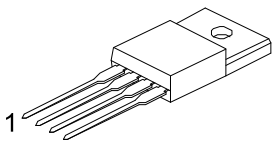
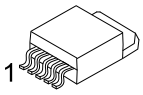
RXXLD10

LINEAR INTEGRATED CIRCUIT

LOW VOLTAGE OPERATION LOW POWER-LOSS VOLTAGE REGULATORS



TO-220F-4

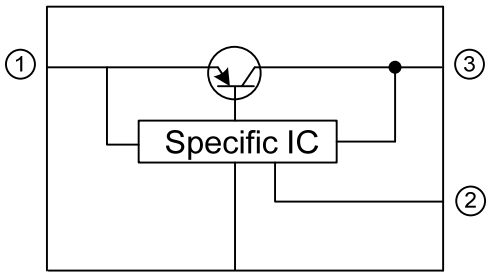


TO-252-5

■ 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
Lead Free	Halogen Free		
RXXLD10L-TF4-T	RXXLD10G-TF4-T	TO-220F-4	Tube
RXXLD10L-TN5-T	RXXLD10G-TN5-T	TO-252-5	Tube
RXXLD10L-TN5-R	RXXLD10G-TN5-R	TO-252-5	Tape Reel

RXXLD10L-TF4-R

(1)Packing Type
(2)Package Type
(3)Lead Free
(4)Output Voltage Code

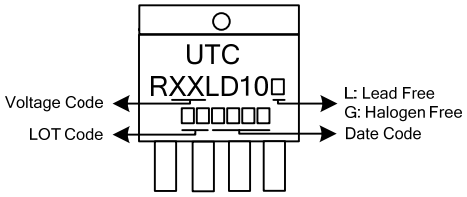
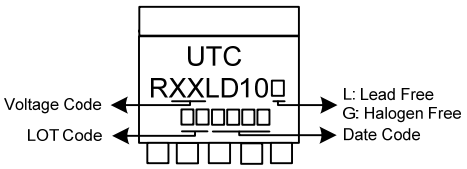
(1) R: Tape Reel, T: Tube
(2) TF4: TO-220F-4, TN5: TO-252-5
(3) G: Halogen Free, L: Lead Free
(4) xx: refer to Marking Information

Copyright © 2010 Unisonic Technologies Co., Ltd

■ 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	
TO-252-5		

■ ABSOLUTE MAXIMUM RATINGS (Ta = 25℃)

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:

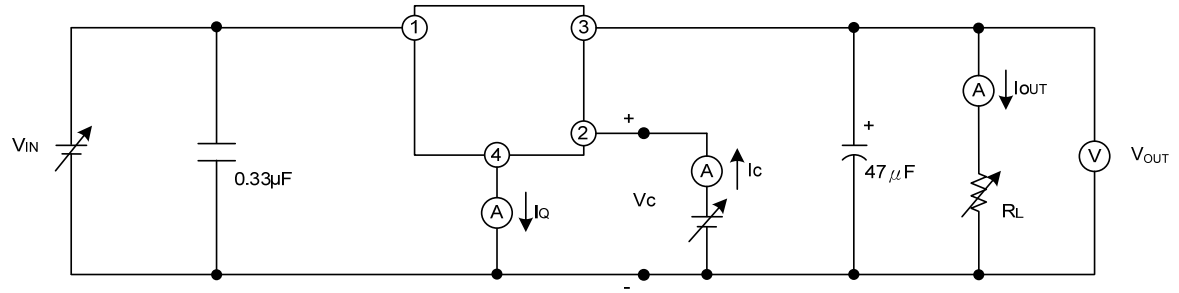


Fig.1

TO-252-5 Package:

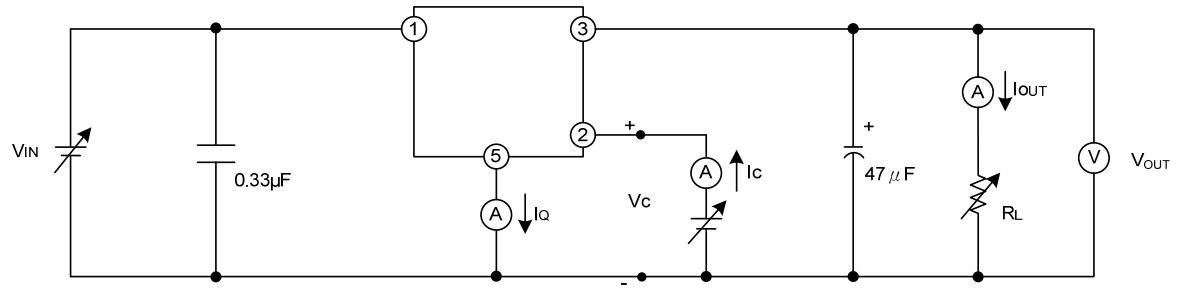
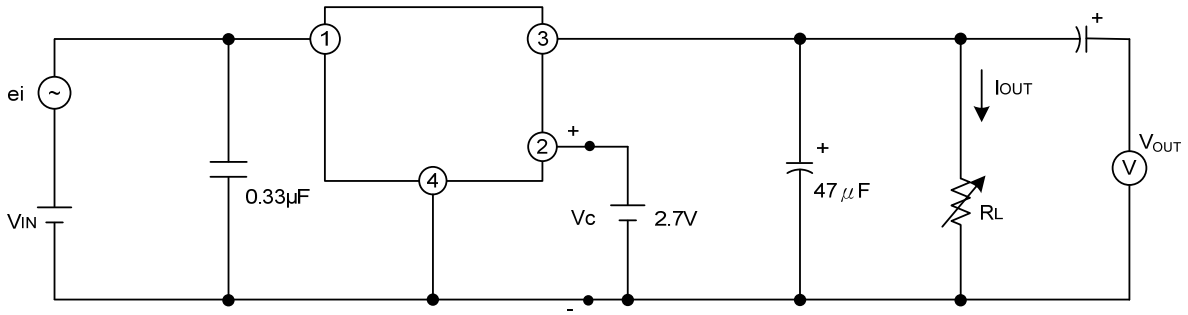


Fig.2

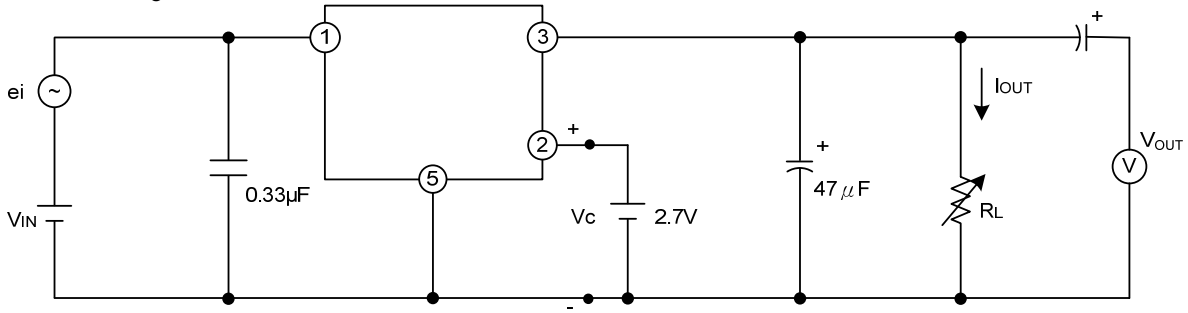
TO-220F-4 Package:



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

Fig.3 For Ripple Rejection

TO-252-5 Package:



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

Fig.4 For Ripple Rejection

■ TYPICAL APPLICATION CIRCUIT

TO-220F-4 Package:

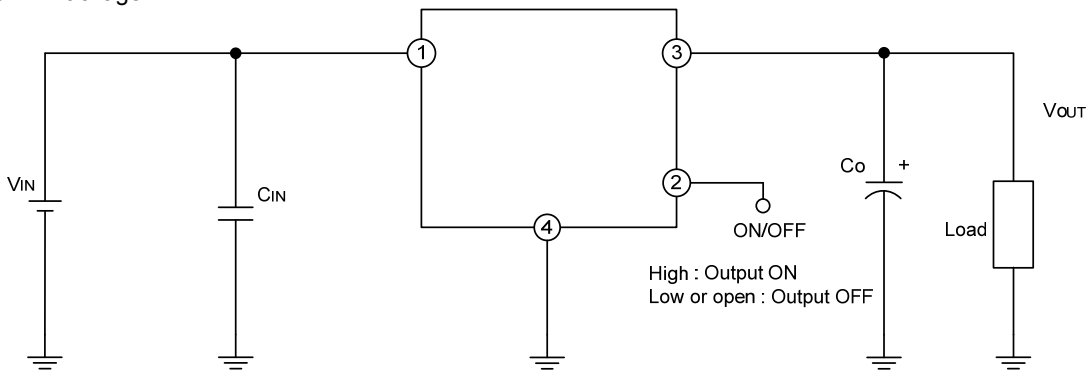


Fig. 5

TO-252-5 Package:

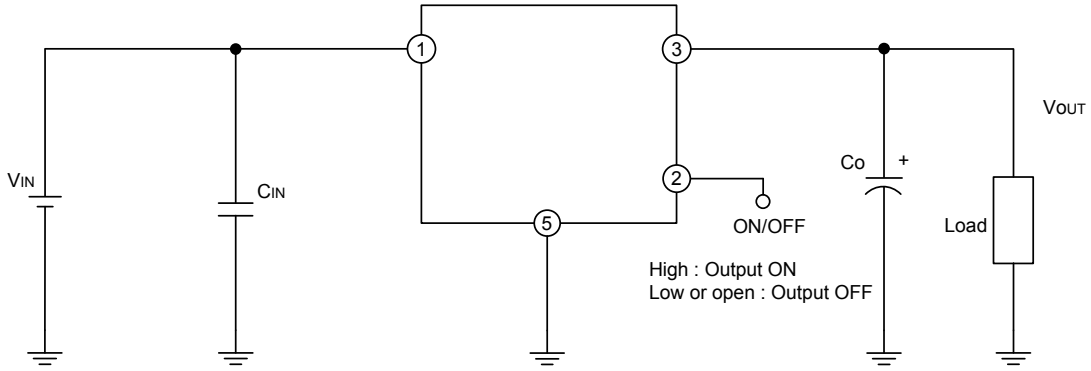
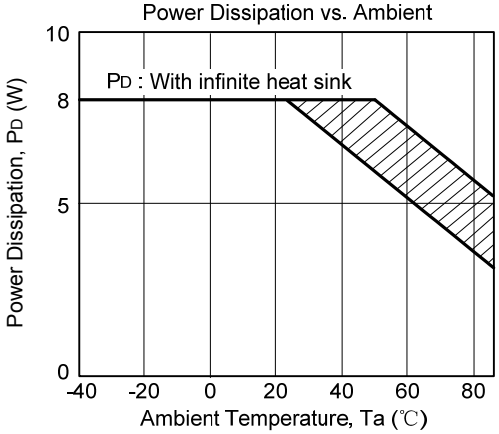


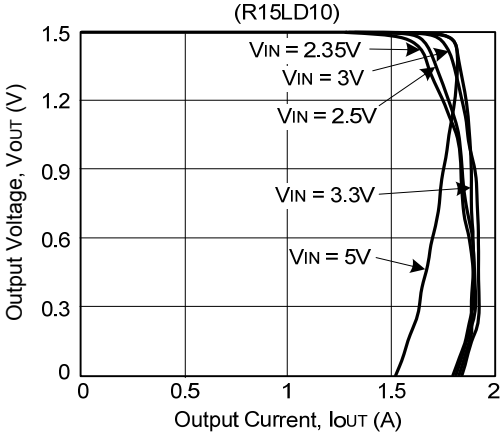
Fig. 6

■ TYPICAL CHARACTERISTICS

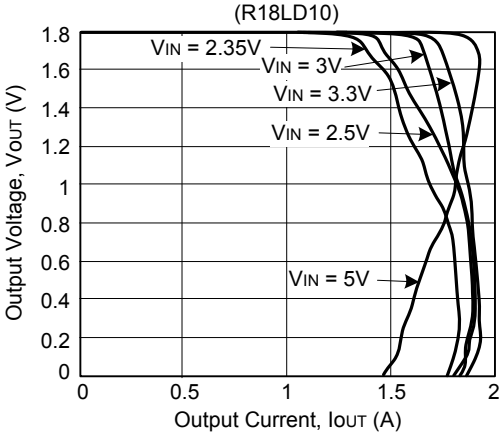
Power Dissipation vs. Ambient



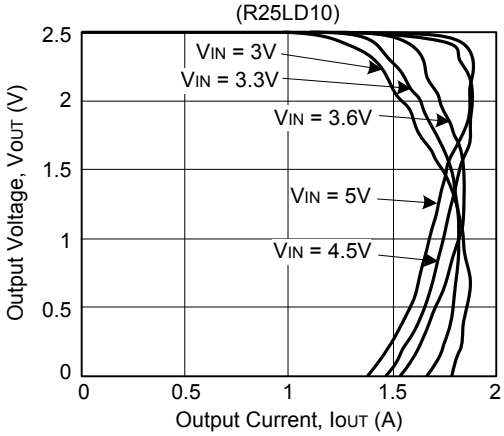
Overcurrent Protection Characteristics (R15LD10)



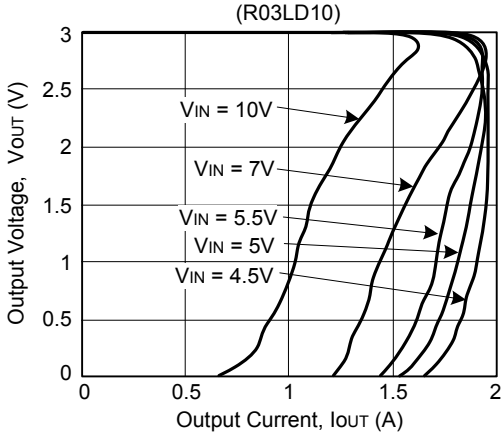
Overcurrent Protection Characteristics (R18LD10)



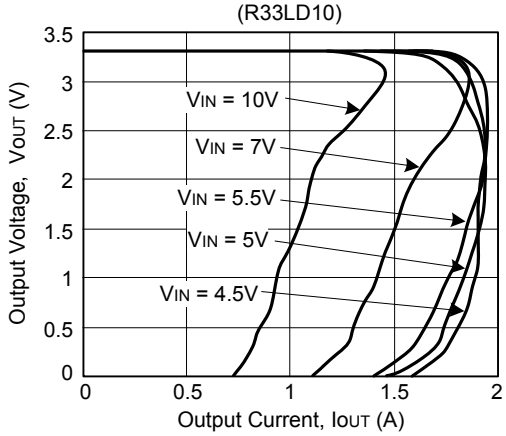
Overcurrent Protection Characteristics (R25LD10)



Overcurrent Protection Characteristics (R03LD10)

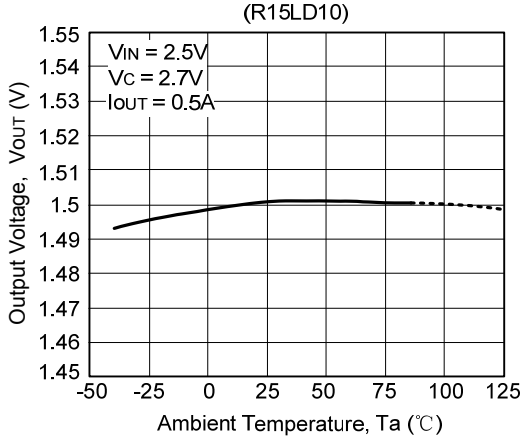


Overcurrent Protection Characteristics (R33LD10)

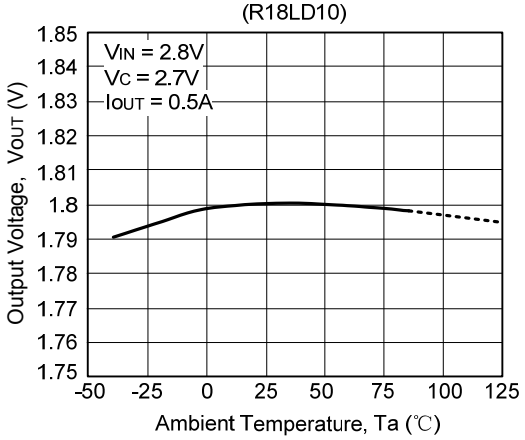


■ TYPICAL CHARACTERISTICS(Cont.)

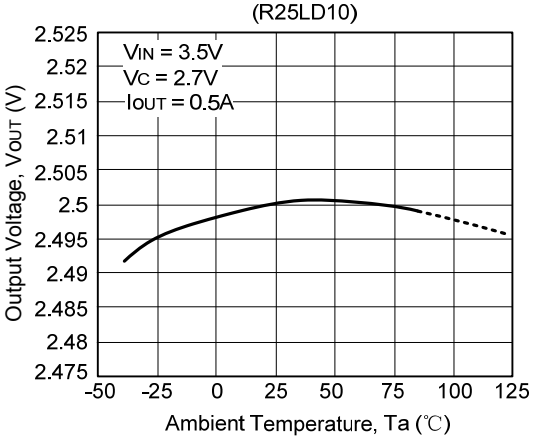
Output Voltage vs. Ambient Temperature (R15LD10)



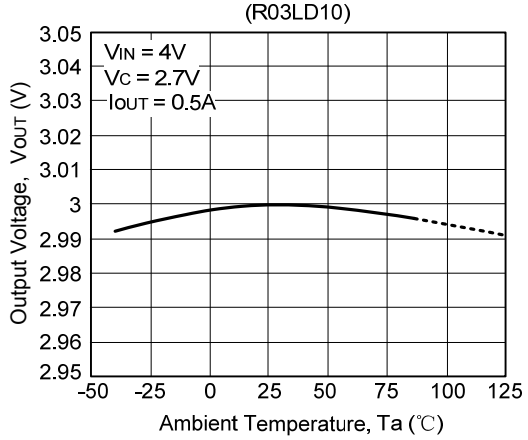
Output Voltage vs. Ambient Temperature (R18LD10)



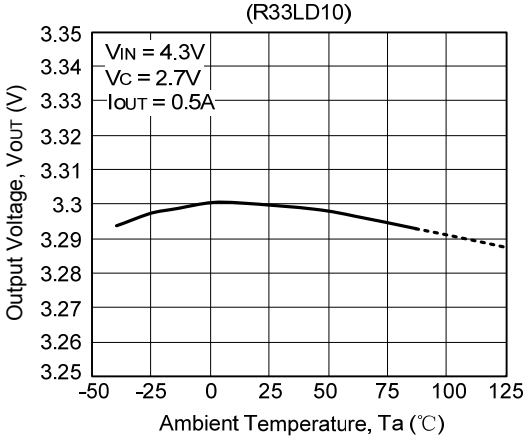
Output Voltage vs. Ambient Temperature (R25LD10)



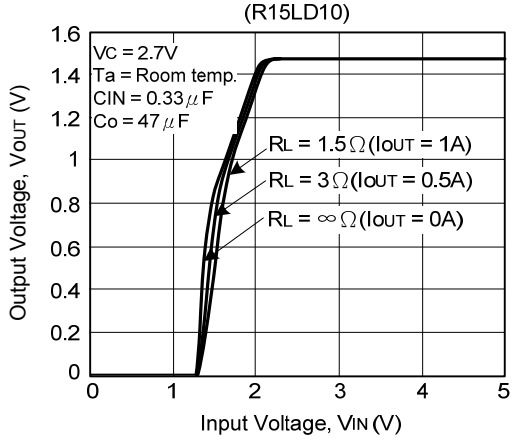
Output Voltage vs. Ambient Temperature (R03LD10)



Output Voltage vs. Ambient Temperature (R33LD10)

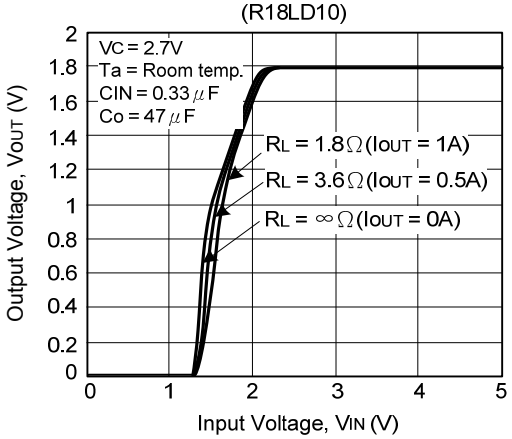


Output Voltage vs. Input Voltage (R15LD10)

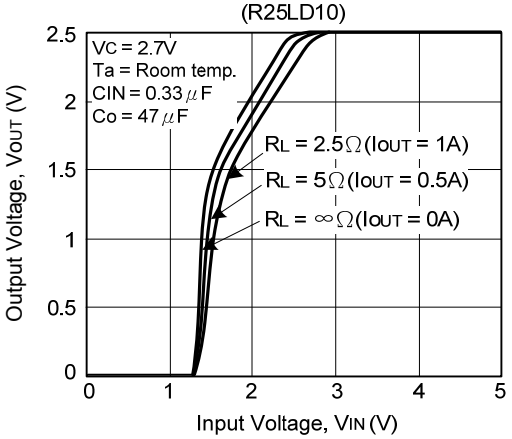


■ TYPICAL CHARACTERISTICS(cont.)

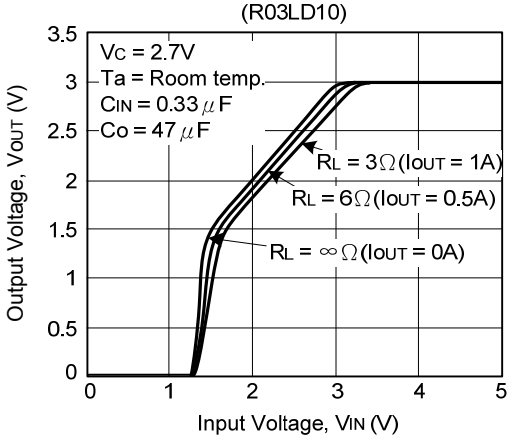
Output Voltage vs. Input Voltage
(R18LD10)



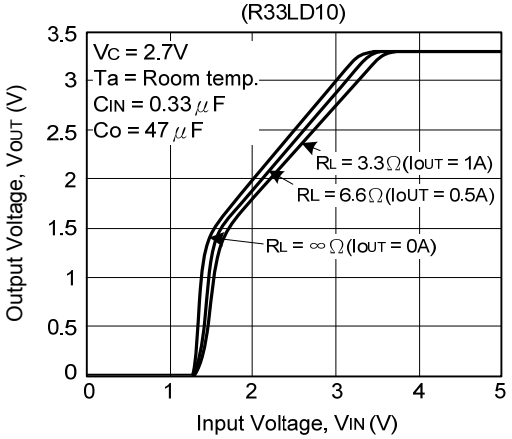
Output Voltage vs. Input Voltage
(R25LD10)



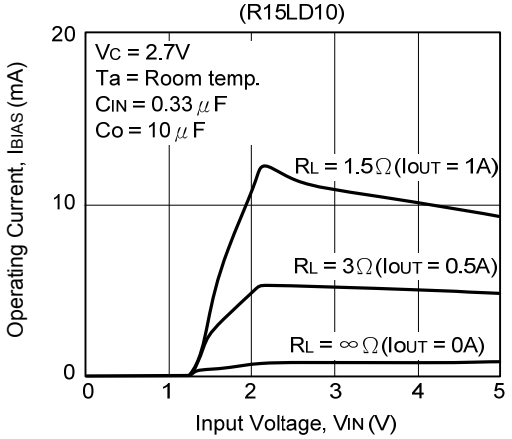
Output Voltage vs. Input Voltage
(R03LD10)



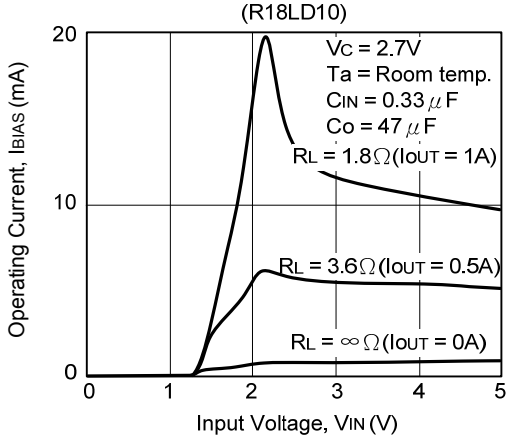
Output Voltage vs. Input Voltage
(R33LD10)



Circuit Operating Current vs. Input Voltage
(R15LD10)

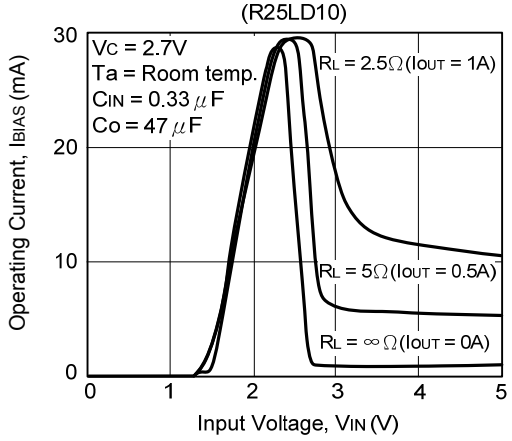


Circuit Operating Current vs. Input Voltage
(R18LD10)

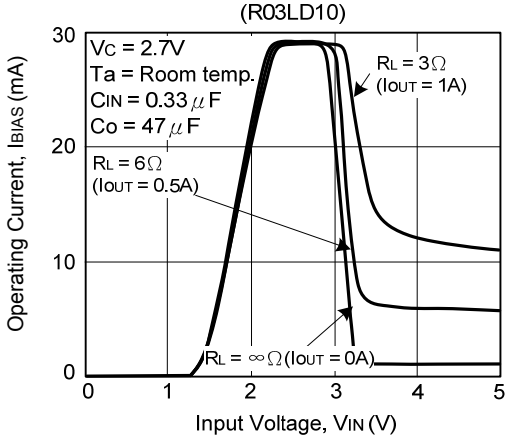


■ TYPICAL CHARACTERISTICS(Cont.)

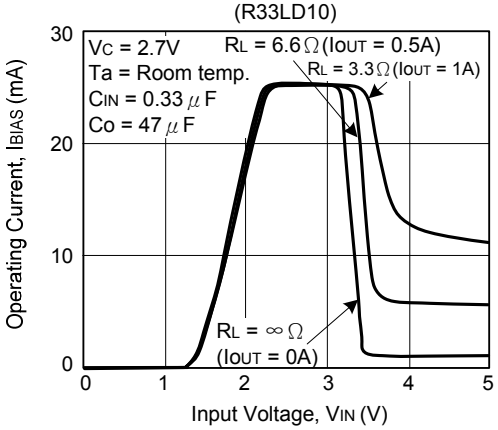
Circuit Operating Current vs. Input Voltage (R25LD10)



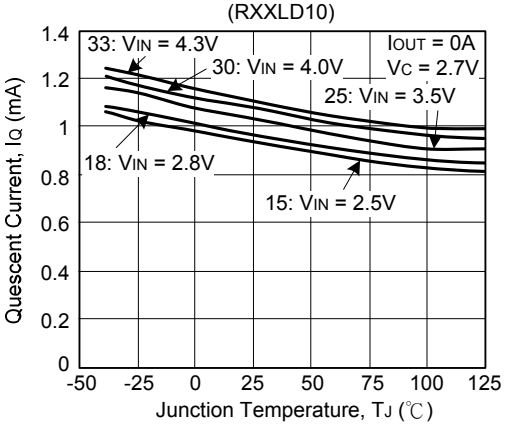
Circuit Operating Current vs. Input Voltage (R03LD10)



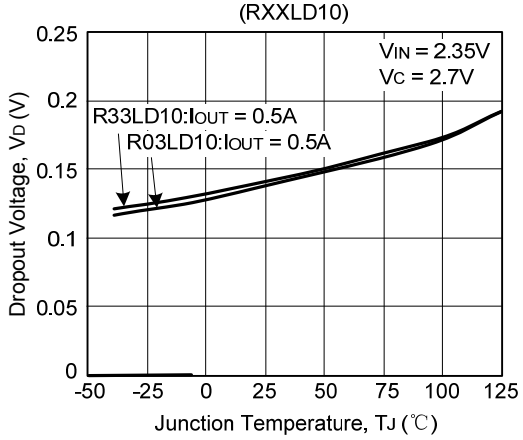
Circuit Operating Current vs. Input Voltage (R33LD10)



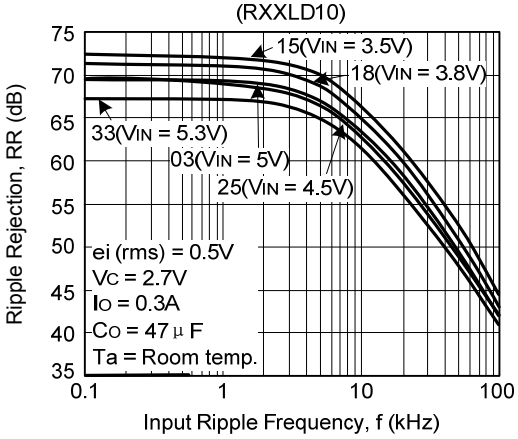
Quescent Current vs. Junction Temperature (RXXLD10)



Dropout Voltage vs. Junction Temperature (RXXLD10)

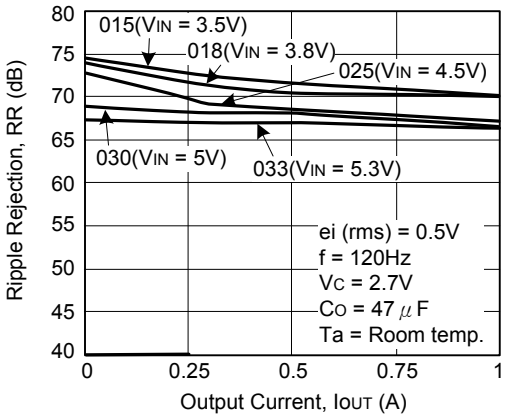


Ripple Rejection vs. Input Ripple Frequency (RXXLD10)



■ TYPICAL CHARACTERISTICS(Cont.)

Ripple Rejection vs. Output Current
(RXXLD10)



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.