



# UNISONIC TECHNOLOGIES CO.,LTD.

## RXXLD10

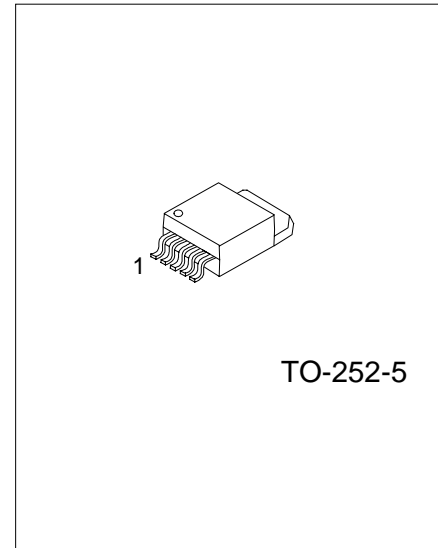
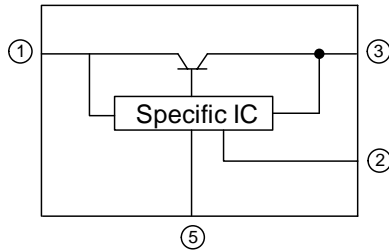
### LINEAR INTEGRATED CIRCUIT

## LOW VOLTAGE OPERATION LOW POWER-LOSS VOLTAGE REGULATORS

### ■ FEATURES

- \* Low voltage operation (Minimum operating voltage: 2.35V) 2.5V input available 1.5 ~ 1.8V
- \* Low dissipation current
- \* Built-in overcurrent protection and over temperature protection functions

### ■ EQUIVALENT



TO-252-5

\*Pb-free plating product number: RXXLD10L

### ■ PIN DESCRIPTION

PIN NO.	PIN NAME
1	INPUT
2	ON/OFF
3	OUTPUT
4	NC
5	GND

### ■ ORDERING INFORMATION

Order Number		Package	Packing
Normal	Lead Free Plating		
RXXLD10-TN5-R	RXXLD10L-TN5-R	TO-252-5	Tape Reel

Note: xx: Output Voltage, refer to Marking Information.

### ■ MARKING INFORMATION

PACKAGE	VOLTAGE CODE	MARKING
TO-252-5	15:1.5V 18:1.8V 25:2.5V 03:3.0V 33:3.3V	

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

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>	125	°C
Operating Temperature	T <sub>OPR</sub>	-20 ~ +85	°C
Storage Temperature	T <sub>STG</sub>	-40 ~ +150	°C

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.

3. The device is guaranteed to meet performance specification within 0°C~70°C operating temperature range and assured by design from -20°C~85°C.

### ■ 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°C, 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> = 0.5A		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		%/°C	
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

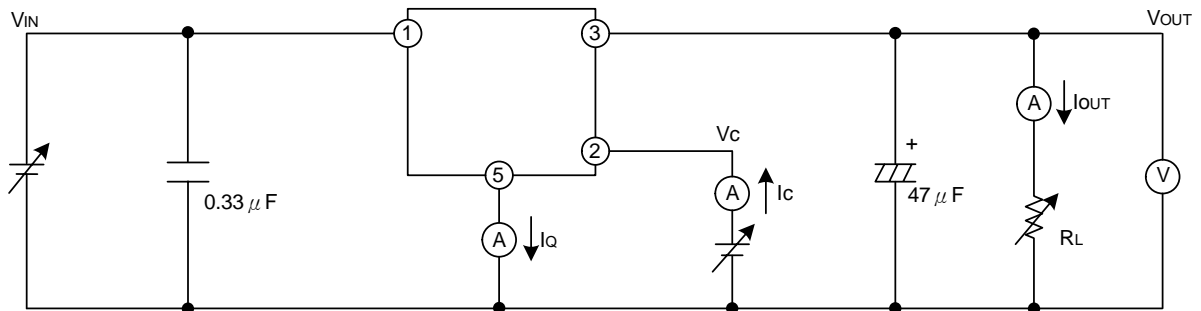
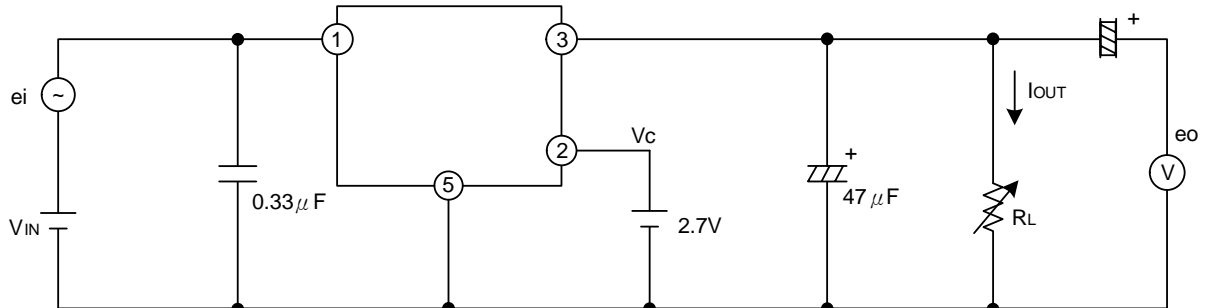


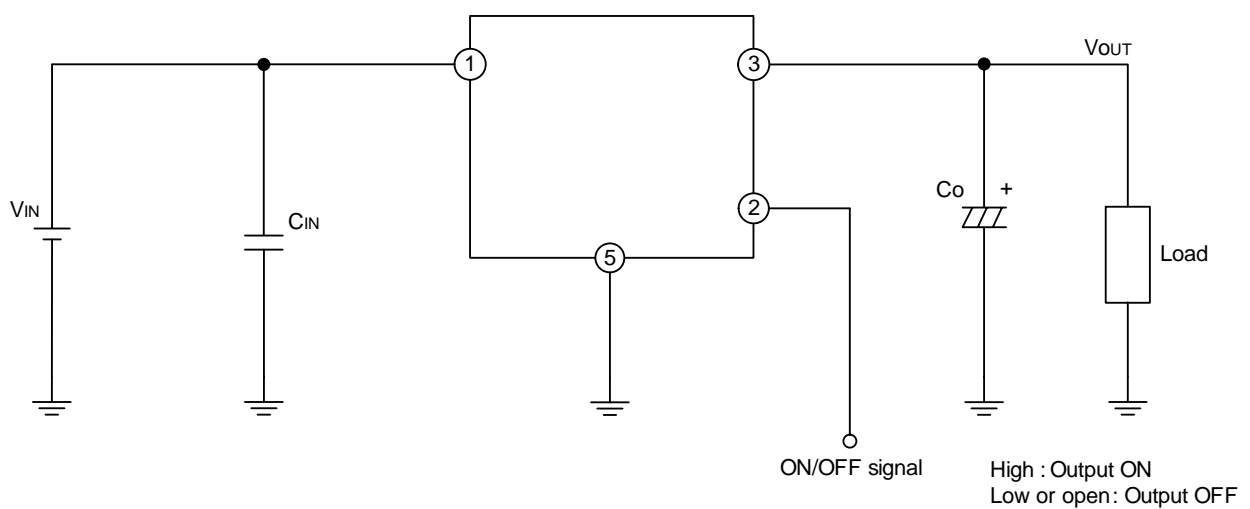
Fig.1



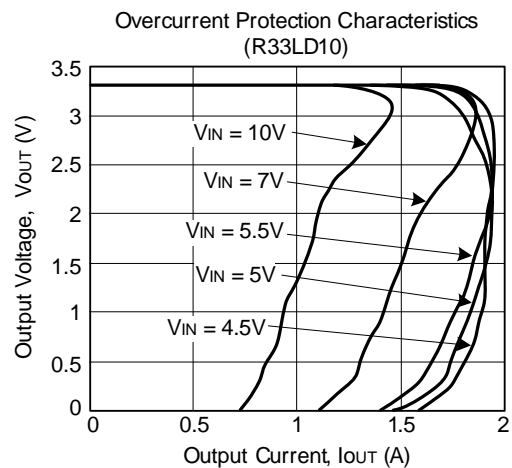
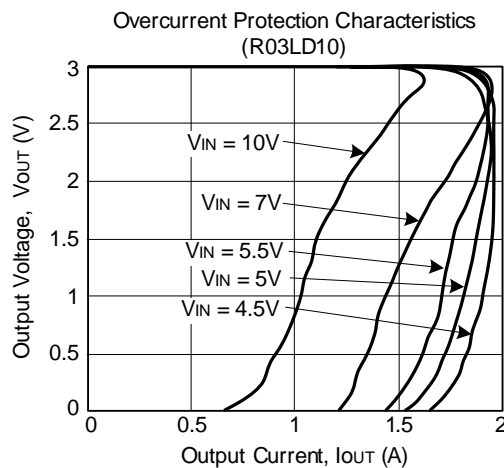
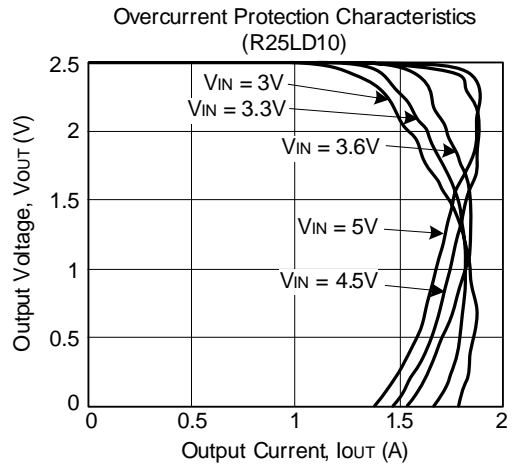
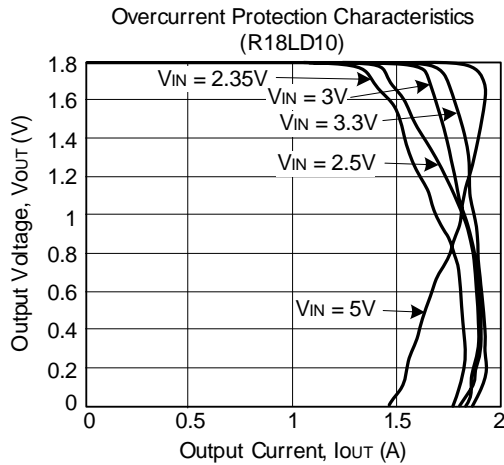
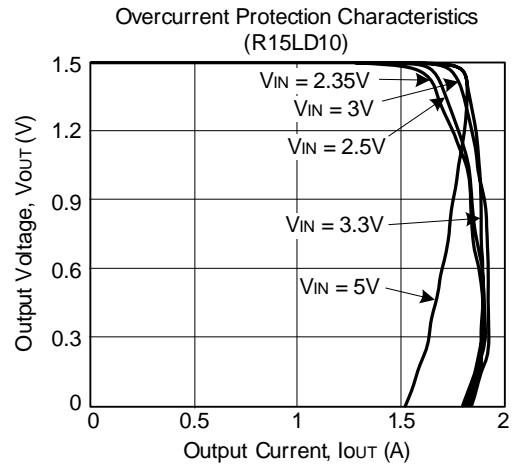
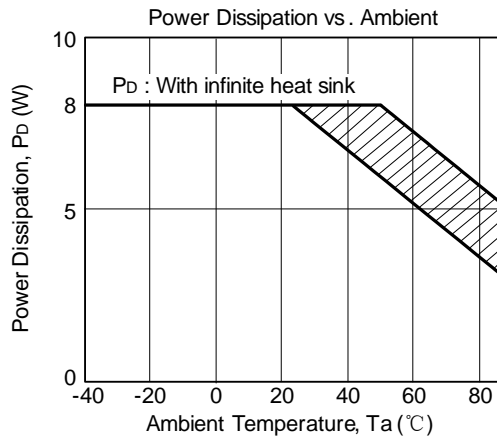
$f = 120\text{Hz}$  (sine wave),  $e_i$  (rms) = 0.5V,  $V_{IN} = V_O$  (TYP)+2V,  $I_{OUT} = 0.5\text{A}$ ,  $RR = 20\log(e_i$  (rms) /  $e_o$  (rms))

Fig.2 For Ripple Rejection

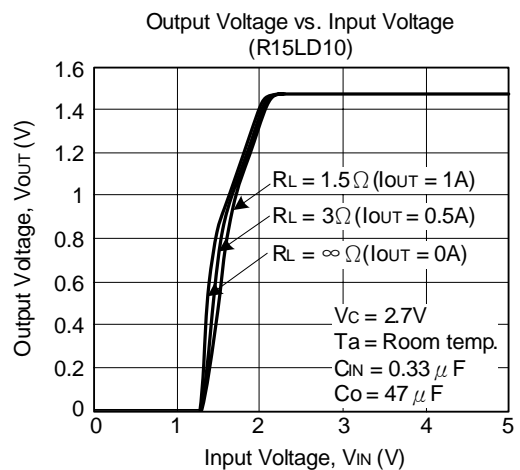
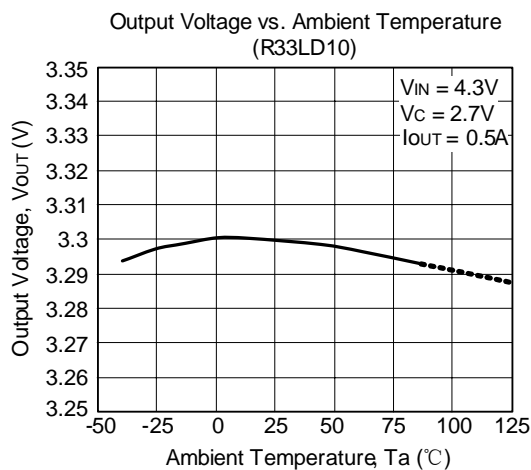
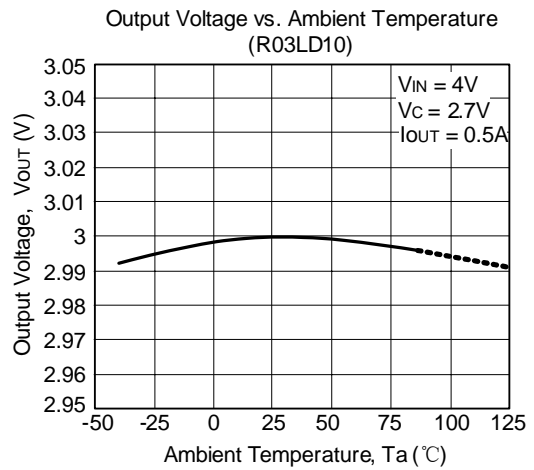
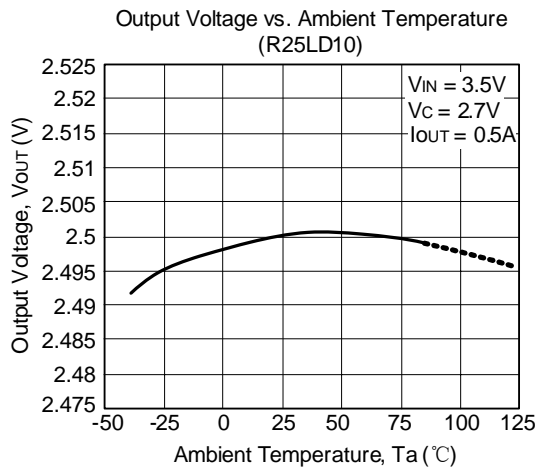
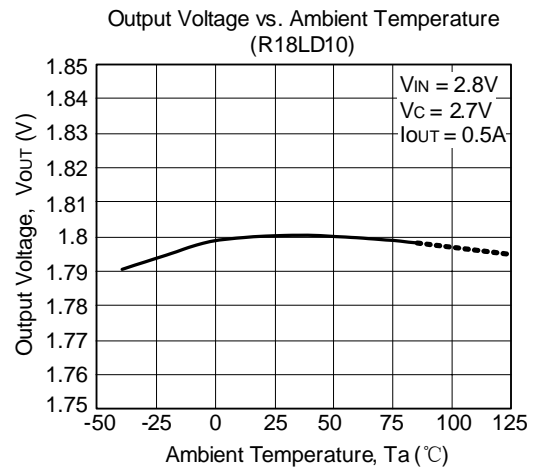
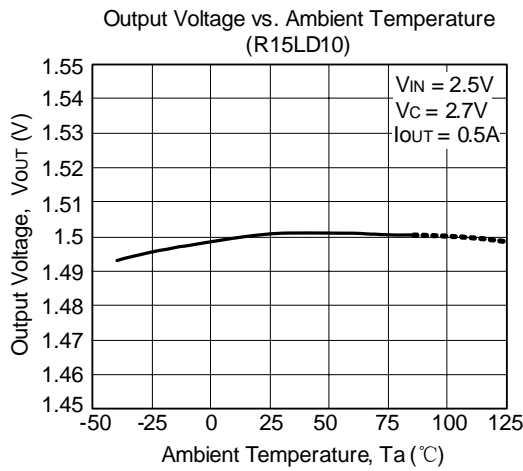
## TYPICAL APPLICATION CIRCUIT



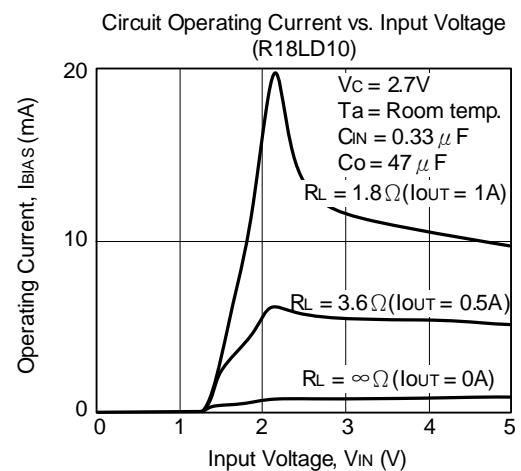
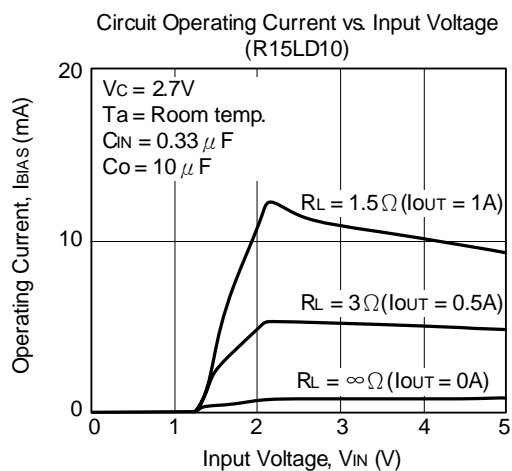
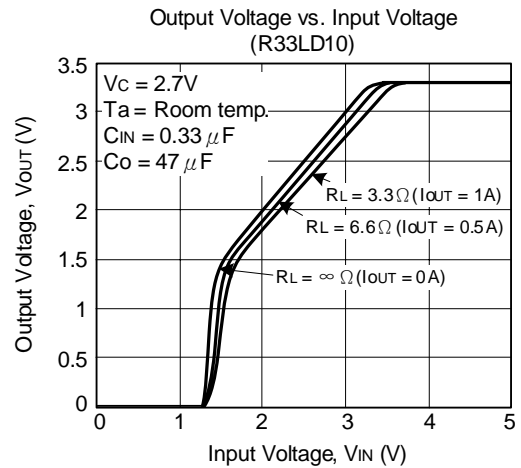
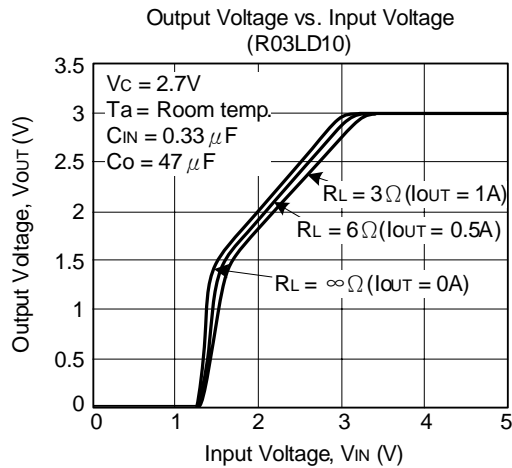
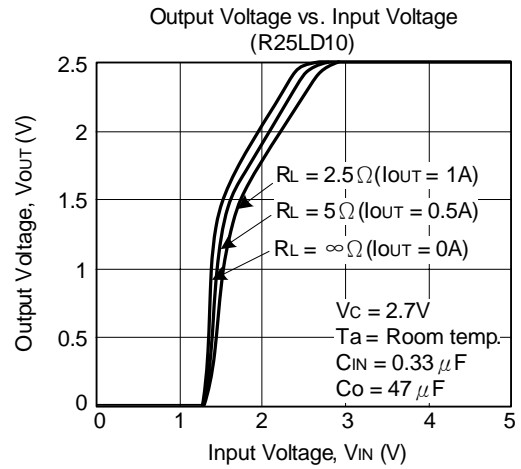
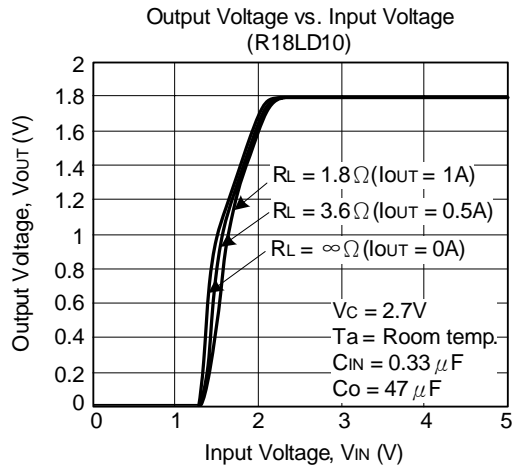
### TYPICAL CHARACTERISTICS



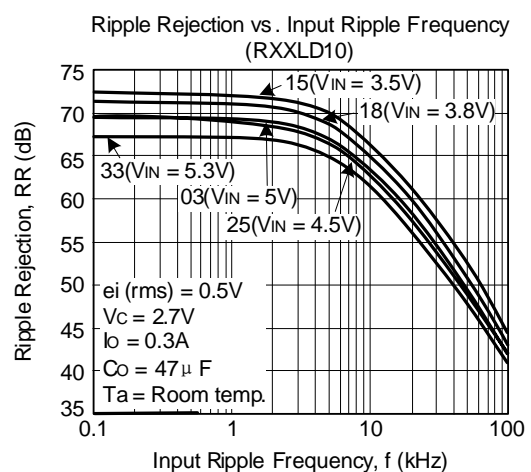
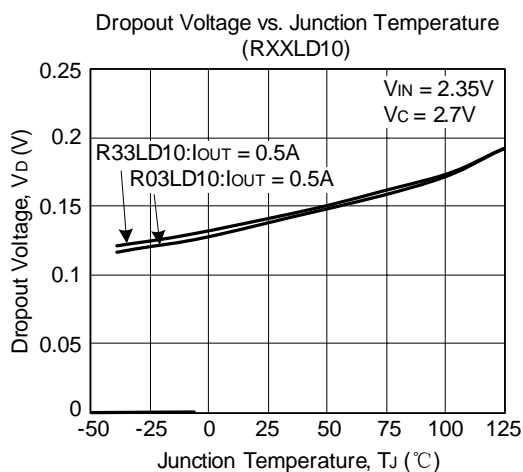
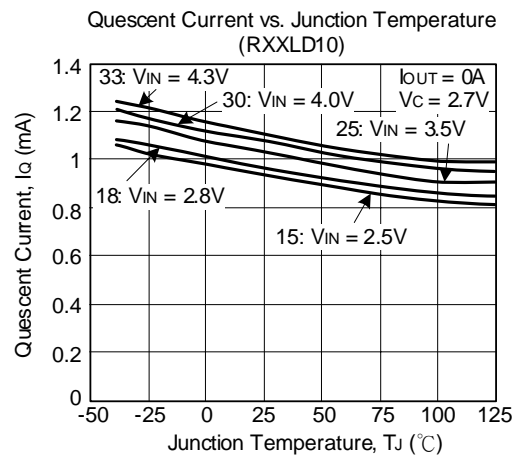
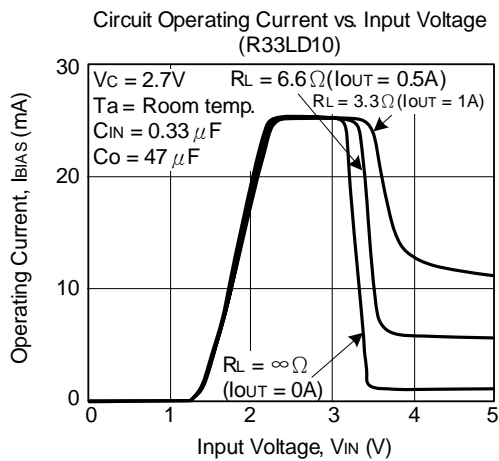
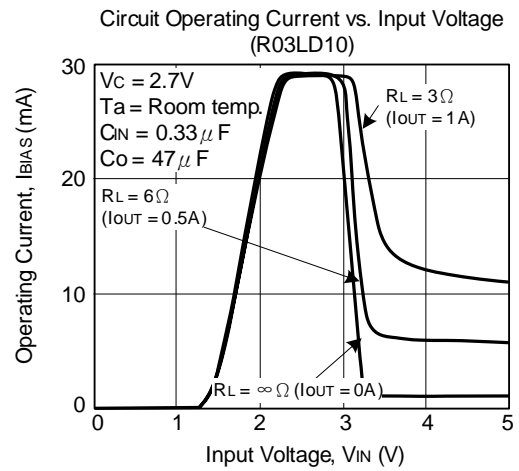
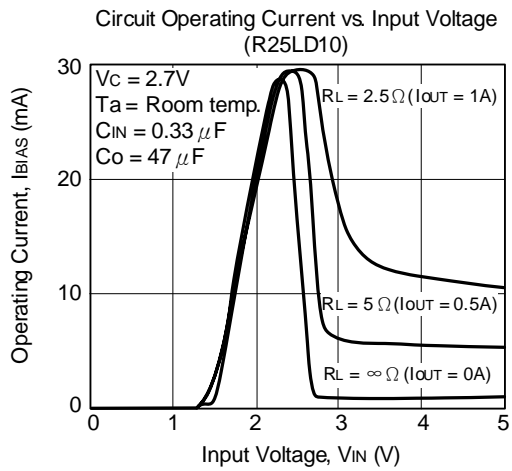
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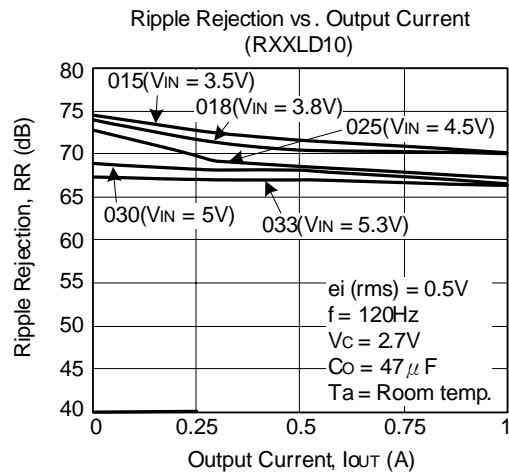
## TYPICAL CHARACTERISTICS(cont.)



## TYPICAL CHARACTERISTICS(cont.)



■ TYPICAL CHARACTERISTICS(cont.)



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