



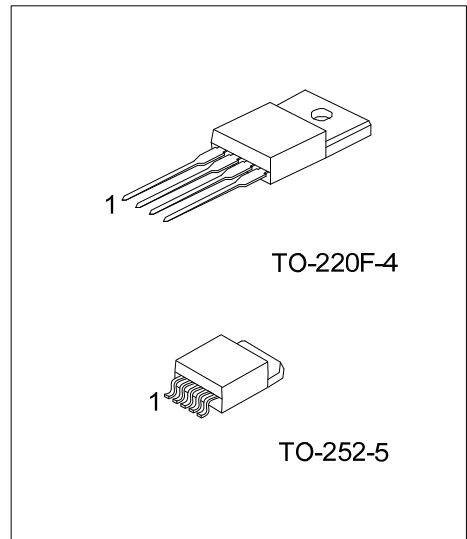
RXXLD10

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



■ ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | | | Packing |
|-----------------|----------------|----------|----------------|---|---|---|---|-----------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | 4 | 5 | |
| RXXLD10L-TB5-T | RXXLD10G-TB5-T | TO-220B | I | F | O | - | G | Tube |
| RXXLD10L-TN5-R | RXXLD10G-TN5-R | TO-252-5 | I | F | O | N | G | Tape Reel |

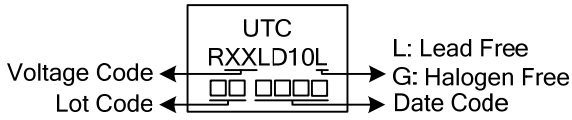
Note: Pin Assignment: I: INPUT F: ON/OFF O: OUTPUT N: NC G: GND

| | |
|-----------------------|--|
| <p>RXXLD10L-TF4-T</p> | <p>(1) T: Tube, R: Tape Reel (2) TF4: TO-220F-4, TN5: TO-252-5 (3) L: Lead Free, G: Halogen Free and Lead Free (4) XX: refer to Marking Information</p> |
|-----------------------|--|

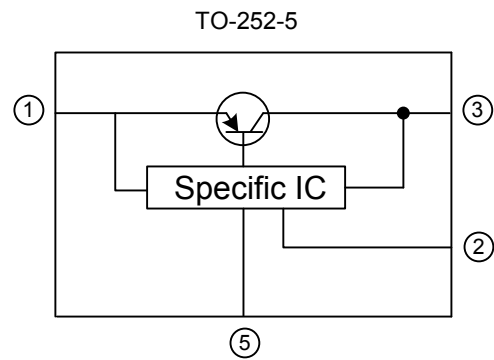
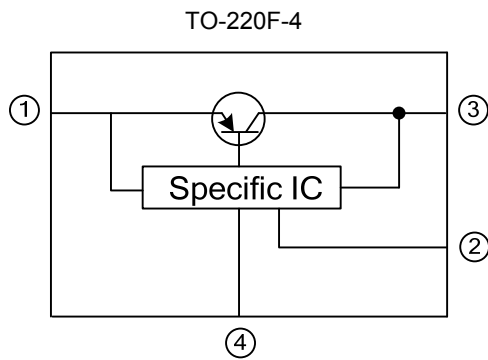
RXXLD10

LINEAR INTEGRATED CIRCUIT

MARKING INFORMATION

| PACKAGE | VOLTAGE CODE | MARKING |
|-----------------------|--|---|
| TO-220F-4 TO-252-5 | 15:1.5V 18:1.8V 25:2.5V 03:3.0V 33:3.3V 05:5.0V 12:12V |  <p>UTC RXXLD10L Voltage Code ← [] → L: Lead Free Lot Code ← [] → G: Halogen Free Date Code ← [] →</p> |

BLOCK DIAGRAM



RXXLD10

LINEAR INTEGRATED CIRCUIT

■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified.)

| 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, T_A = 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:

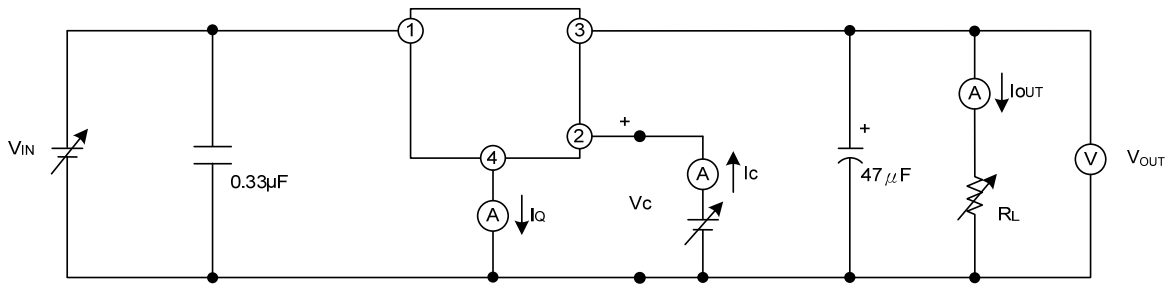


Fig.1

TO-252-5 Package:

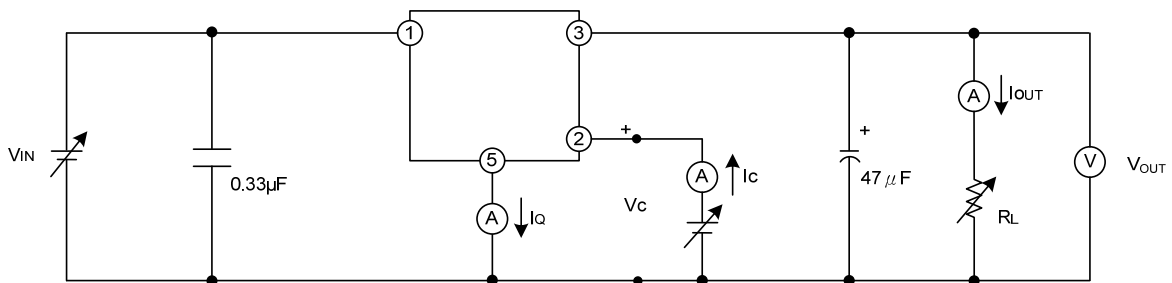
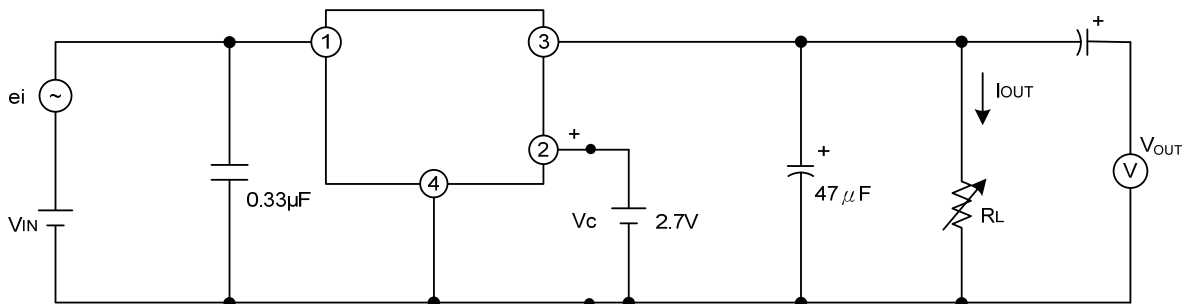


Fig.2

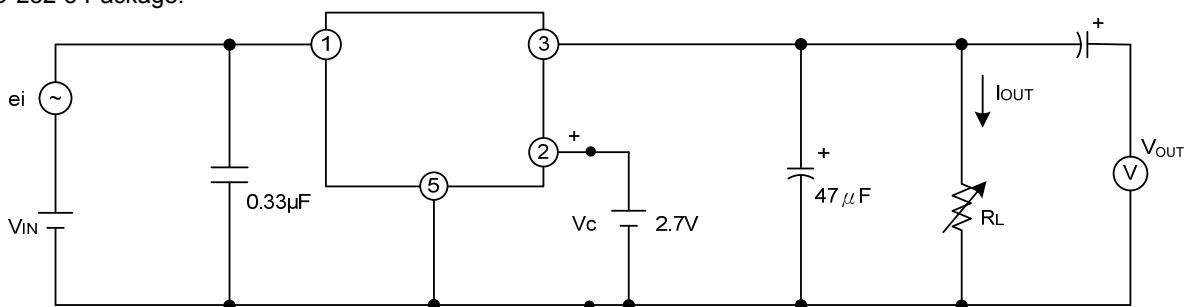
TO-220F-4 Package:



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

Fig.3 For Ripple Rejection

TO-252-5 Package:



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

Fig.4 For Ripple Rejection

■ TYPICAL APPLICATION CIRCUIT

TO-220F-4 Package:

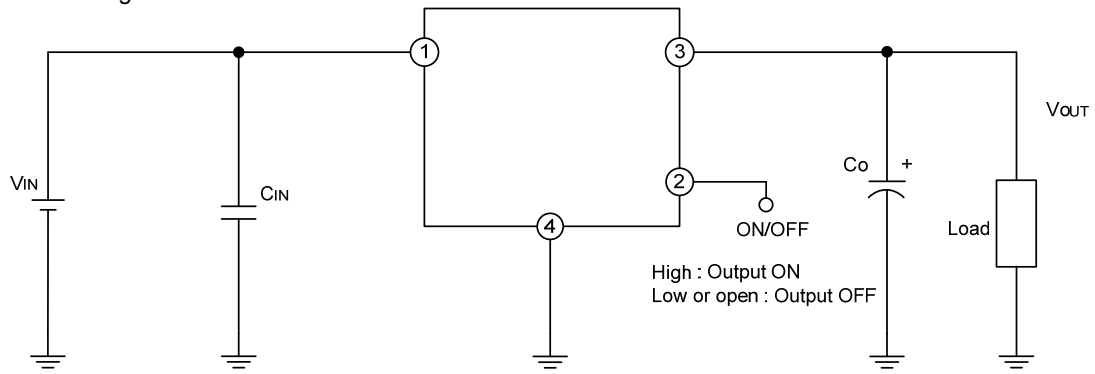


Fig. 5

TO-252-5 Package:

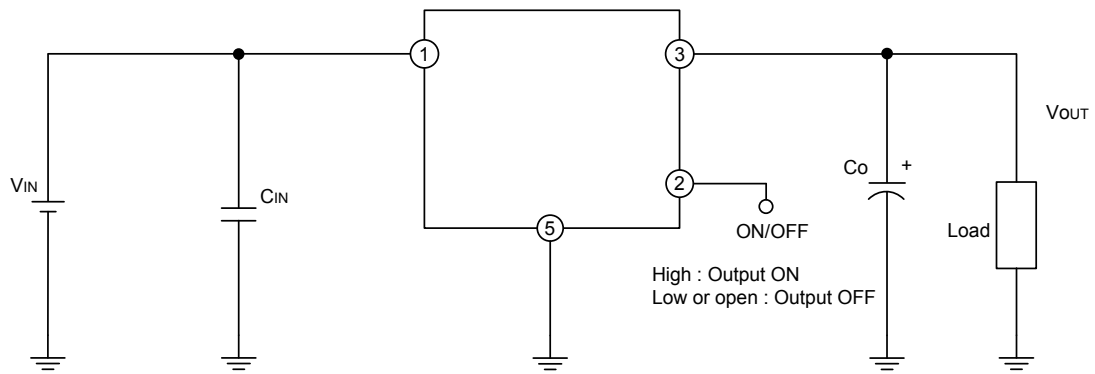
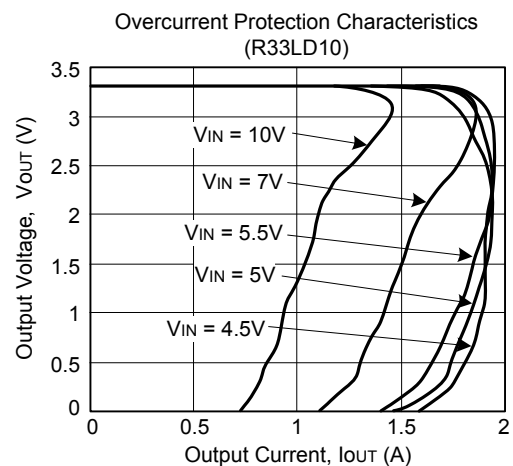
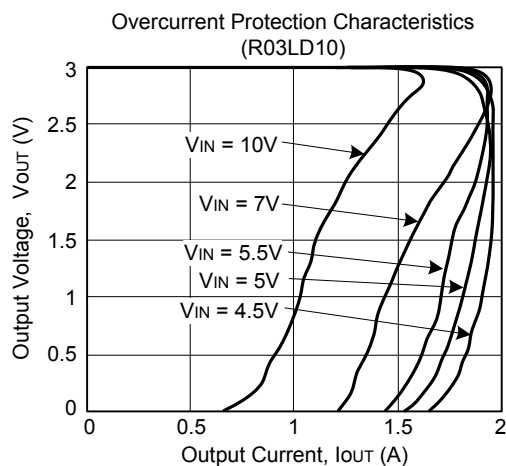
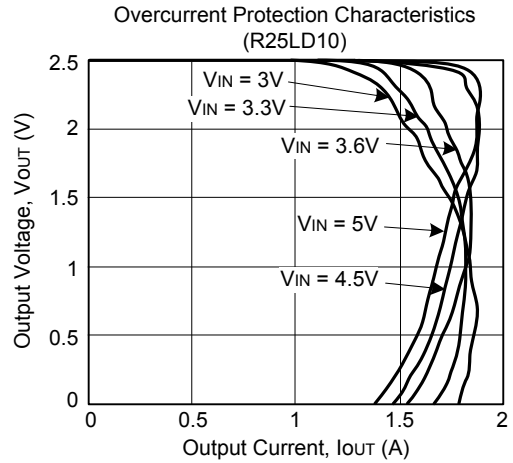
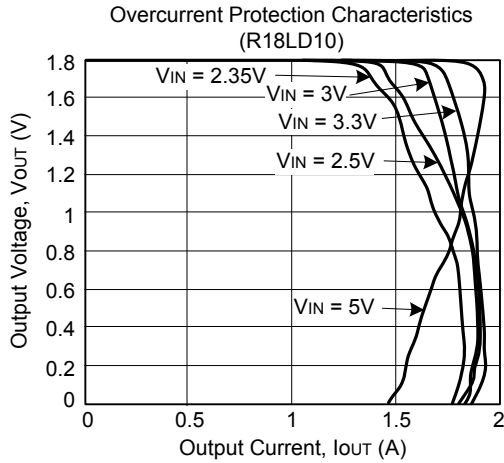
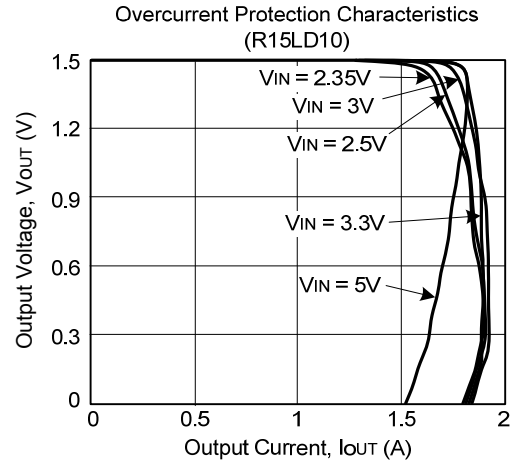
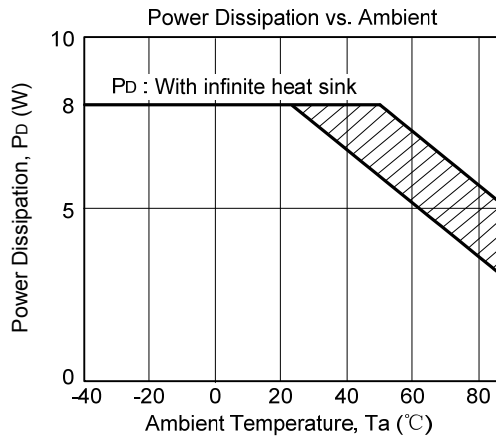
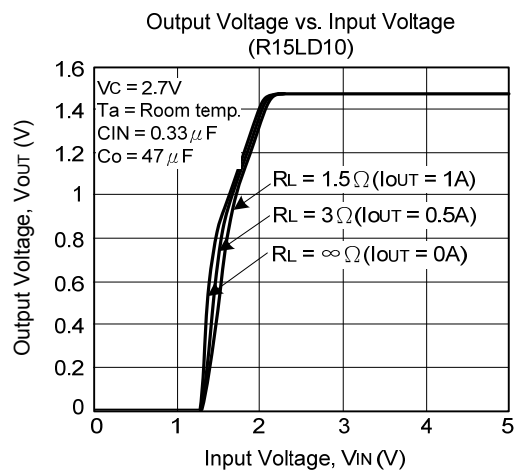
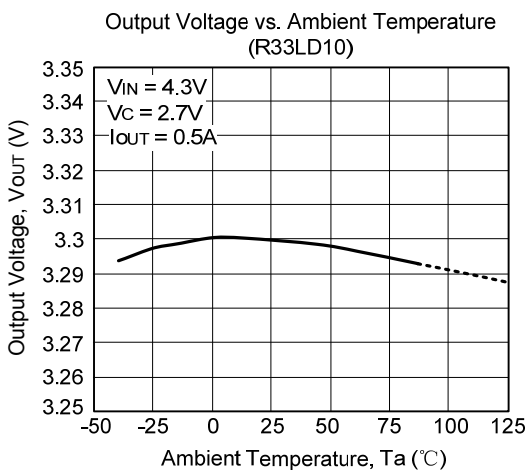
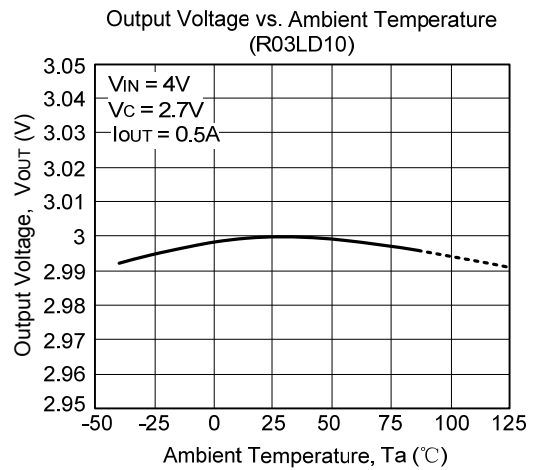
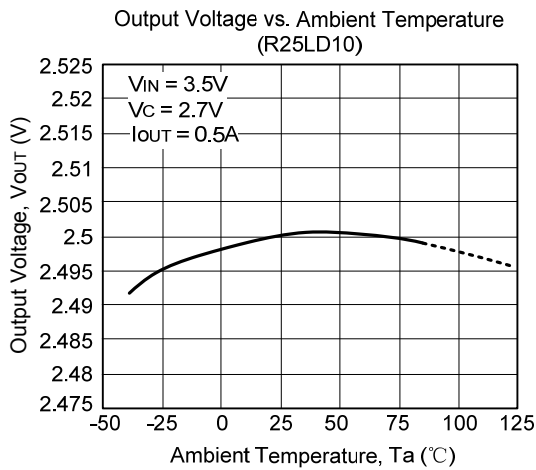
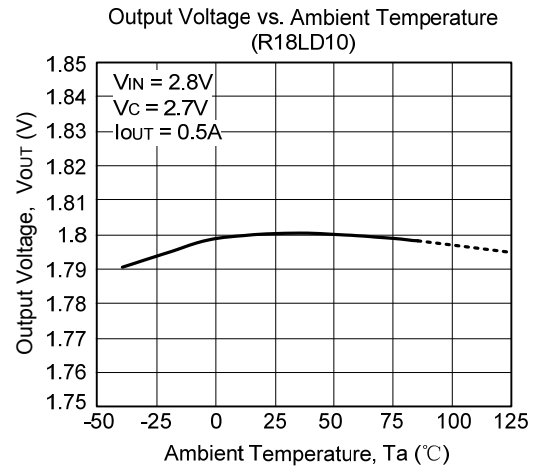
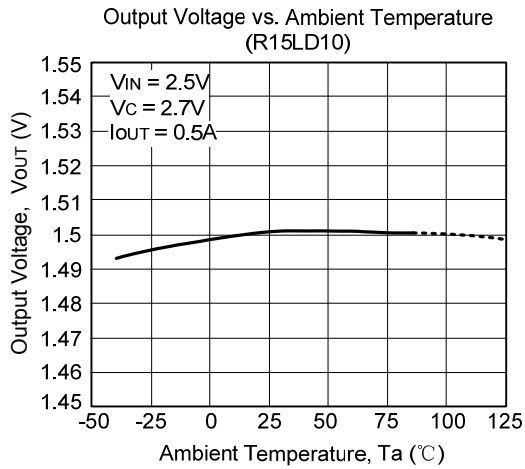


Fig. 6

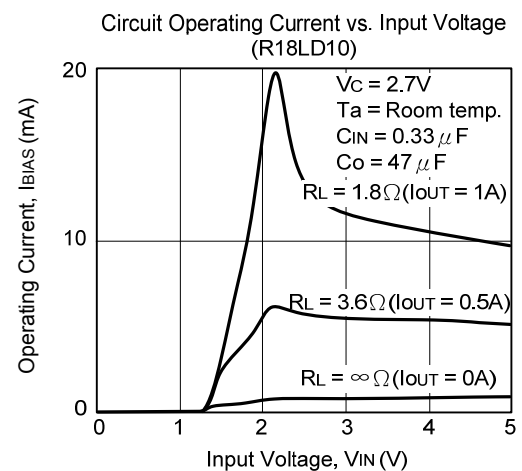
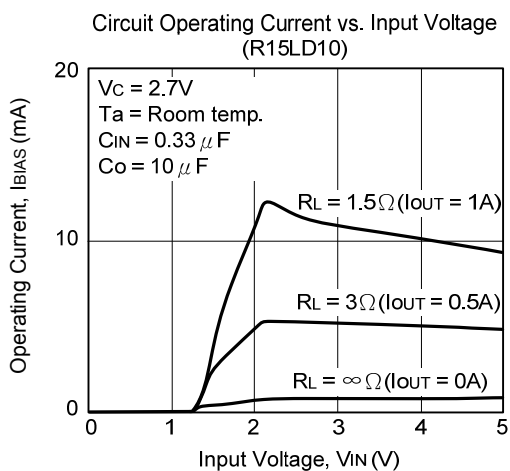
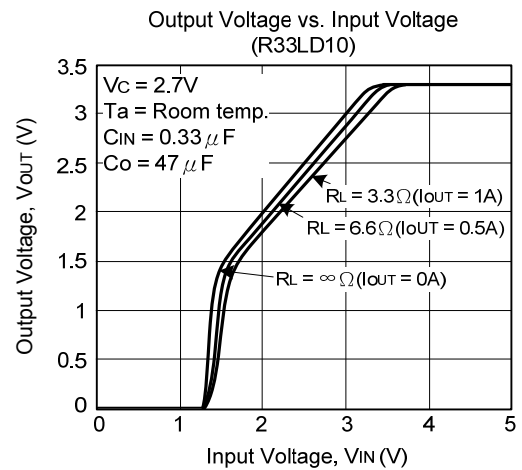
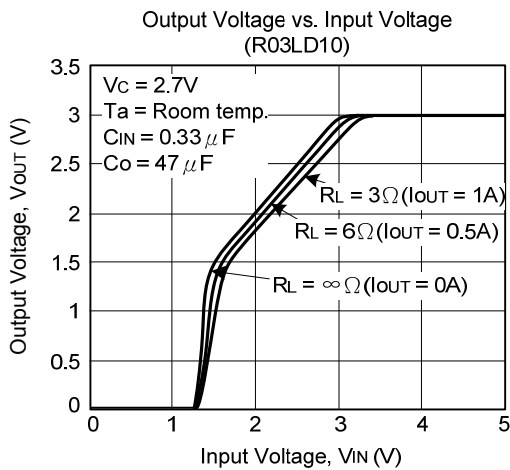
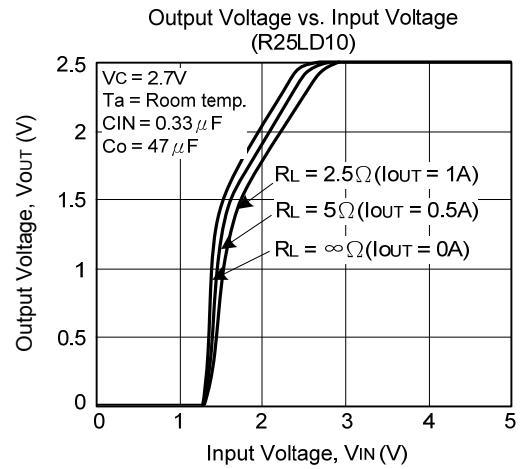
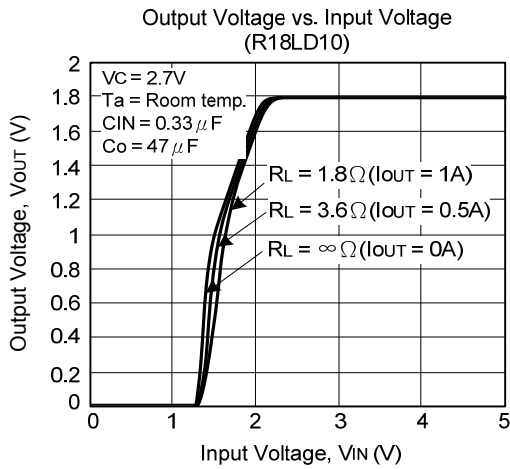
TYPICAL CHARACTERISTICS



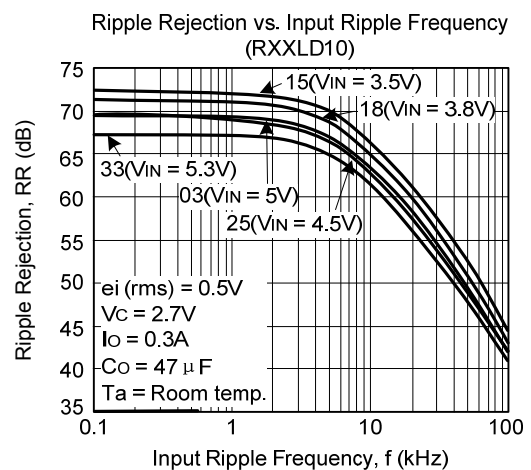
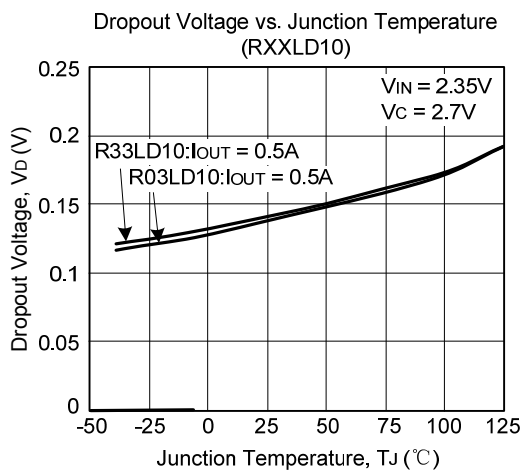
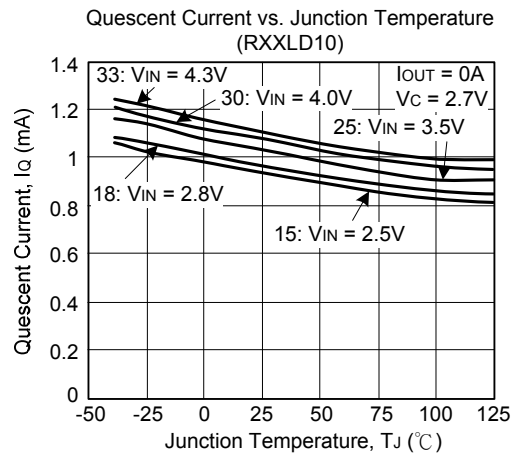
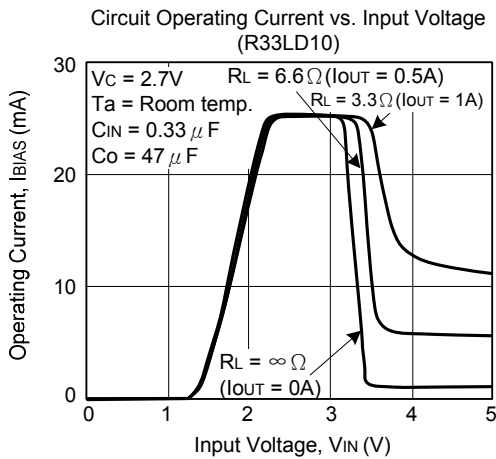
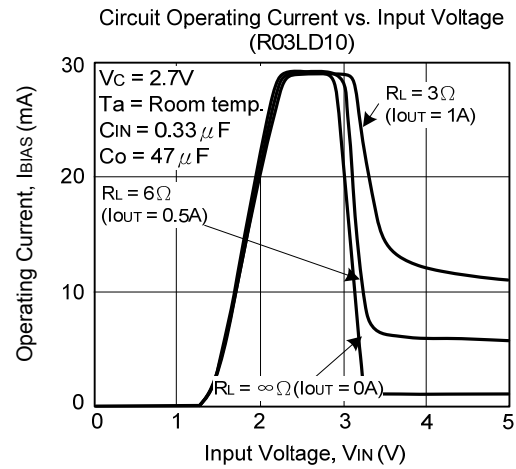
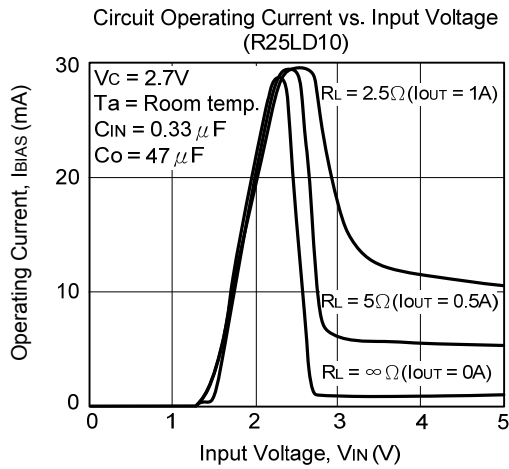
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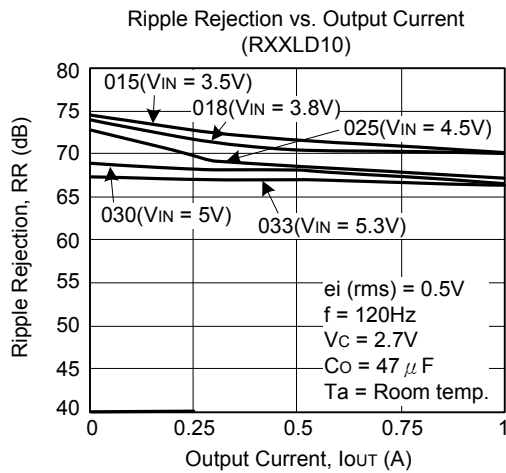
TYPICAL CHARACTERISTICS(cont.)



TYPICAL CHARACTERISTICS(Cont.)



■ TYPICAL CHARACTERISTICS(Cont.)



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