R8C/LAxA Group Output port characteristics

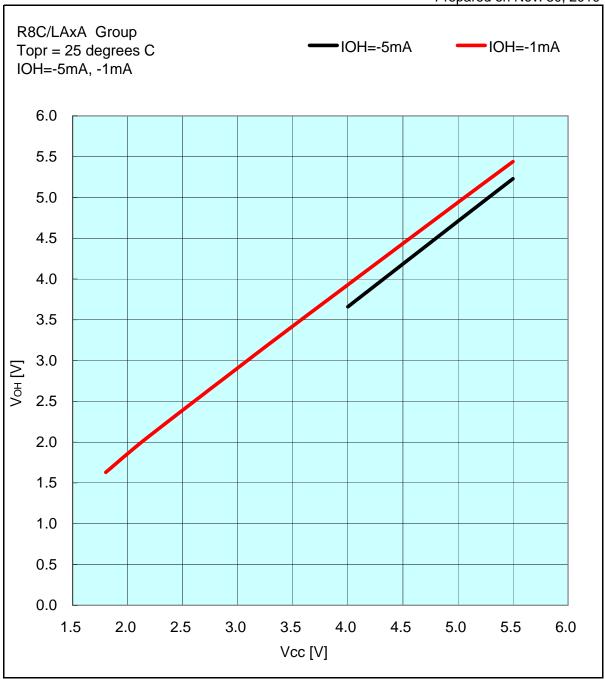
Page	Prepared on May 12, 2011
1 VOH vs VCC (P0-P6,P70,P71,P72-P76,P9)	
2 VOH vs VCC (P70-P71,P8 Drive Capacity=High)	
3 VOH vs VCC (P70-P71,P8 Drive Capacity=Low)	
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26 IOL vs VOL (P70-P71,P8 Drive Capacity=High) at Vcc=1.8V	
27 IOL vs VOL (P70-P71,P8 Drive Capacity=Low)	
28 IOL vs VOL (P70-P71,P8 Drive Capacity=Low) at Vcc=5V	
29 IOL vs VOL (P70-P71,P8 Drive Capacity=Low) at Vcc=3V	
30 IOL vs VOL (P70-P71,P8 Drive Capacity=Low) at Vcc=1.8V	

Voh vs Vcc

(P0-P6,P70^{*1},P71^{*2},P72-P76,P9) *1: On LA5A group.

*2: On LA5A, LA3A group.

Prepared on Nov. 30, 2010



Voh vs Vcc

(P70-P71*3, P8 Drive Capacity=High)
*3: On LA8A group.

Prepared on Nov. 30, 2010 R8C/LAxA Group ■IOH=-20mA IOH=-5mA Topr = 25 degrees C IOH=-2mA IOH=-20mA, -5mA, -2mA 6.0 5.5 5.0 4.5 4.0 3.5 3.0 Vон [V] 2.5 2.0 1.5 1.0 0.5 0.0

The mentioned value is only for your reference. The value is for the arbitrary samples and does not guarantee the product's characteristics

3.5

Vcc [V]

4.0

4.5

5.0

5.5

6.0

1.5

2.0

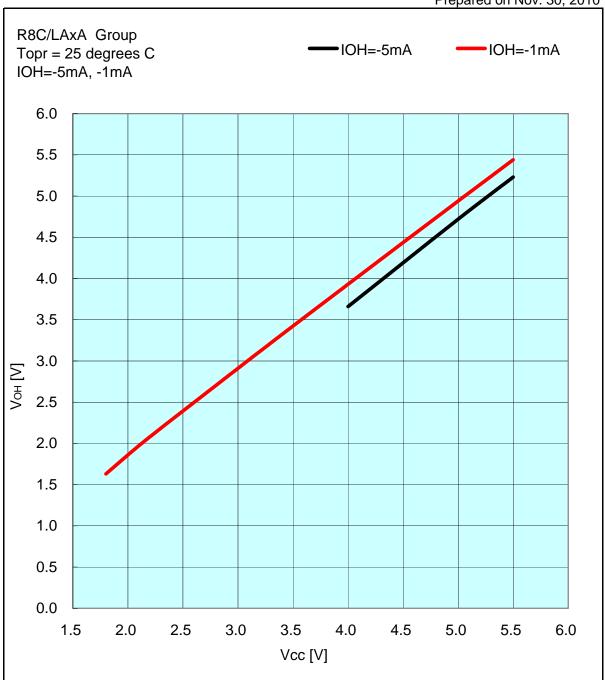
2.5

3.0

Voh vs Vcc

(P70-P71*3, P8 Drive Capacity=Low)
*3: On LA8A group.

Prepared on Nov. 30, 2010

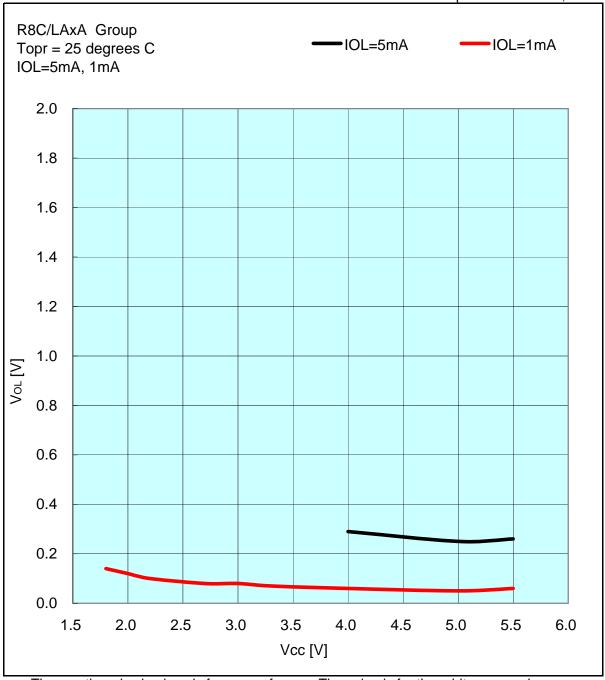


Vol vs Vcc

(P0-P6,P70^{*1},P71^{*2},P72-P76,P9) *1: On LA5A group.

*2: On LA5A, LA3A group.

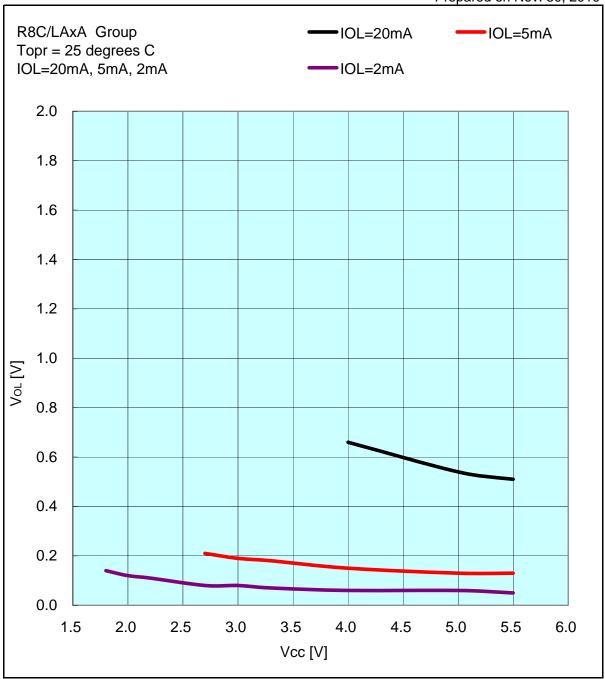
Prepared on Nov. 30, 2010



Vol vs Vcc

(P70-P71*3, P8 Drive Capacity=High)
*3: On LA8A group.

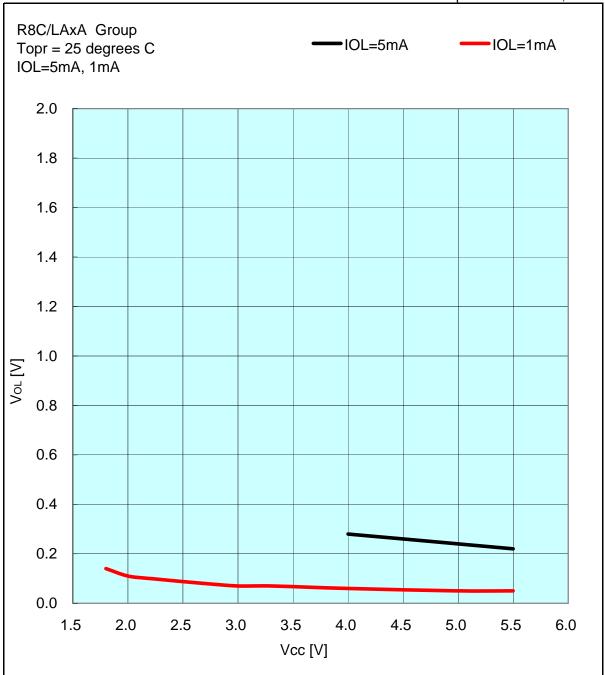
Prepared on Nov. 30, 2010



Vol vs Vcc

(P70-P71*3, P8 Drive Capacity=Low)
*3: On LA8A group.

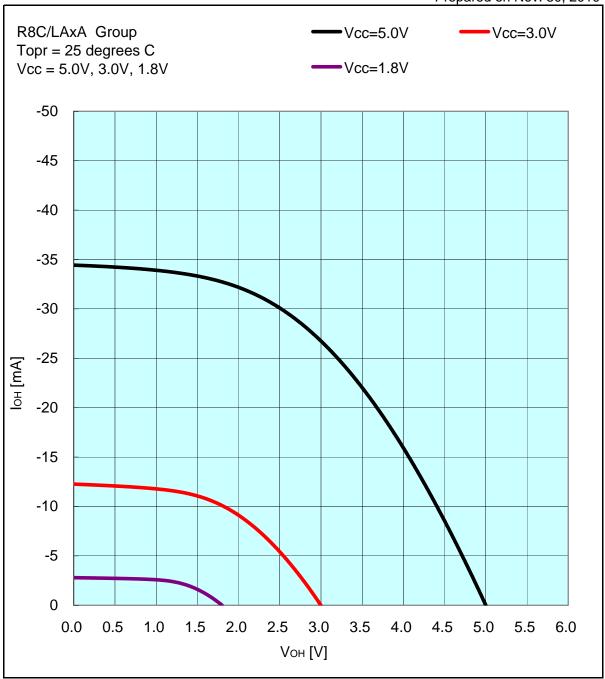
Prepared on Nov. 30, 2010



(P0-P6,P70^{*1},P71^{*2},P72-P76,P9) *1: On LA5A group.

*2: On LA5A, LA3A group.

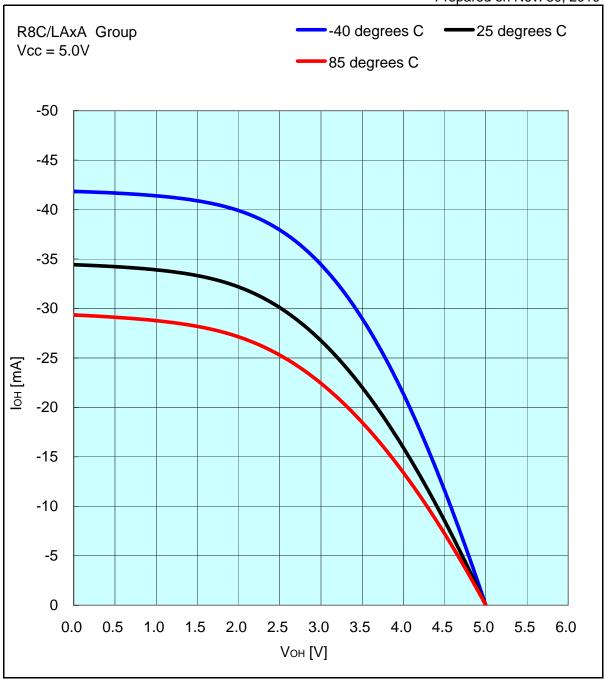
Prepared on Nov. 30, 2010



(P0-P6,P70^{*1},P71^{*2},P72-P76,P9) *1: On LA5A group.

*2: On LA5A, LA3A group.

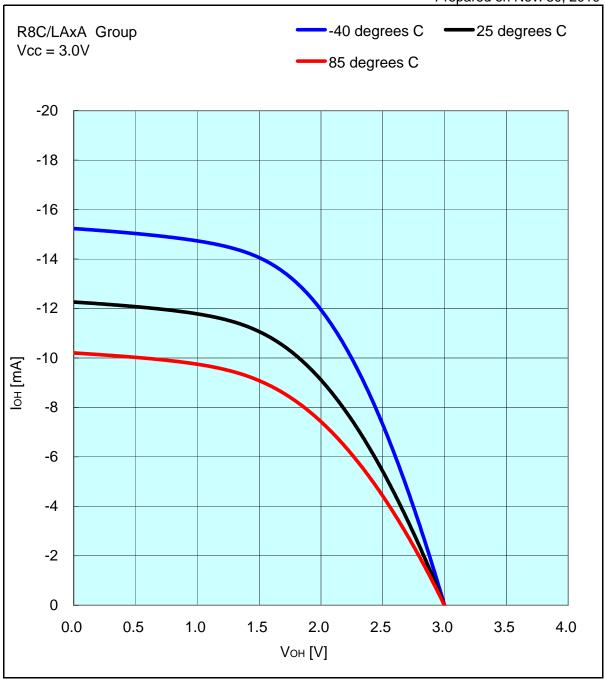
Prepared on Nov. 30, 2010



(P0-P6,P70^{*1},P71^{*2},P72-P76,P9) *1: On LA5A group.

*2: On LA5A, LA3A group.

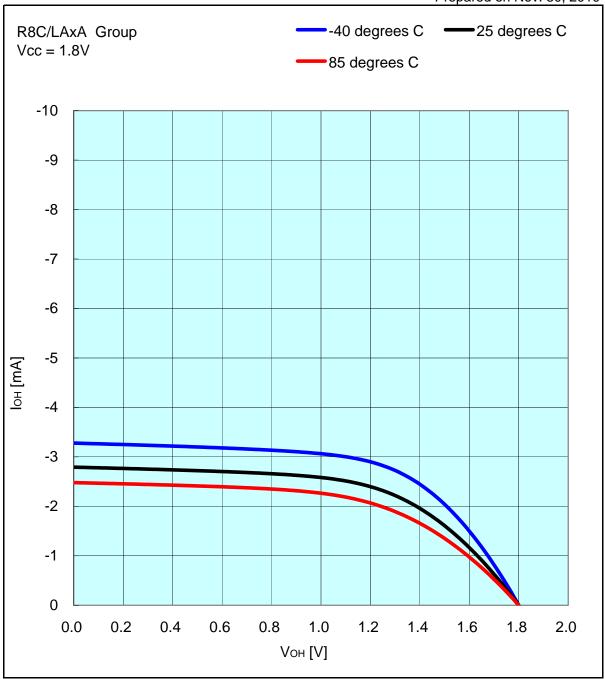
Prepared on Nov. 30, 2010



(P0-P6,P70^{*1},P71^{*2},P72-P76,P9) *1: On LA5A group.

*2: On LA5A, LA3A group.

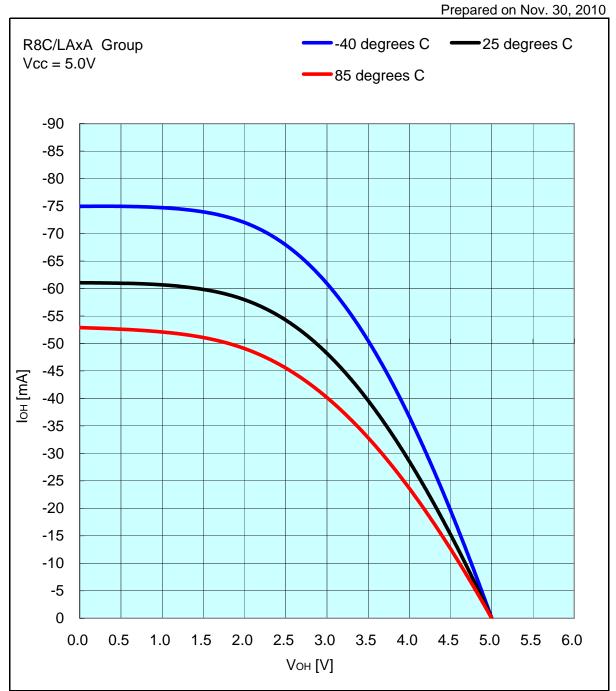
Prepared on Nov. 30, 2010



(P70-P71*3, P8 Drive Capacity=High)
*3: On LA8A group.

Prepared on Nov. 30, 2010 •Vcc=5.0V Vcc=3.0V R8C/LAxA Group Topr = 25 degrees C Vcc=1.8V Vcc = 5.0V, 3.0V, 1.8V-80 -75 -70 -65 -60 -55 -50 -45 -40 юн [mA] -35 -30 -25 -20 -15 -10 -5 0 0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 Von [V]

(P70-P71*3, P8 Drive Capacity=High)
*3: On LA8A group.



(P70-P71*3, P8 Drive Capacity=High)
*3: On LA8A group.

Prepared on Nov. 30, 2010 25 degrees C R8C/LAxA Group -40 degrees C Vcc = 3.0V85 degrees C -40 -35 -30 -25 -20 Іон [mA] -15 -10 -5 0 0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 Von [V]

(P70-P71*3, P8 Drive Capacity=High)
*3: On LA8A group.

Prepared on Nov. 30, 2010 25 degrees C R8C/LAxA Group -40 degrees C Vcc = 1.8V85 degrees C -10 -9 -8 -7 -6 -5 Іон [mA] -4 -3 -2 -1 0 0.0 0.2 0.4 0.6 8.0 1.0 1.2 1.4 1.6 1.8 2.0 Von [V]

(P70-P71*3, P8 Drive Capacity=Low)
*3: On LA8A group.

Prepared on Nov. 30, 2010 Vcc=5.0V Vcc=3.0V R8C/LAxA Group Topr = 25 degrees C Vcc=1.8V Vcc = 5.0V, 3.0V, 1.8V -50 -45 -40 -35 -30 Іон [mA] -25 -20 -15 -10 -5 0 0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 Von [V]

(P70-P71*3, P8 Drive Capacity=Low)
*3: On LA8A group.

Prepared on Nov. 30, 2010 25 degrees C R8C/LAxA Group -40 degrees C Vcc = 5.0V85 degrees C -50 -45 -40 -35 -30 Іон [mA] -25 -20 -15 -10 -5 0 0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 Von [V]

(P70-P71*3, P8 Drive Capacity=Low)
*3: On LA8A group.

Prepared on Nov. 30, 2010 25 degrees C R8C/LAxA Group -40 degrees C Vcc = 3.0V85 degrees C -20 -18 -16 -14 -12 Іон [mA] -10 -8 -6 -4 -2 0 0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 Von [V]

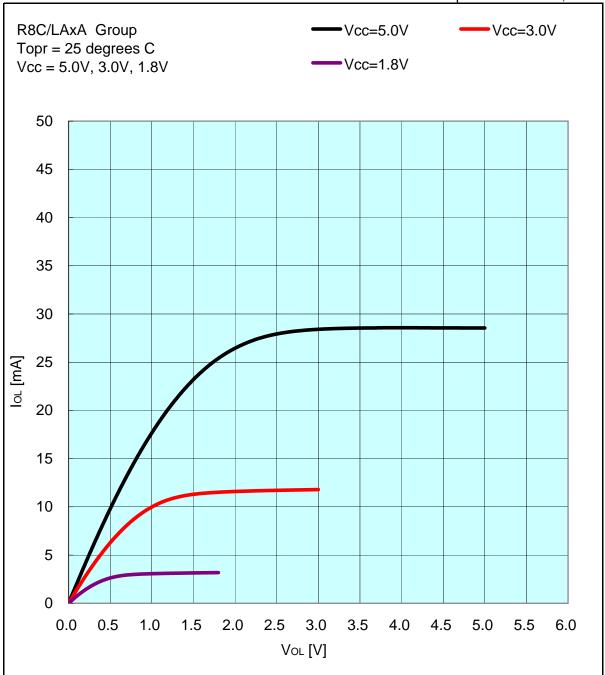
(P70-P71*3, P8 Drive Capacity=Low)
*3: On LA8A group.

Prepared on Nov. 30, 2010 25 degrees C R8C/LAxA Group -40 degrees C Vcc = 1.8V85 degrees C -10 -9 -8 -7 -6 -5 Іон [mA] -4 -3 -2 -1 0 0.0 0.2 0.4 0.6 8.0 1.0 1.2 1.4 1.6 1.8 2.0 Von [V]

(P0-P6,P70^{*1},P71^{*2},P72-P76,P9) *1: On LA5A group.

*2: On LA5A, LA3A group.

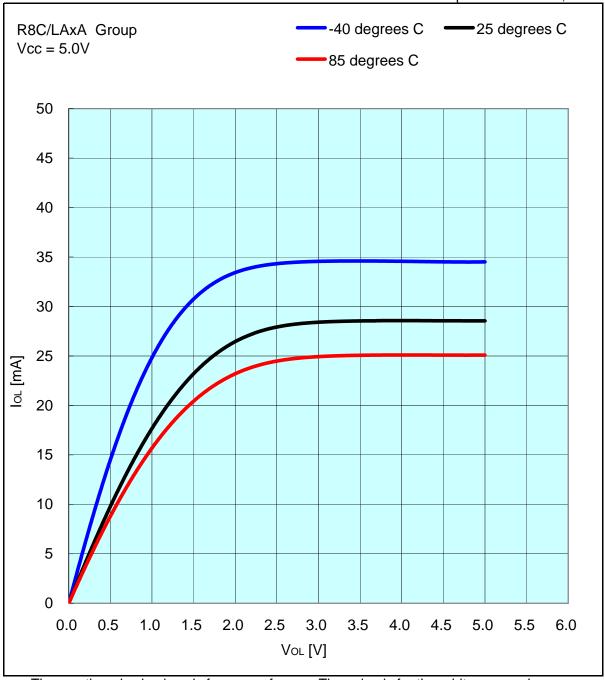
Prepared on Nov. 30, 2010



(P0-P6,P70^{*1},P71^{*2},P72-P76,P9) *1: On LA5A group.

*2: On LA5A, LA3A group.

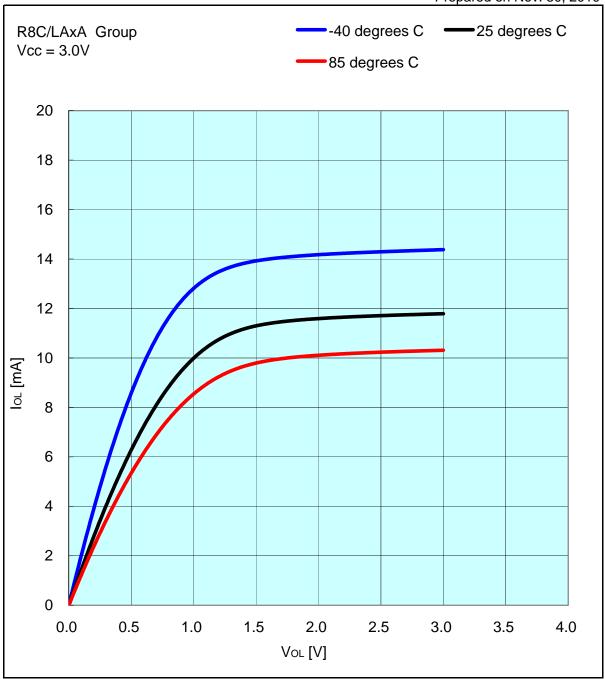
Prepared on Nov. 30, 2010



(P0-P6,P70^{*1},P71^{*2},P72-P76,P9) *1: On LA5A group.

*2: On LA5A, LA3A group.

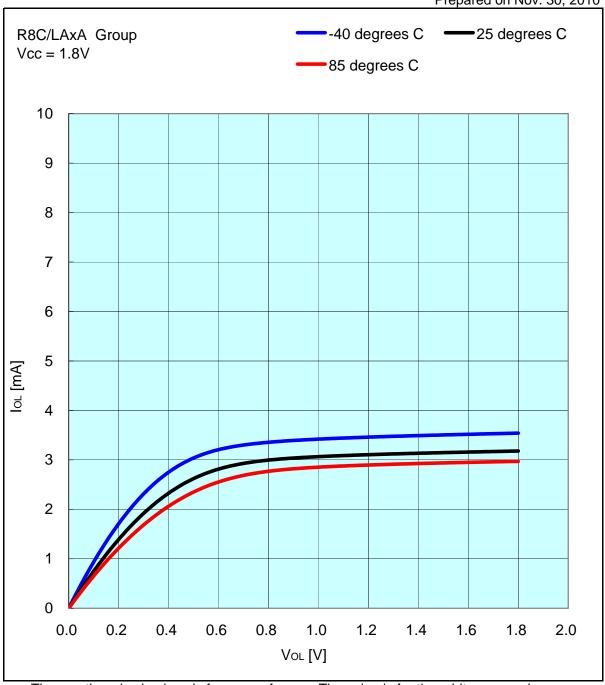
Prepared on Nov. 30, 2010



(P0-P6,P70^{*1},P71^{*2},P72-P76,P9) *1: On LA5A group.

*2: On LA5A, LA3A group.

Prepared on Nov. 30, 2010



(P70-P71*3, P8 Drive Capacity=High)
*3: On LA8A group.

Prepared on Nov. 30, 2010 **-**Vcc=5.0V Vcc=3.0V R8C/LAxA Group Topr = 25 degrees C Vcc=1.8V Vcc = 5.0V, 3.0V, 1.8V80 75 70 65 60 55 50 45 40 lo∟ [mA] 35 30 25 20 15 10 5 0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 Vol [V]

(P70-P71*3, P8 Drive Capacity=High)
*3: On LA8A group.

Prepared on Nov. 30, 2010 25 degrees C R8C/LAxA Group -40 degrees C Vcc = 5.0V85 degrees C 80 75 70 65 60 55 50 45 40 lo∟ [mA] 35 30 25 20 15 10 5 0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 Vol [V]

(P70-P71*3, P8 Drive Capacity=High)
*3: On LA8A group.

Prepared on Nov. 30, 2010 25 degrees C R8C/LAxA Group -40 degrees C Vcc = 3.0V85 degrees C 40 35 30 25 20 lo∟ [mA] 15 10 5 0 0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 Vol [V]

(P70-P71*3, P8 Drive Capacity=High)
*3: On LA8A group.

Prepared on Nov. 30, 2010 25 degrees C R8C/LAxA Group -40 degrees C Vcc = 1.8V85 degrees C 10 9 8 7 6 5 lo∟ [mA] 4 3 2 1 0 0.0 0.2 0.4 0.6 8.0 1.0 1.2 1.4 1.6 1.8 2.0 Vol [V]

(P70-P71*3, P8 Drive Capacity=Low)
*3: On LA8A group.

Prepared on Nov. 30, 2010 **-**Vcc=5.0V Vcc=3.0V R8C/LAxA Group Topr = 25 degrees C Vcc=1.8V Vcc = 5.0V, 3.0V, 1.8V50 45 40 35 30 25 lo_L [mA] 20 15 10 5 0 0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0

The mentioned value is only for your reference. The value is for the arbitrary samples and does not guarantee the product's characteristics

Vol [V]

(P70-P71*3, P8 Drive Capacity=Low)
*3: On LA8A group.

Prepared on Nov. 30, 2010 -25 degrees C R8C/LAxA Group -40 degrees C Vcc = 5.0V85 degrees C 50 45 40 35 30 25 lo∟ [mA] 20 15 10 5 0 0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 Vol [V]

(P70-P71*3, P8 Drive Capacity=Low)
*3: On LA8A group.

Prepared on Nov. 30, 2010 25 degrees C R8C/LAxA Group -40 degrees C Vcc = 3.0V85 degrees C 30 28 26 24 22 20 18 16 lo∟ [mA] 14 12 10 8 6 4 2 0 0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 Vol [V]

(P70-P71*3, P8 Drive Capacity=Low)
*3: On LA8A group.

Prepared on Nov. 30, 2010 25 degrees C R8C/LAx Group -40 degrees C Vcc = 1.8V85 degrees C 10 9 8 7 6 5 lo∟ [mA] 4 3 2 1 0 0.0 0.2 0.4 0.6 8.0 1.0 1.2 1.4 1.6 1.8 2.0 Vol [V]