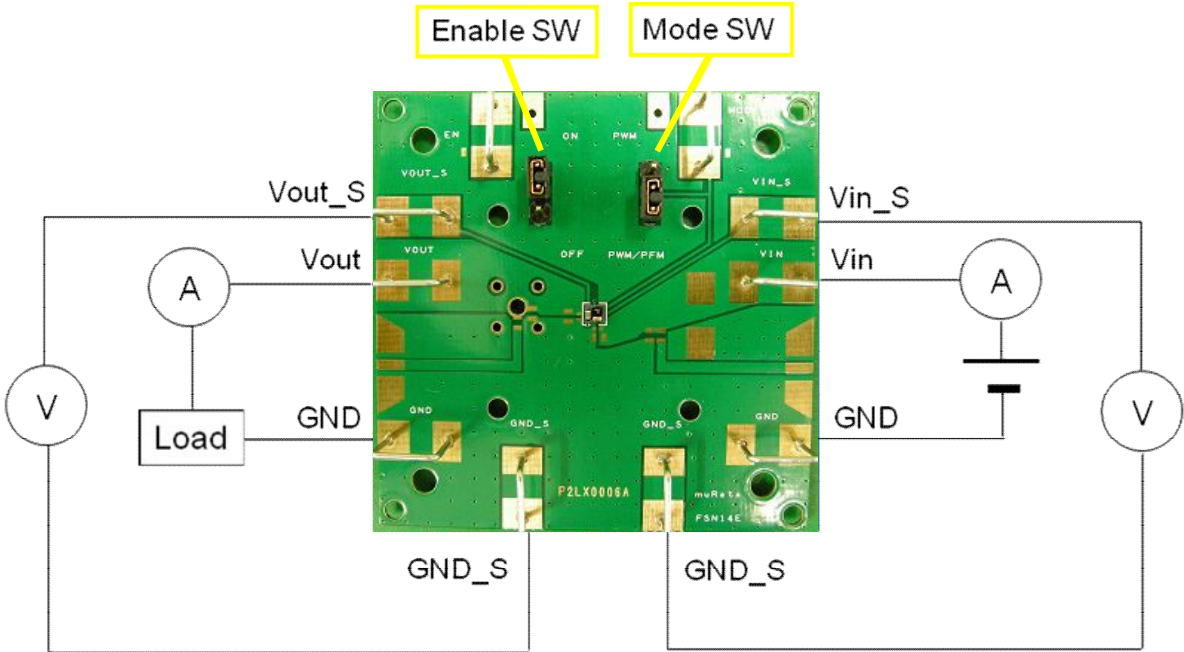
Mark	Dimension
a	0.45
b	0.35
c	0.325
d	0.375

Notes: this land layout is for reference purpose only.

7. Measurement Data

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

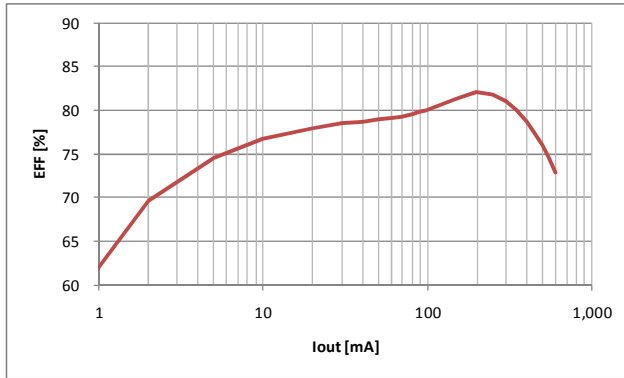
**Measurement setup**



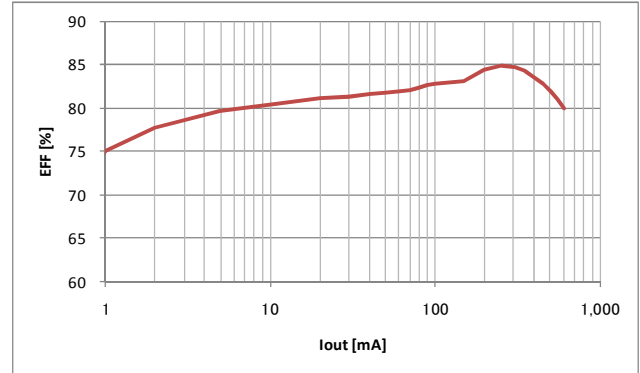
**Typical Measurement Data (reference purpose only) (Ta=25°C)**

**Efficiency**

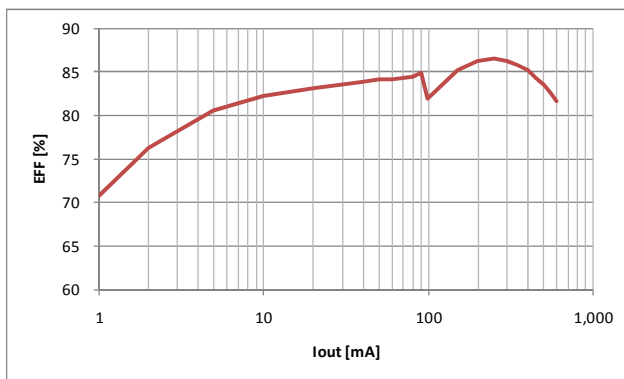
Vin=3.6V, Vout=1.2V



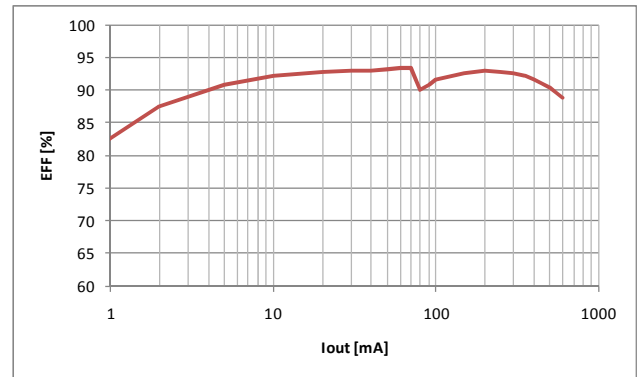
Vin=3.6V, Vout=1.5V



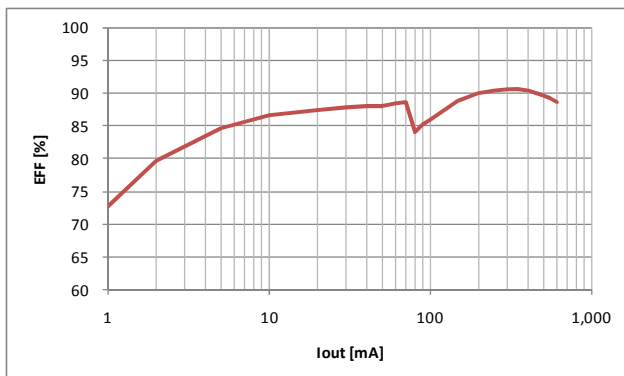
Vin=3.6V, Vout=1.8V



Vin=3.6V, Vout=3.0V



Vin=5.0V, Vout=3.3V

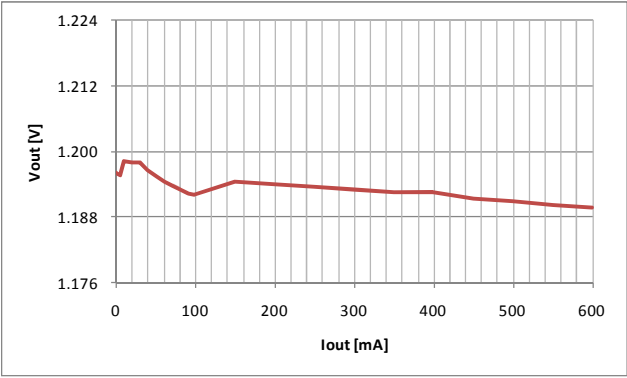




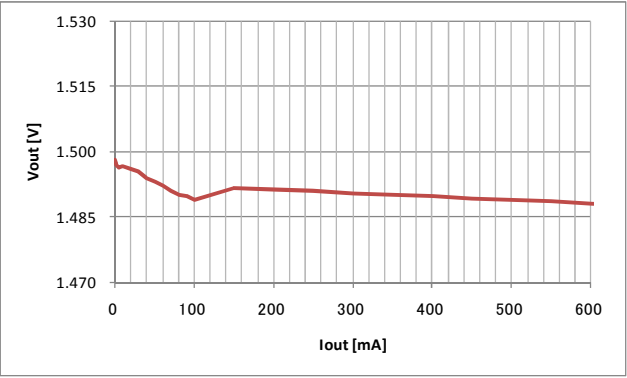
**Typical Measurement Data (reference purpose only) (Ta=25°C)**

**Load Regulation**

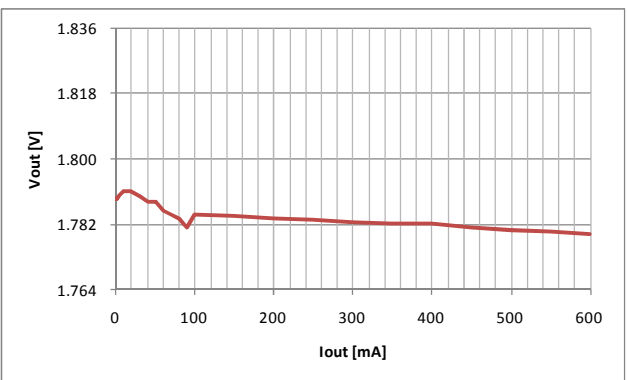
Vin=3.6V, Vout=1.2V



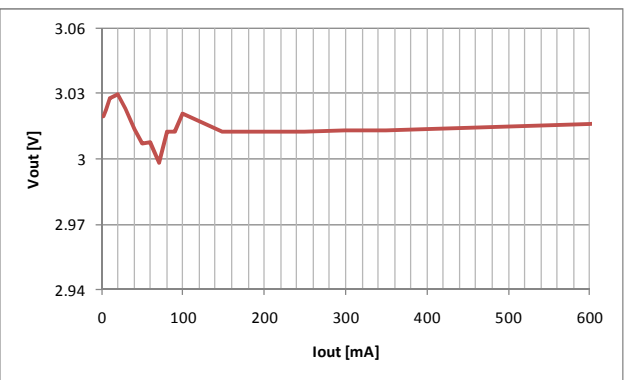
Vin=3.6V, Vout=1.5V



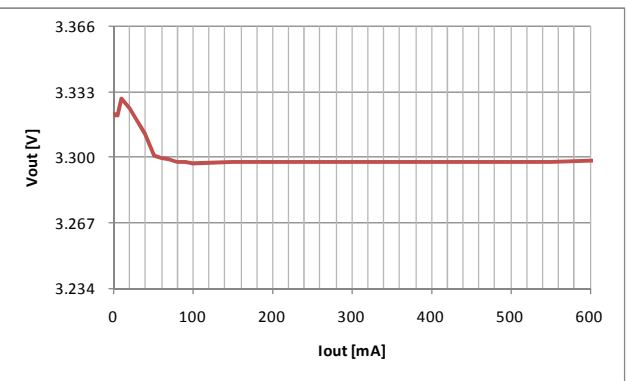
Vin=3.6V, Vout=1.8V



Vin=3.6V, Vout=3.0V



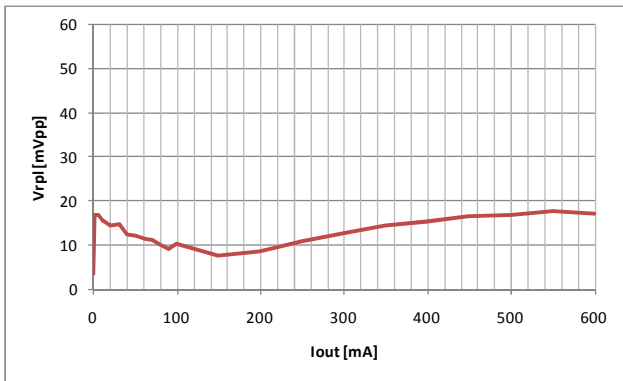
Vin=5.0V, Vout=3.3V



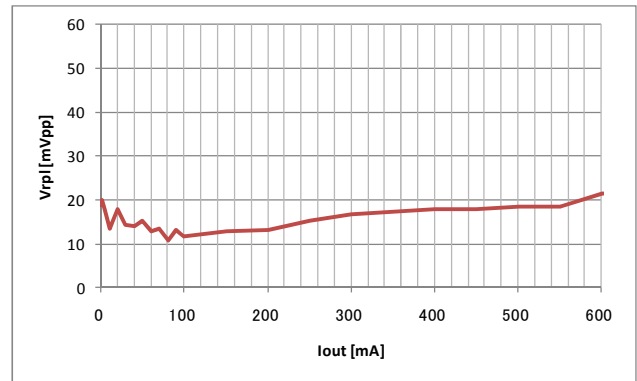
**Typical Measurement Data (reference purpose only) (Ta=25°C)**

**Output Ripple-Noise**

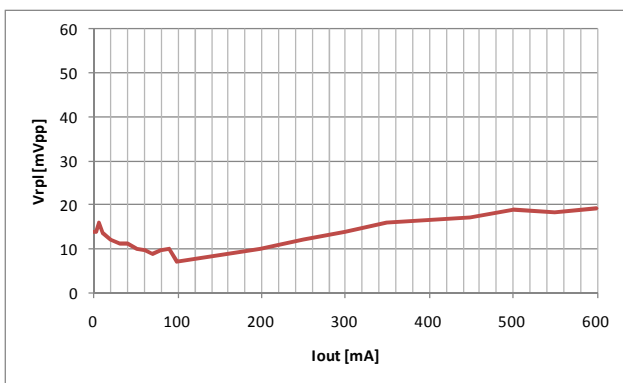
Vin=3.6V, Vout=1.2V, BW : 150MHz



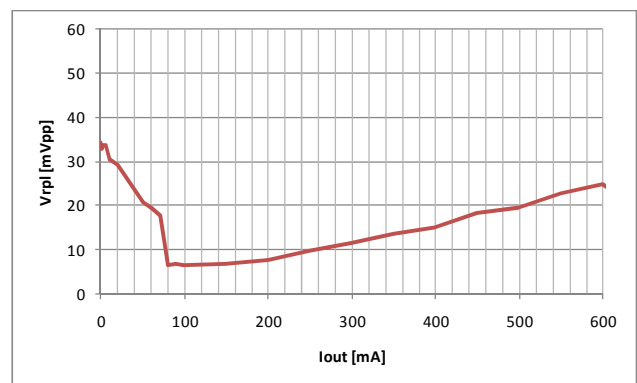
Vin=3.6V, Vout=1.5V, BW : 150MHz



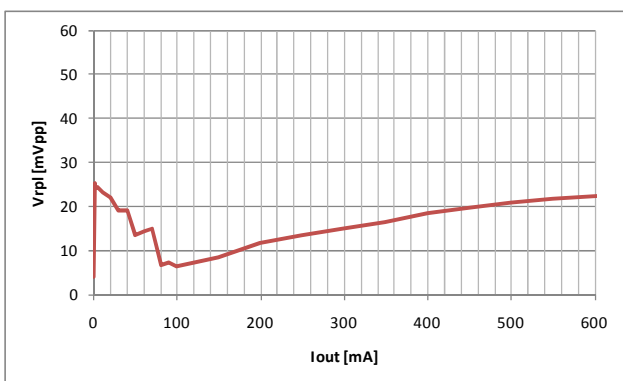
Vin=3.6V, Vout=1.8V, BW : 150MHz



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



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



**Note:**

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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.