



RXXLD10

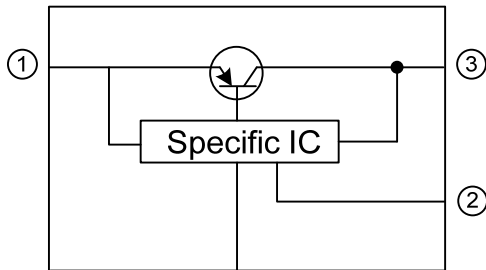
LINEAR INTEGRATED CIRCUIT

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

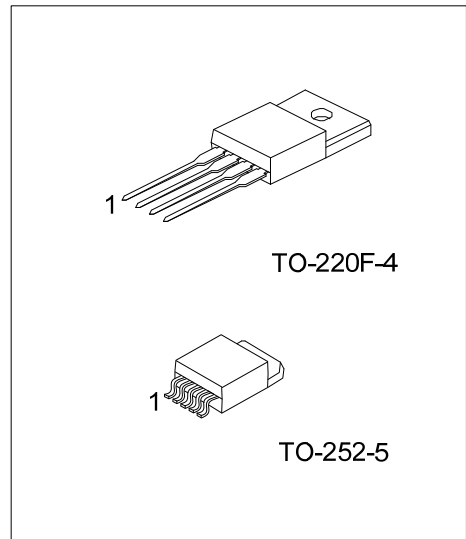
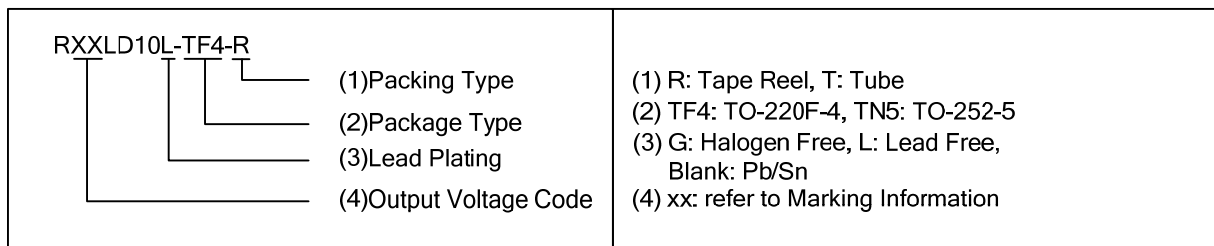
■ EQUIVALENT



⑤ / ④ For TO-220F-4 Package

■ ORDERING INFORMATION

Ordering Number			Package	Packing
Normal	Lead Free	Halogen Free		
RXXLD10-TF4-T	RXXLD10L-TF4-T	RXXLD10G-TF4-T	TO-220F-4	Tube
RXXLD10-TN5-R	RXXLD10L-TN5-R	RXXLD10G-TN5-R	TO-252-5	Tape Reel
RXXLD10-TN5-T	RXXLD10L-TN5-T	RXXLD10G-TN5-T	TO-252-5	Tube

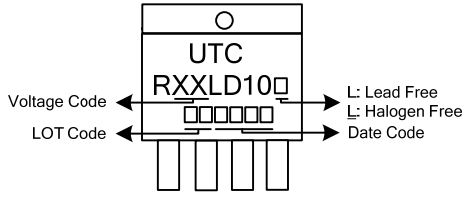
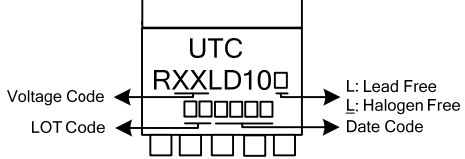


Lead-free: RXXLD10L
Halogen-free: RXXLD10G

■ 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 05:5.0V 12:12V	 <p>The diagram shows a TO-220F-4 package with the following markings: UTC, RXXLD10, a voltage code (two digits), and a LOT code (four digits). Arrows point from the text labels to the corresponding markings on the package. To the right, a legend indicates: L: Lead Free, L: Halogen Free, and Date Code.</p>
TO-252-5	15:1.5V 18:1.8V 25:2.5V 03:3.0V 33:3.3V 05:5.0V 12:12V	 <p>The diagram shows a TO-252-5 package with the following markings: UTC, RXXLD10, a voltage code (two digits), and a LOT code (four digits). Arrows point from the text labels to the corresponding markings on the package. To the right, a legend indicates: L: Lead Free, L: Halogen Free, and Date Code.</p>

■ ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Input Voltage	V _{IN}	18	V
ON/OFF Control Terminal Voltage (Note 2)	V _C	18	V
Output Current	I _{OUT}	1.0	A
Power Dissipation (with infinite heat sink)	P _D	8	W
Junction Temperature	T _J	+150	°C
Operating Temperature	T _{OPR}	-40 ~ +85	°C
Storage Temperature	T _{STG}	-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.

■ ELECTRICAL CHARACTERISTICS

(V_{IN} = V_{OUT(TYP)}+1V, I_{OUT} = 0.5A, V_C = 2.7V, Ta = 25°C, unless otherwise specified.)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	R15LD10	V _{IN}		2.35		18	V
	R18LD10			2.35		18	
	R25LD10			V _{OUT} +0.5		18	
	R03LD10			V _{OUT} +0.5		18	
	R33LD10			V _{OUT} +0.5		18	
	R05LD10			V _{OUT} +0.5		18	
	R12LD10			V _{OUT} +0.5		18	
Output Voltage	R15LD10	V _{OUT}		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	
	R05LD10			4.875	5	5.125	
	R12LD10			11.7	12	12.3	
Load Regulation	ΔV _{OUT}	I _{OUT} = 5mA ~ 1A		0.2	2	%	
Line Regulation	ΔV _{OUT}	V _{IN} = V _{O(TYP)} +1V~V _{O(TYP)} +6V I _{OUT} = 5mA		0.1	1	%	
Voltage for Control (Note 1)	ON	V _{C(ON)}		2		V	
	OFF	V _{C(OFF)}			0.8		
Current for Control	ON	I _{C(ON)}			200	μA	
	OFF	I _{C(OFF)}	V _C = 0.4V		2		
Quiescent Current	I _Q	I _{OUT} = 0A		1	2	mA	
Output Off-State Dissipation Current	I _{QS}	I _{OUT} = 0A, V _C = 0.4V			5	μA	
Dropout Voltage(Note 2)	V _D	I _{OUT} = 1A		0.2	0.5	V	
		I _{OUT} = 1A (For R12LD10)		0.2	0.75		
Temperature Coefficient of Output Voltage	T _C V _O	T _J = 0 ~ 125°C, I _{OUT} = 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

TO-220F-4 Package:

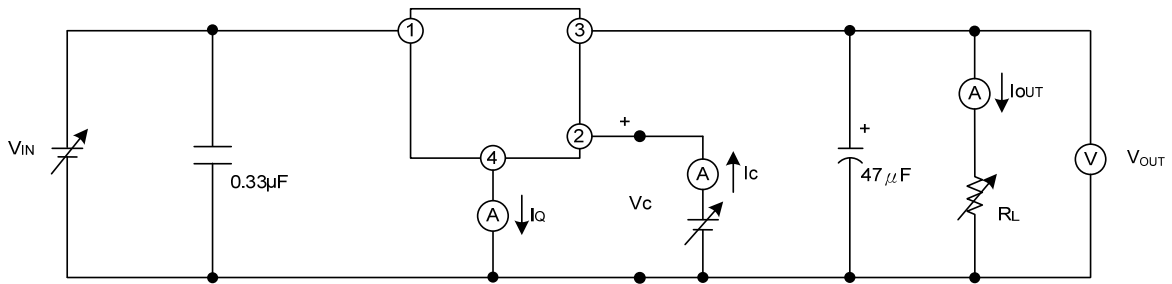


Fig.1

TO-252-5 Package:

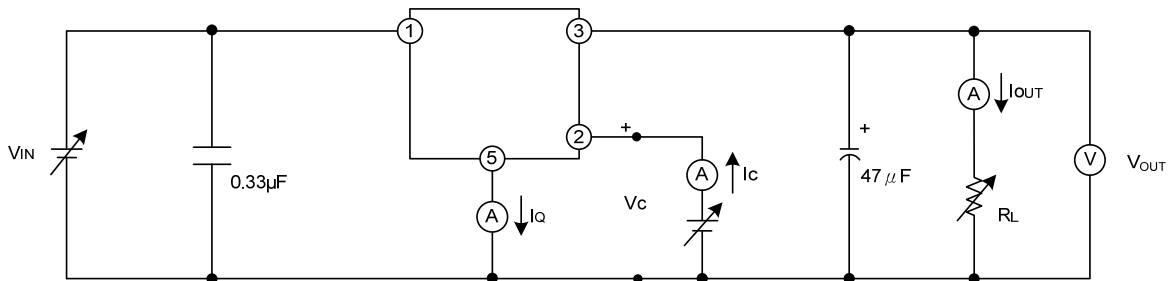
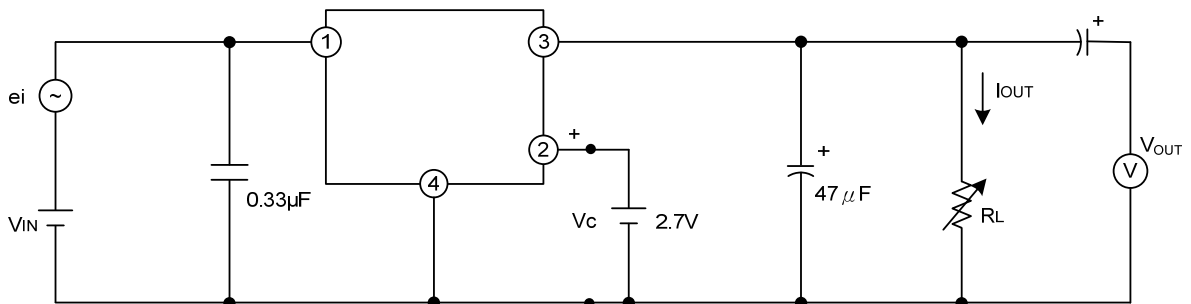


Fig.2

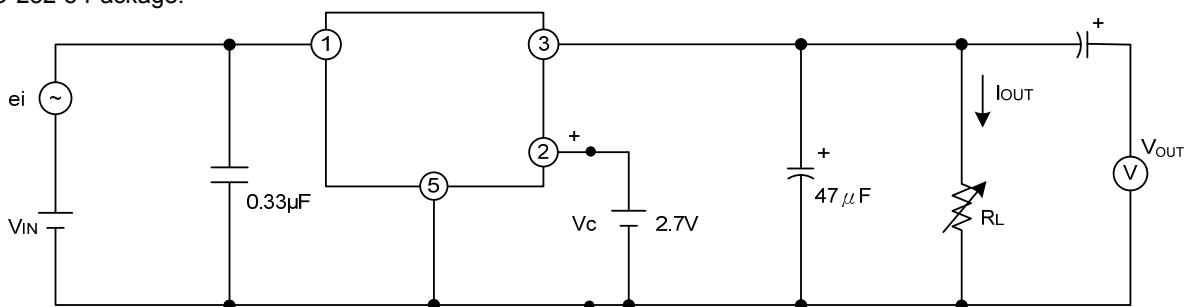
TO-220F-4 Package:



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

Fig.3 For Ripple Rejection

TO-252-5 Package:



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

Fig.4 For Ripple Rejection

■ TYPICAL APPLICATION CIRCUIT

TO-220F-4 Package:

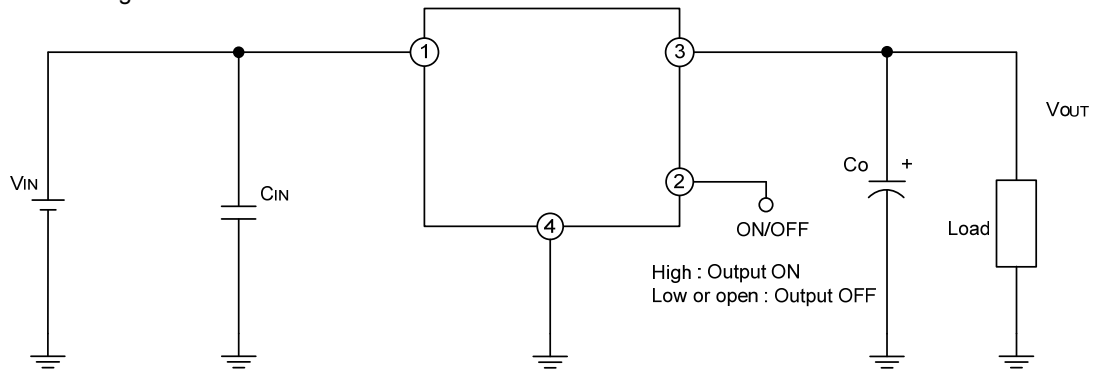


Fig. 5

TO-252-5 Package:

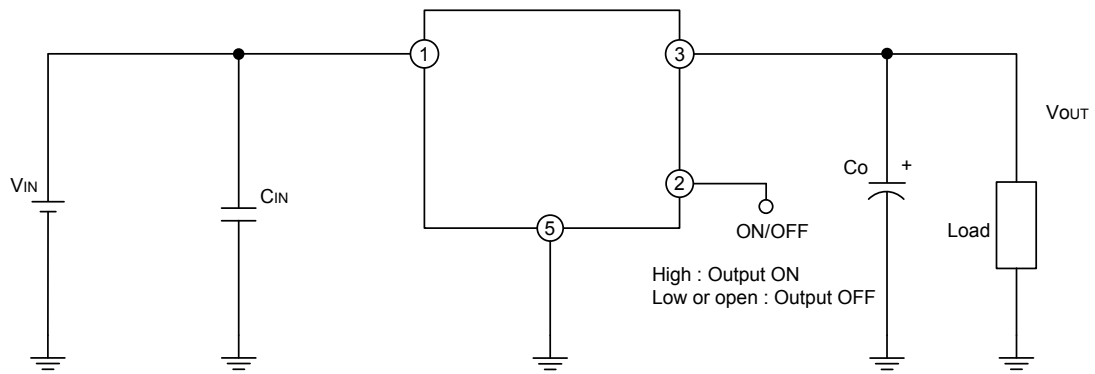
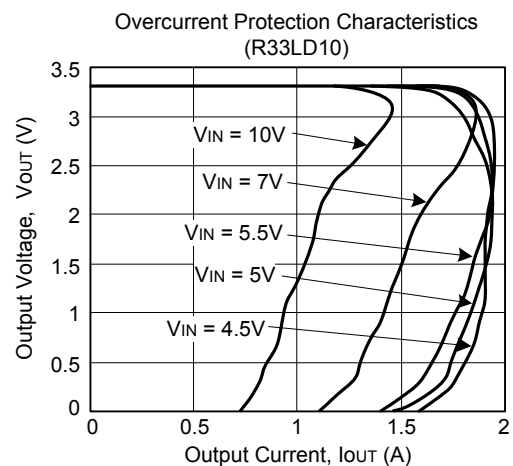
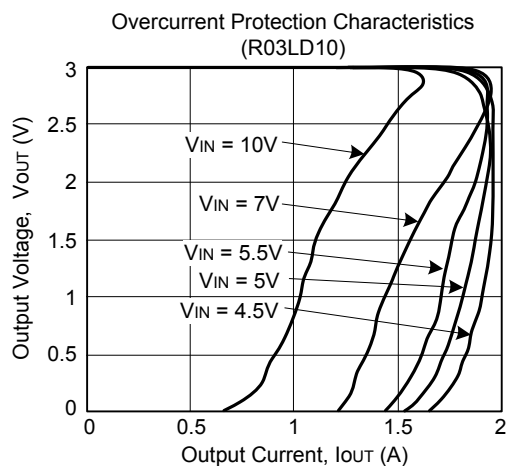
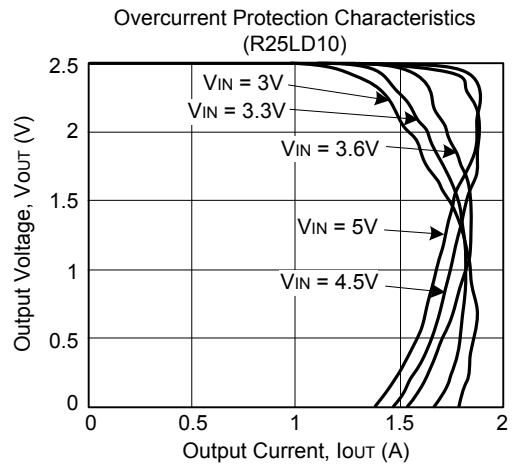
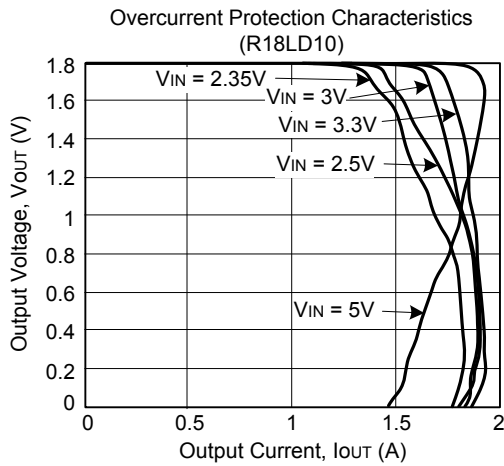
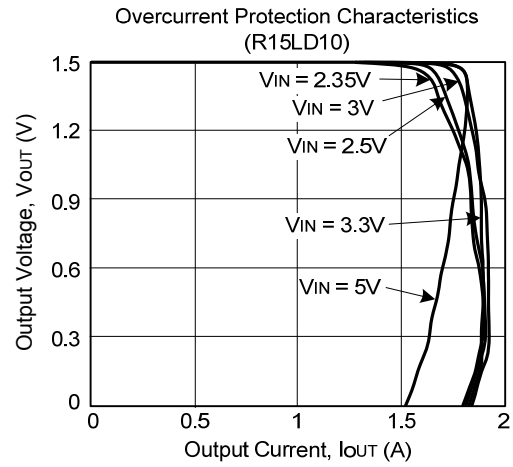
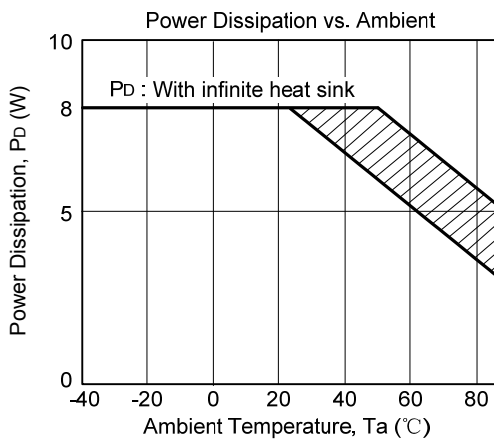
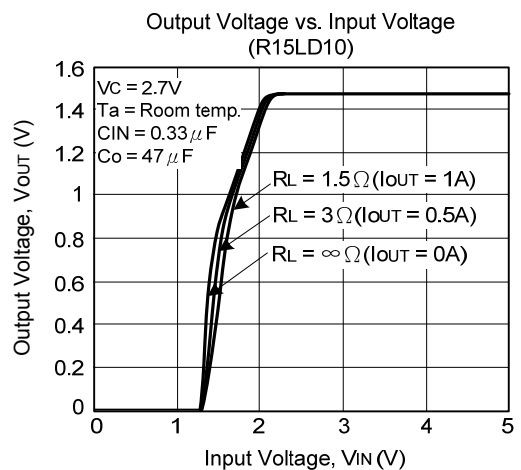
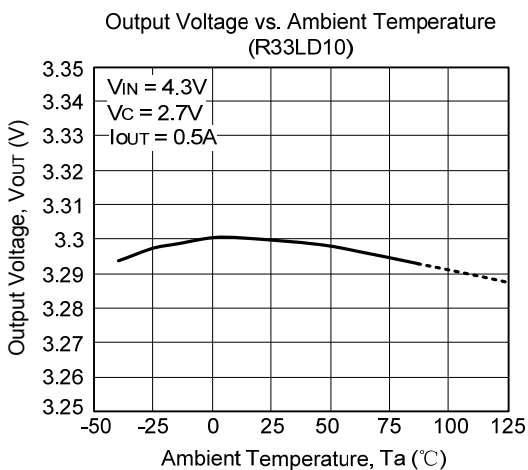
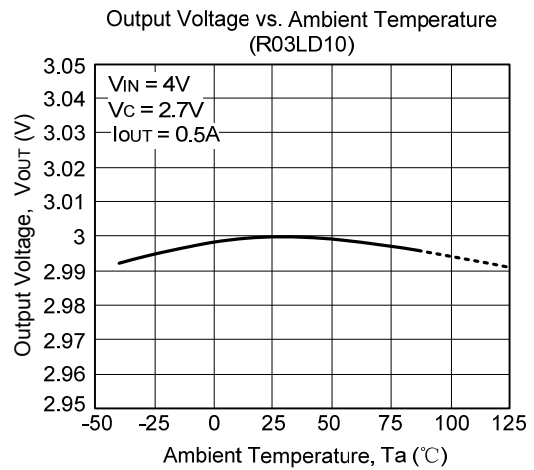
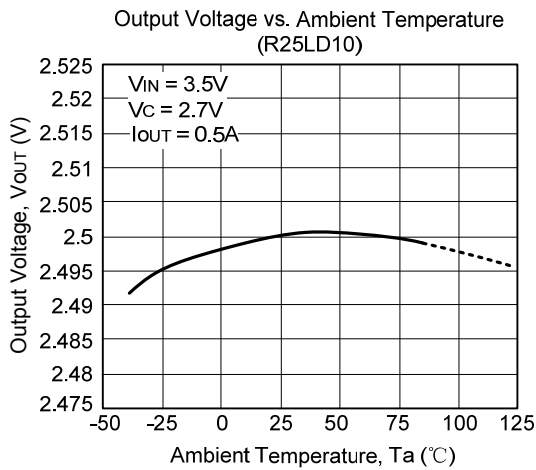
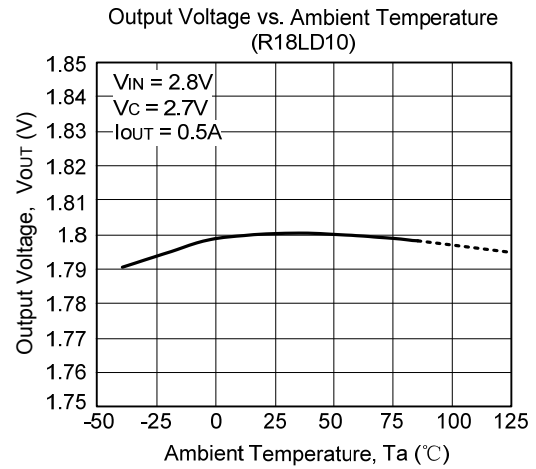
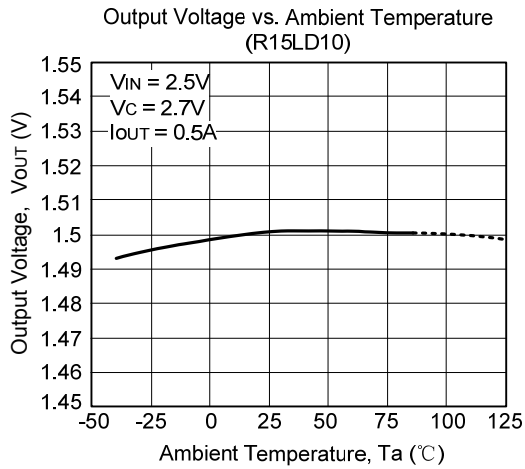


Fig. 6

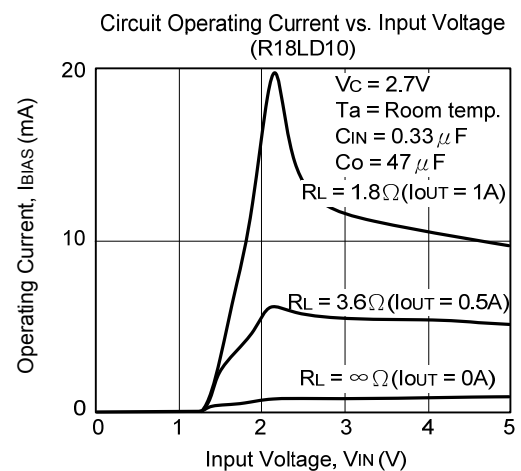
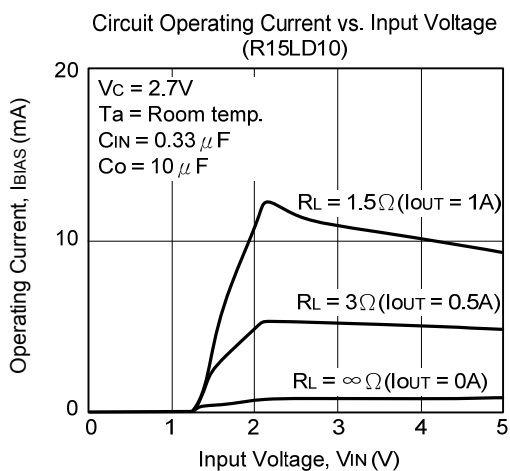
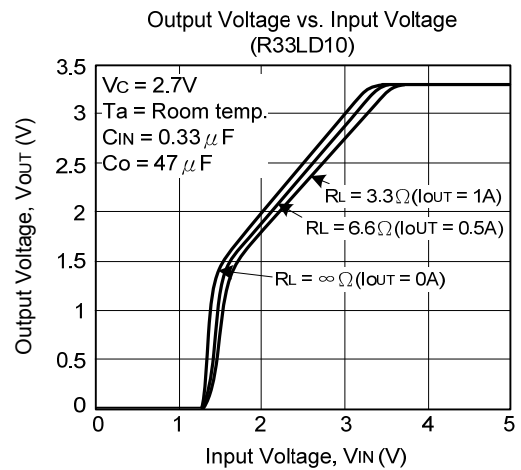
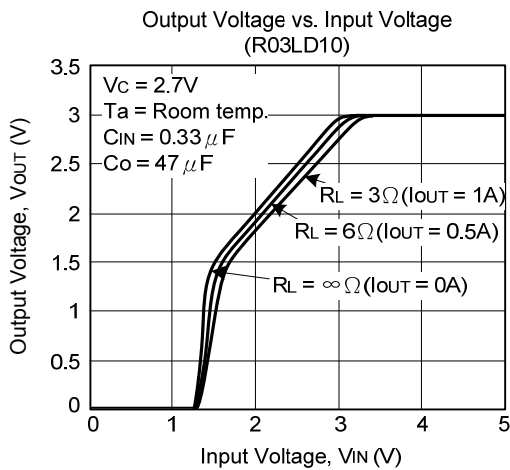
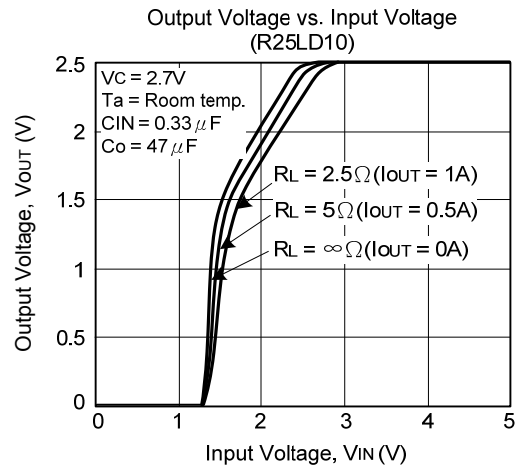
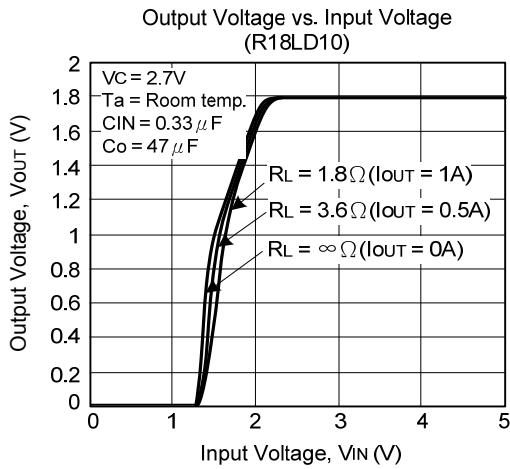
TYPICAL CHARACTERISTICS



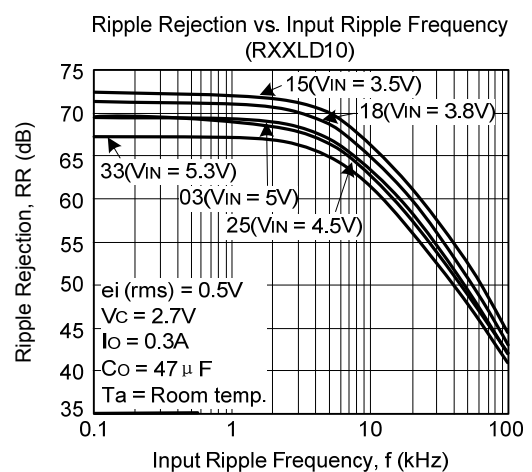
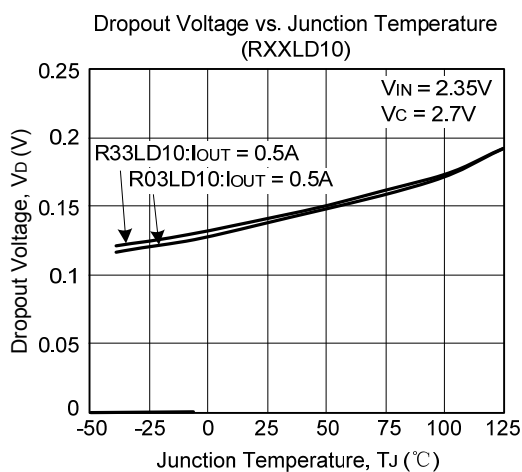
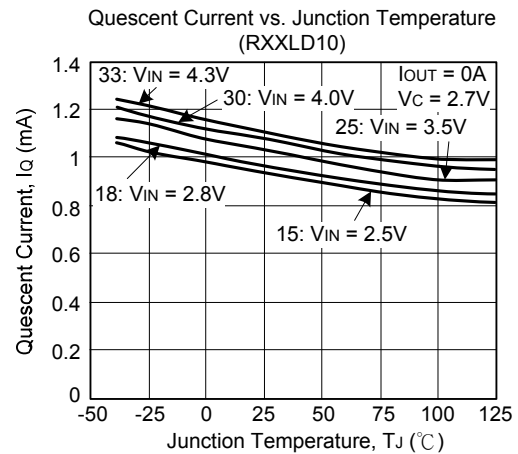
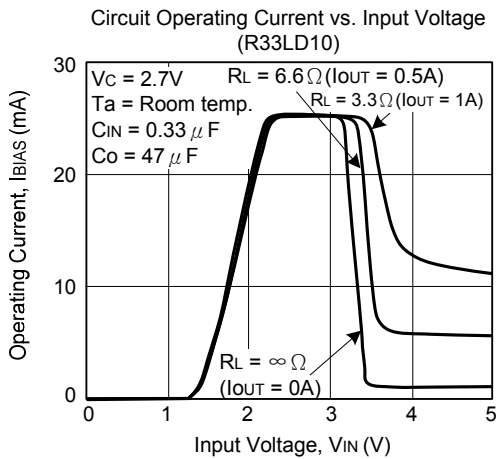
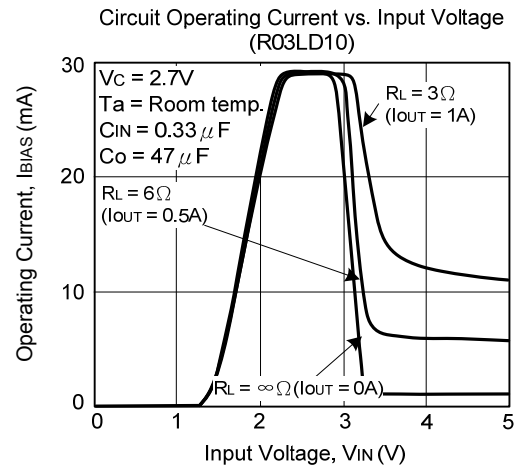
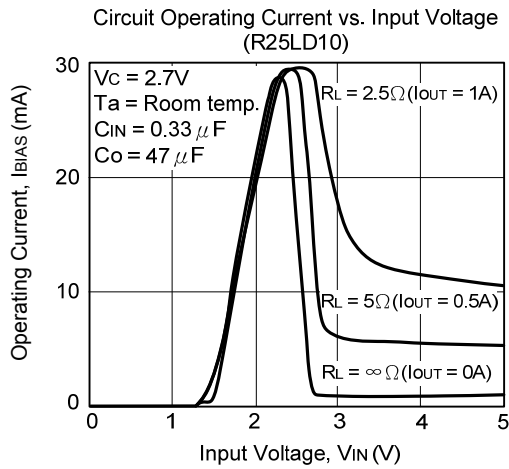
TYPICAL CHARACTERISTICS(Cont.)



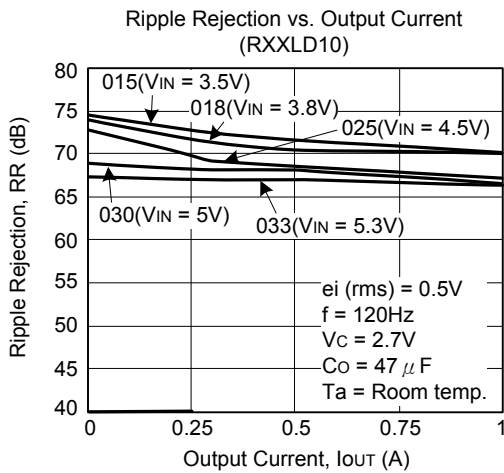
■ TYPICAL CHARACTERISTICS(cont.)



TYPICAL CHARACTERISTICS(Cont.)



■ TYPICAL CHARACTERISTICS(Cont.)



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.