



# RXXLD10

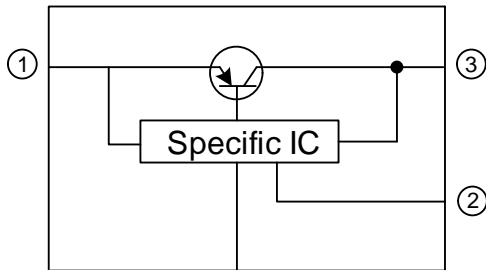
## LINEAR INTEGRATED CIRCUIT

LOW VOLTAGE OPERATION  
 LOW POWER-LOSS VOLTAGE  
 REGULATORS

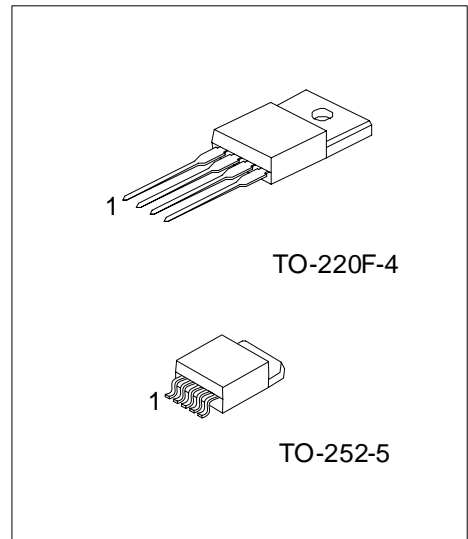
■ FEATURES

- \* Operating under low voltage range (Minimum: 2.35V)  
 input 2.5V, available output around 1.5 ~ 1.8V
- \* Low dissipation current
- \* Built-in overcurrent protection and over temperature protection functions

■ EQUIVALENT



⑤ / ④ For TO-220F-4 Package



\*Pb-free plating product number: RXXLD10L

■ ORDERING INFORMATION

Order Number		Package	Packing
Normal	Lead Free Plating		
RXXLD10-TF4-T	RXXLD10L-TF4-T	TO-220F-4	Tube
RXXLD10-TN5-R	RXXLD10L-TN5-R	TO-252-5	Tape Reel
RXXLD10-TN5-T	RXXLD10L-TN5-T	TO-252-5	Tube

<p>RXXLD10L-TF4-R</p>	<p>(1)Packing Type          (2)Package Type          (3)Lead Plating          (4)Output Voltage Code</p>	<p>(1) R: Tape Reel, T: Tube          (2) TF4: TO-220F-4, TN5: TO-252-5          (3) L: Lead Free Plating, Blank: Pb/Sn          (4) xx: refer to Marking Information</p>
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### ■ PIN DESCRIPTION

PIN NO.		PIN NAME
TO-220F-4	TO-252-5	
1	1	INPUT
2	2	ON/OFF
3	3	OUTPUT
-	4	NC
4	5	GND

### ■ MARKING INFORMATION

PACKAGE	VOLTAGE CODE	MARKING
TO-220F-4	15:1.5V 18:1.8V 25:2.5V 03:3.0V 33:3.3V	<p>The diagram shows a TO-220F-4 package with a circular top. The marking 'UTC' is at the top, followed by 'RXXLD10' and a small square symbol. Below this, a voltage code is indicated by an arrow pointing left. To the right, 'LEAD PLATING' and 'DATE CODE' are indicated by arrows pointing right. The package has five pins at the bottom.</p>
TO-252-5		<p>The diagram shows a TO-252-5 package with a rectangular top. The marking 'UTC' is at the top, followed by 'RXXLD10' and a small square symbol. Below this, a voltage code is indicated by an arrow pointing left. To the right, 'LEAD PLATING' and 'DATE CODE' are indicated by arrows pointing right. The package has five pins at the bottom.</p>

### ■ ABSOLUTE MAXIMUM RATINGS (Ta = 25 )

PARAMETER	SYMBOL	RATINGS	UNIT
Input Voltage	V <sub>IN</sub>	10	V
ON/OFF Control Terminal Voltage (Note 2)	V <sub>C</sub>	10	V
Output Current	I <sub>OUT</sub>	1.0	A
Power Dissipation (with infinite heat sink)	P <sub>D</sub>	8	W
Junction Temperature	T <sub>J</sub>	+150	
Operating Temperature	T <sub>OPR</sub>	-40 ~ +85	
Storage Temperature	T <sub>STG</sub>	-40 ~ +150	

Note 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2. All are open except GND and applicable terminals.

### ■ ELECTRICAL CHARACTERISTICS

(V<sub>IN</sub> = V<sub>O(TYP)</sub>+1V, I<sub>OUT</sub> = 0.5A, V<sub>C</sub> = 2.7V, Ta = 25 , unless otherwise specified.)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	R15LD10	V <sub>IN</sub>		2.35		10	V
	R18LD10			2.35		10	
	R25LD10			V <sub>OUT</sub> +0.5		10	
	R03LD10			V <sub>OUT</sub> +0.5		10	
	R33LD10			V <sub>OUT</sub> +0.5		10	
Output Voltage	R15LD10	V <sub>OUT</sub>		1.45	1.5	1.55	V
	R18LD10			1.75	1.8	1.85	
	R25LD10			2.438	2.5	2.562	
	R03LD10			2.925	3	3.075	
	R33LD10			3.218	3.3	3.382	
Voltage for Control (Note 1)	ON	V <sub>C(ON)</sub>		2			V
	OFF	V <sub>C(OFF)</sub>				0.8	V
Current for Control	ON	I <sub>C(ON)</sub>				200	μA
	OFF	I <sub>C(OFF)</sub>	V <sub>C</sub> = 0.4V			2	μA
Quiescent Current		I <sub>Q</sub>	I <sub>OUT</sub> = 0A		1	2	mA
Output Off-state Dissipation Current		I <sub>QS</sub>	I <sub>OUT</sub> = 0A, V <sub>C</sub> = 0.4V			5	μA
Load Regulation		ΔV <sub>OUT</sub>	I <sub>OUT</sub> = 5mA ~ 1A		0.2	2	%
Line Regulation		ΔV <sub>OUT</sub>	V <sub>IN</sub> = V <sub>O(TYP)</sub> +1V ~ V <sub>O(TYP)</sub> +6V I <sub>OUT</sub> = 5mA		0.1	1	%
Dropout Voltage(Note 2)		V <sub>D</sub>	I <sub>OUT</sub> = 1A		0.2	0.5	V
Temperature Coefficient of Output Voltage		T <sub>C</sub> V <sub>O</sub>	T <sub>J</sub> = 0 ~ 125°C, I <sub>OUT</sub> = 5mA		± 0.01		%/
Ripple Rejection		RR	Refer to Fig.2	45	60		dB

Note 1: In case of opening control terminal pin 2, output voltage turns off.

2: Input voltage shall be the value when output voltage is 95% in comparison with the initial value.

## TEST CIRCUIT

TO-220F-4 Package:

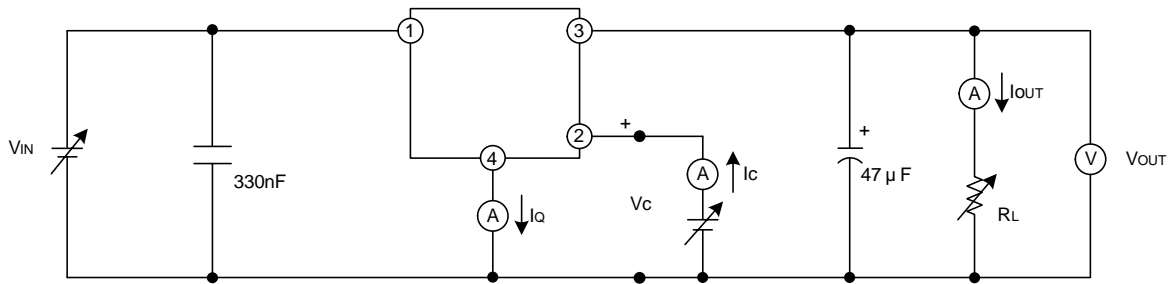


Fig.1

TO-252-5 Package:

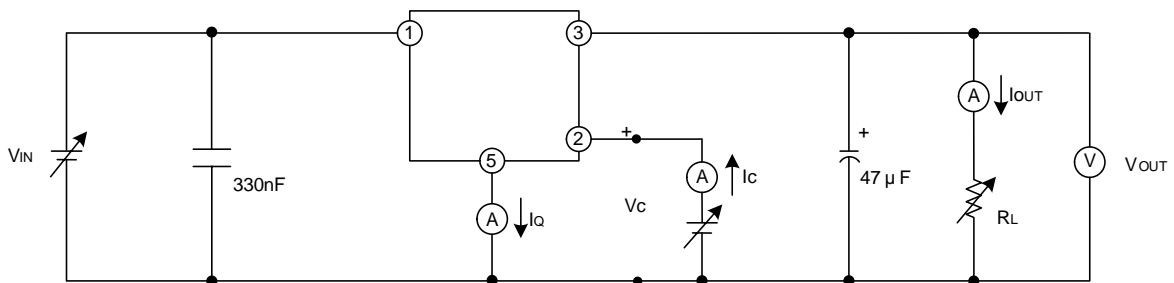
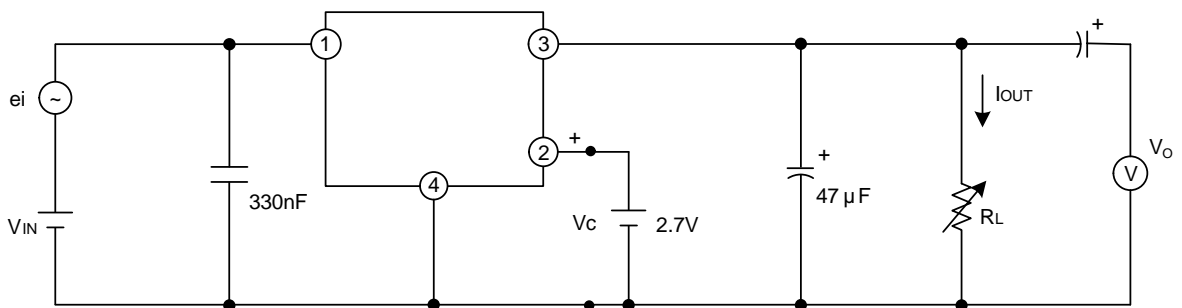


Fig.2

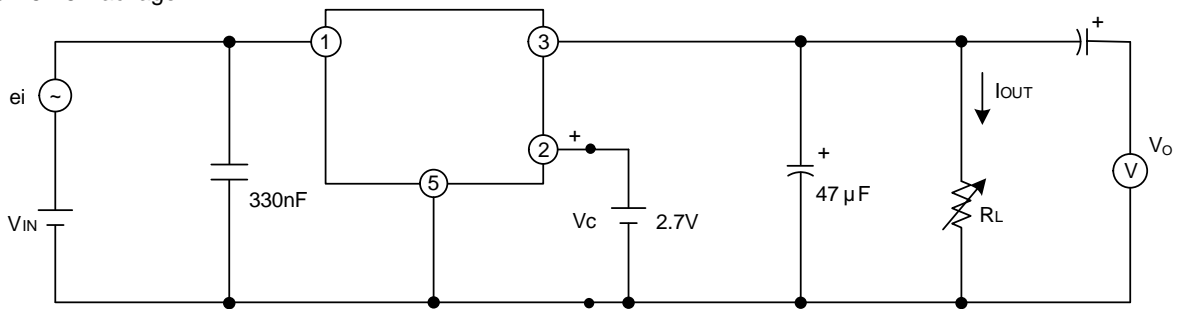
TO-220F-4 Package:



$f = 120\text{Hz}$  (sine wave),  $e_i$  (rms) =  $0.5\text{V}$ ,  $V_{IN} = V_o$  (TYP)+ $2\text{V}$ ,  $I_{OUT} = 0.5\text{A}$ ,  $RR = 20\log(e_i$  (rms)  $/V_o$ (rms))

Fig.3 For Ripple Rejection

TO-252-5 Package:



$f = 120\text{Hz}$  (sine wave),  $e_i$  (rms) =  $0.5\text{V}$ ,  $V_{IN} = V_o$  (TYP)+ $2\text{V}$ ,  $I_{OUT} = 0.5\text{A}$ ,  $RR = 20\log(e_i$  (rms)  $/V_o$ (rms))

Fig.4 For Ripple Rejection

## ■ TYPICAL APPLICATION CIRCUIT

TO-220F-4 Package:

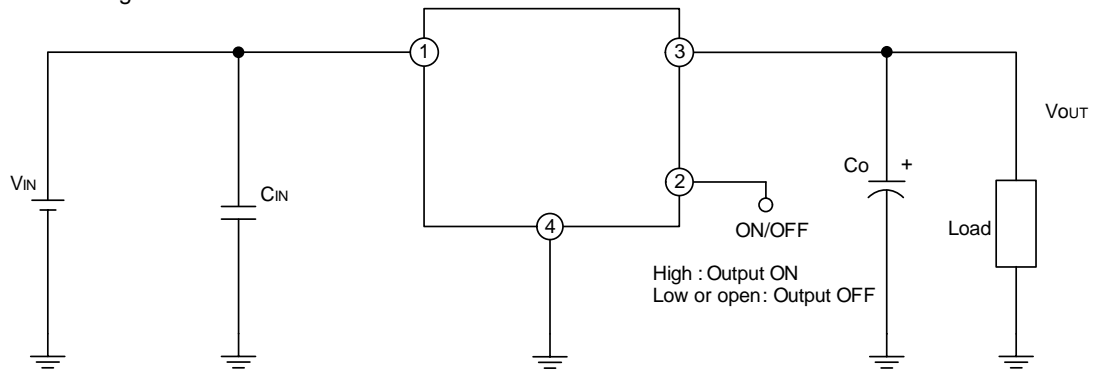


Fig. 5

TO-252-5 Package:

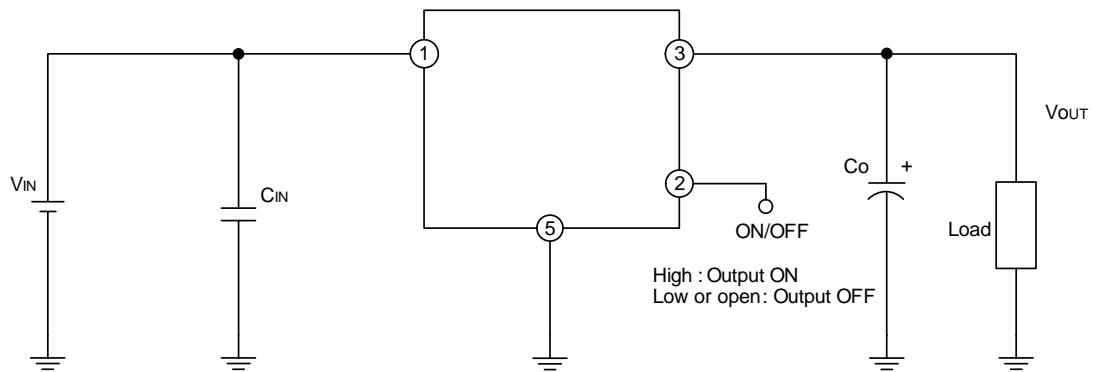
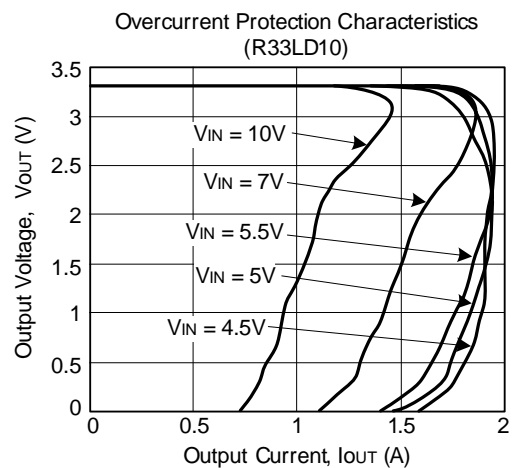
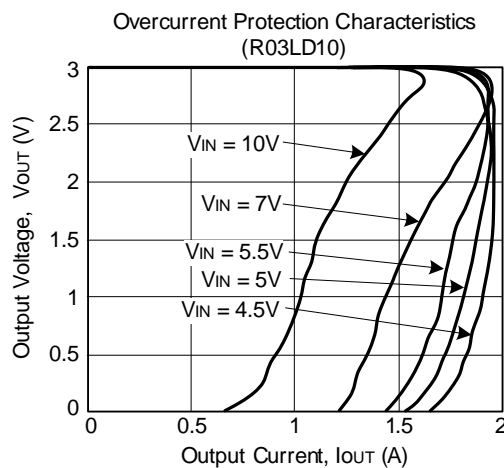
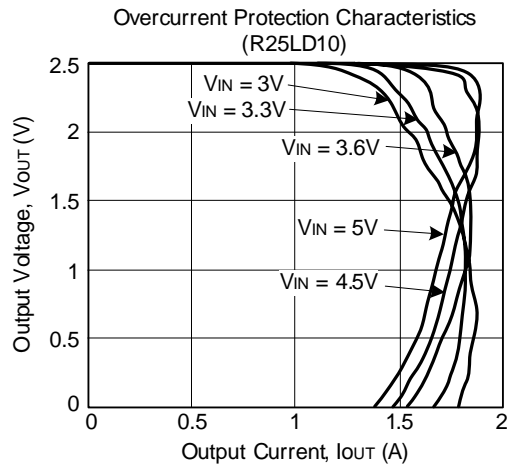
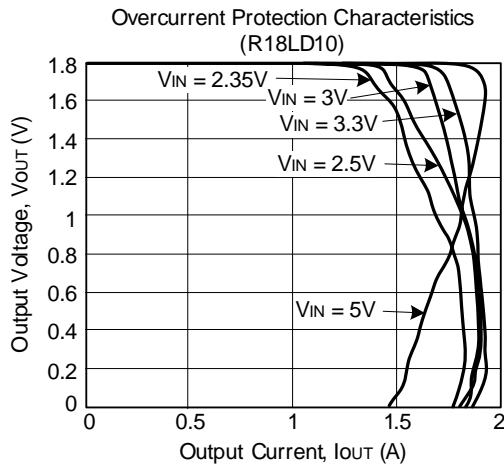
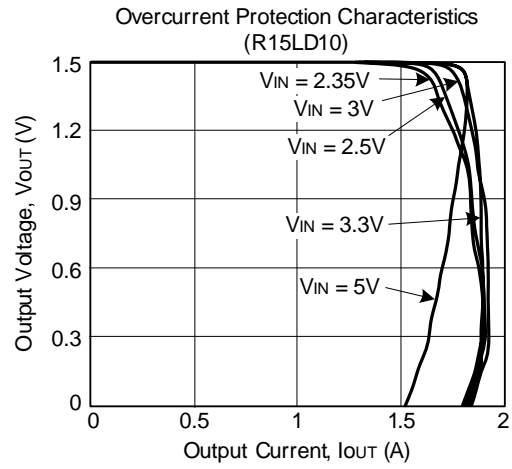
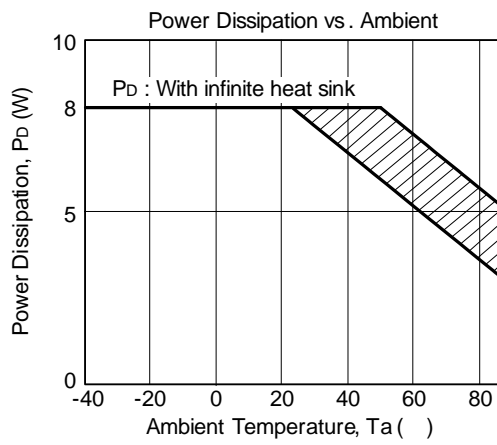
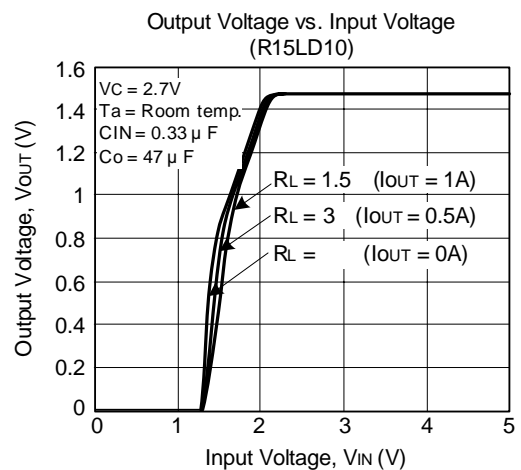
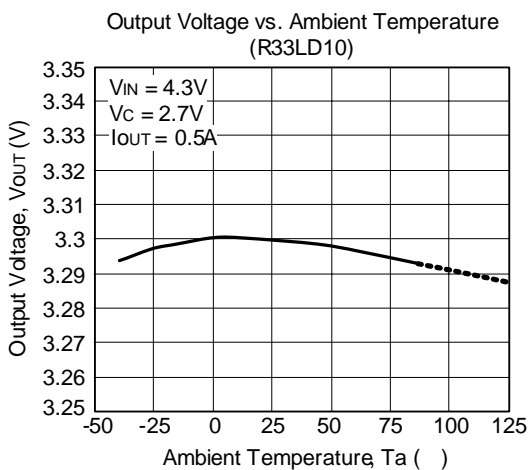
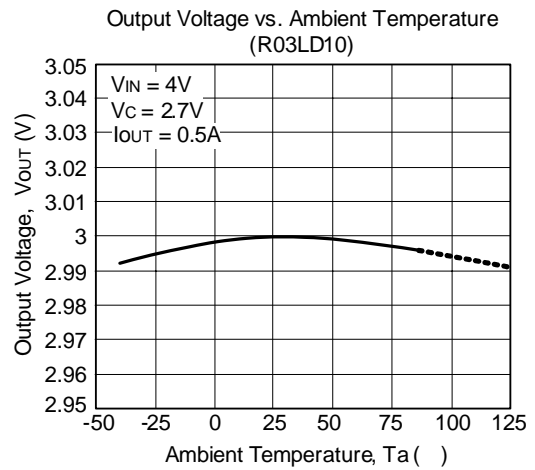
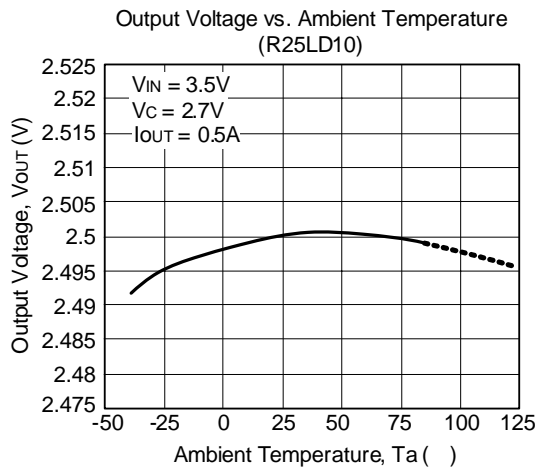
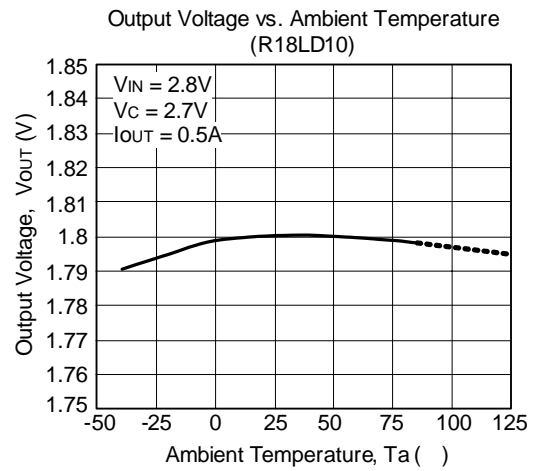
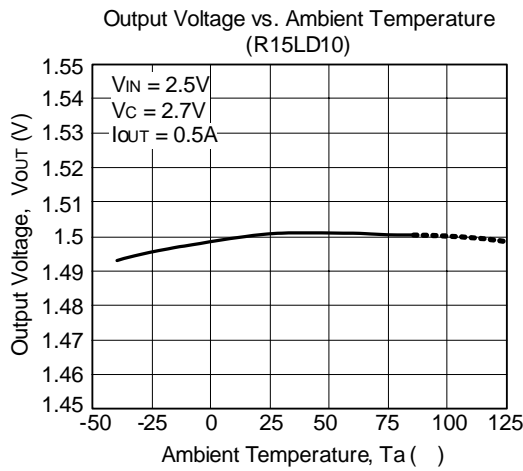


Fig. 6

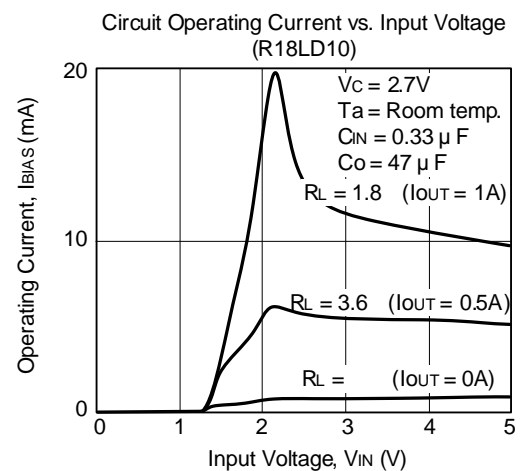
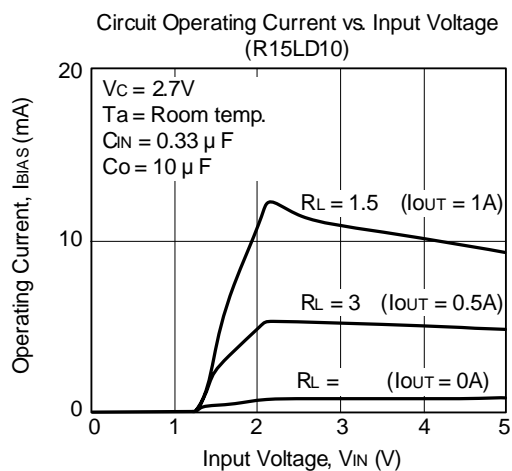
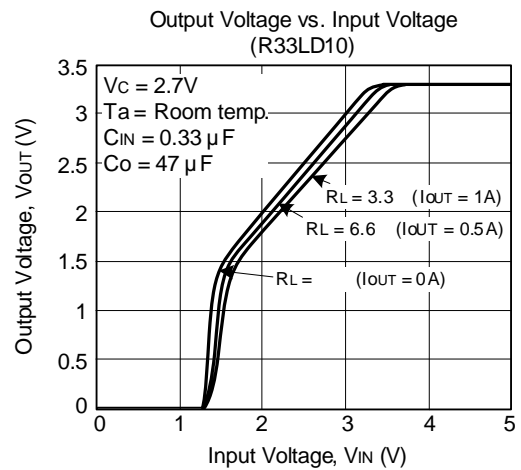
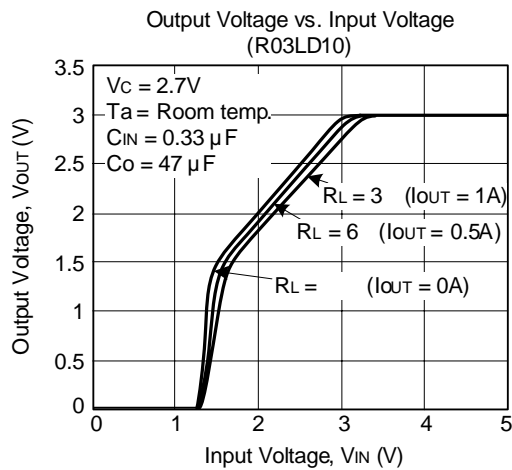
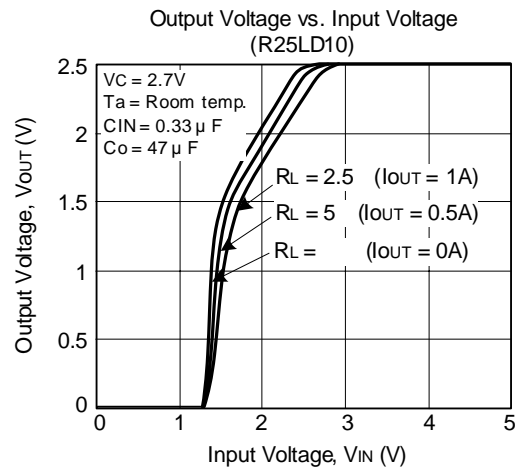
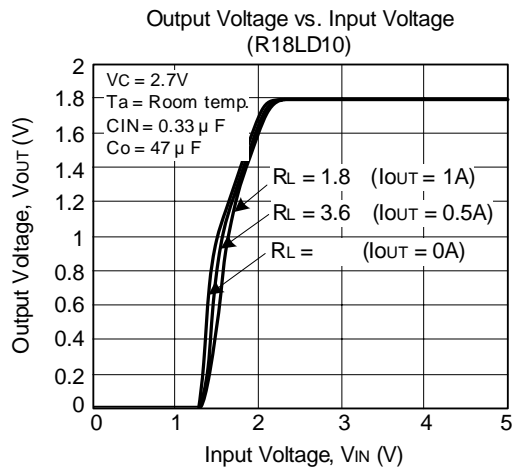
### TYPICAL CHARACTERISTICS



### TYPICAL CHARACTERISTICS(Cont.)

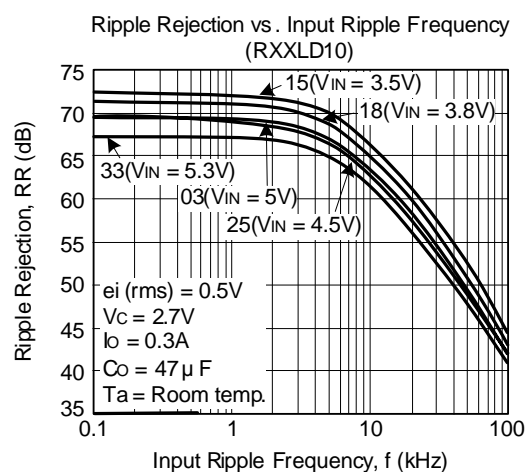
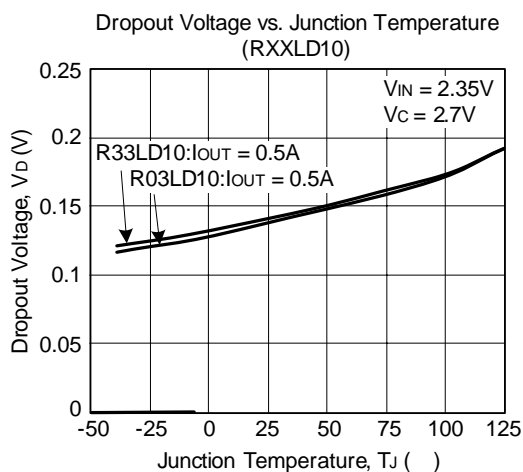
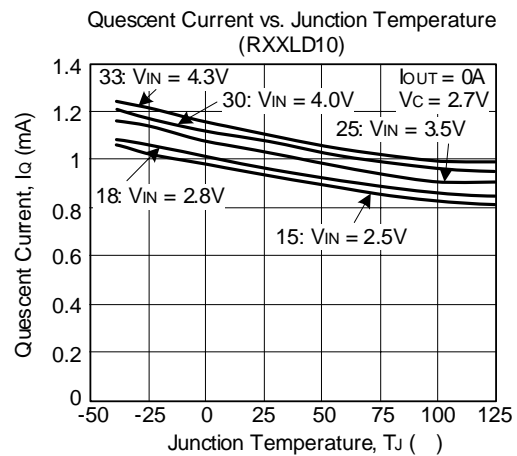
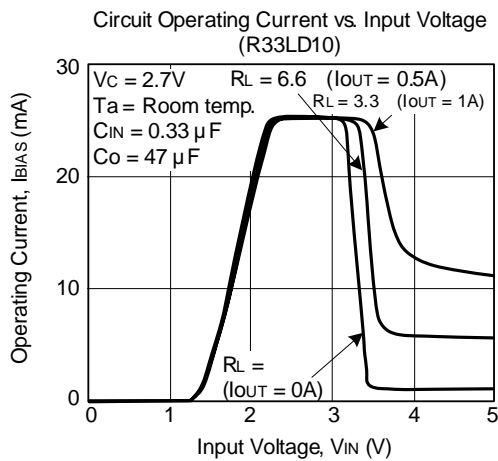
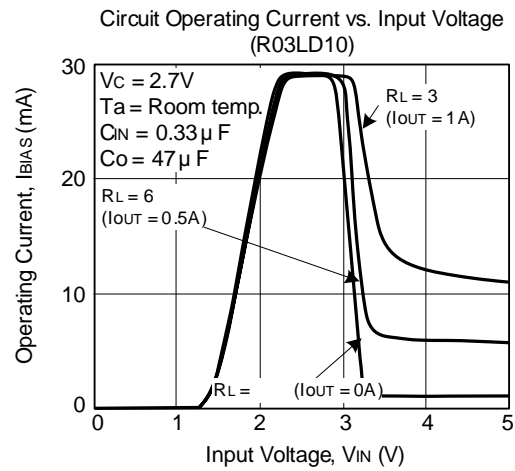
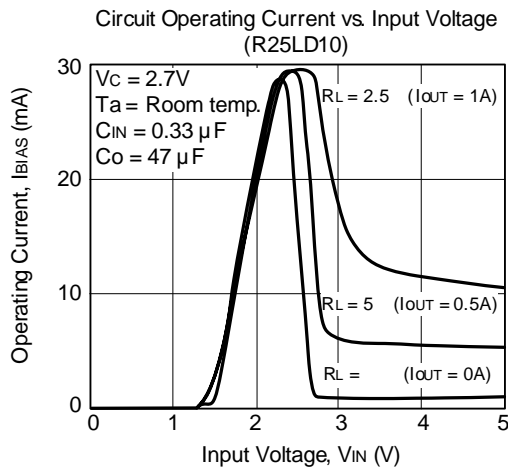


■ TYPICAL CHARACTERISTICS(cont.)

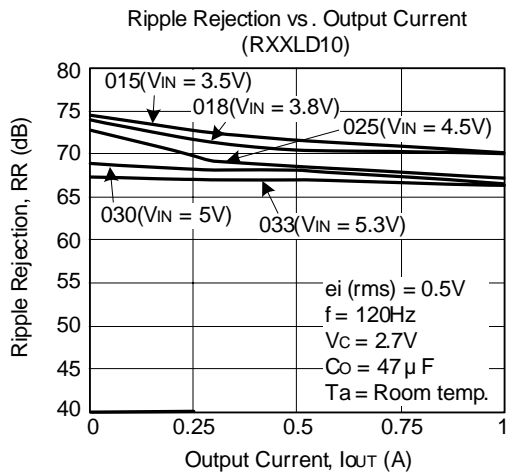




## TYPICAL CHARACTERISTICS(Cont.)



■ TYPICAL CHARACTERISTICS(Cont.)



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