200mA LDO
Monolithic IC MM3411 Series

Outline

This IC is a 200mA Low dropout regulator IC with Rush current protection circuit.
No load input current is 25μA typ., and it reduce drop voltage for high speed response.
Rush current protection circuit can control rush current.

Features

1.	Maximum operating voltage	6.5V
2.	Output current	200mA
3.	No load input current	25μA typ.
4.	Input current (OFF)	1μA max.
5.	Output voltage range	0.8~5.0V
6.	Output voltage accuracy	±1%
7.	Dropout voltage	0.40V typ. (I_{OUT}=200mA)
8.	Line regulation	±0.1%/V max.
9.	Load regulation	60mV max.(I_{OUT}=1~200mA)
10.	Ripple rejection	70dB typ. (f=1kHz)
11.	Output Capacitor	0.47μF
12.	ON/OFF control	

Package

SC-82ABB
SOT-25A

Applications

1. Mobile phone, Smart phone
2. Digital camera
3. Game equipment
4. Tablet

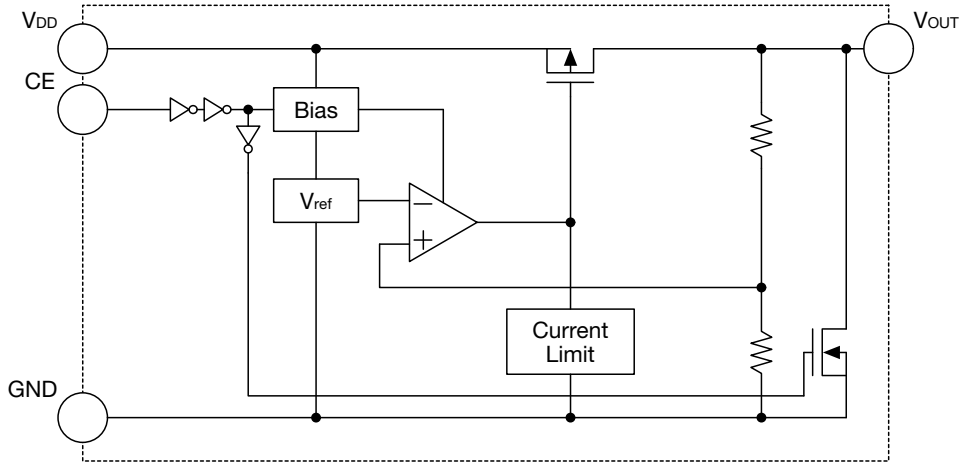
Model Name

M M 3 4 1 1 □ □ □ □ □ □ E
① ② ③ ④

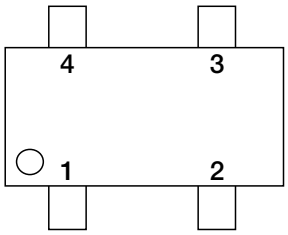
① Function Type		② Voltage Output RANK	
A	CE=H-Active, with Discharge Function	08	①=A Vo (typ.) =0.80V ①=Z Vo (typ.) =0.85V
Z			
		~	①=A Vo (typ.) =0.10V step ①=Z Vo (typ.) =0.05V step
		50	①=A Vo (typ.) =5.00V

③ Package		④ Packing Specifications	
U	SC-82ABB	R	R HOUSING
N	SOT-25A		

Block Diagram

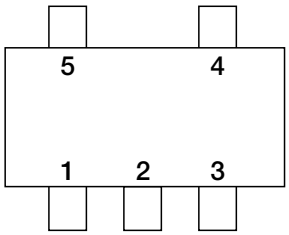


Pin Assignment



SC-82ABB
(TOP VIEW)

1	CE
2	GND
3	VOUT
4	VDD



SOT-25A
(TOP VIEW)

1	VDD
2	GND
3	CE
4	NC
5	VOUT

Note1 : Heat Spreader Bottom with GND.

Pin Description

SC-82ABB

Pin No.	Pin name	Functions
1	CE	ON/OFF-Control pin CE: L → OUTPUT: OFF; CE: H → OUTPUT: ON Connect CE pin with V_{DD} pin, when it is not used. And it Can not be used at OPEN, because it don't have pulldown.
2	GND	GND pin
3	V_{OUT}	Output pin
4	V_{DD}	Voltage-Supply pin

SOT-25A

Pin No.	Pin name	Functions
1	V_{DD}	Voltage-supply pin
2	GND	GND pin
3	CE	ON/OFF-Control pin CE: L → OUTPUT: OFF; CE: H → OUTPUT: ON Connect CE pin with V_{DD} pin, when it is not used. And it Can not be used at OPEN, because it don't have pulldown.
4	NC	No connection
5	V_{OUT}	Output pin

Absolute Maximum Ratings (Except where noted otherwise Ta=25°C)

Item	Symbol	Ratings	Units
Storage Temperature	Tstg	-55~+150	°C
Junction Temperature	T_{jMAX}	150	°C
Supply Voltage	V_{DD}	-0.3~+7.0	V
CE input Voltage	V_{CE}	-0.3~+7.0	V
Output Voltage	V_{OUT}	-0.3~+7.0	V
Output Current	Iomax	400	mA
Power Dissipation 1	Pd1	330(Note2) (SC-82ABB) 350(Note3) (SOT-25A)	mW
Power Dissipation 2	Pd2	650(Note4) (SC-82ABB) 700(Note4) (SOT-25A)	mW

Note2 : With PC Board of glass epoxy 100 × 100 × 1.6mm
Note3 : With PC Board of glass epoxy 60 × 40 × 1.6mm
Note4 : JEDEC51-7 standard 114.3 × 76.2 × 1.6mm

Recommended Operating Conditions (Except where noted otherwise Ta=25°C)

Item	Symbol	Ratings	Units
Operating Ambient Temperature	Topr	–40~+85	°C
Operating Voltage	Vop	1.8~6.5	V
Output Current	Iop	0~200	mA

Electrical Characteristics 1 (Except where noted otherwise $V_{DD}=V_{OUT}$(TYP.)+1V, $V_{CE}=V_{DD}$, Ta=25°C)

Item	Symbol	Measurement conditions	Min.	Typ.	Max.	Units
Input Current(OFF)	I_{DDOff}	V_{CE}=0V		0.01	1.0	µA
No-Load Input Current	I_{DD}	I_{OUT}=0mA		25	40	µA
Output Voltage	V_{OUT}	I_{OUT}=10mA (V_{OUT}≧2.00V)	×0.99		×1.01	V
		I_{OUT}=10mA (V_{OUT}<2.00V)	–0.02		+0.02	V
Line Regulation	V_{LINE}	V_{OUT} (TYP.)+0.5V≦V_{DD}≦6.5V V_{OUT}≧1.10V, I_{OUT}=10mA		0.01	0.10	%/V
		V_{OUT} (TYP.)+1.0V≦V_{DD}≦6.5V V_{OUT}≦1.05V, I_{OUT}=10mA				
Load Regulation 1	V_{LOAD1}	1mA≦I_{OUT}≦150mA		10	40	mV
Load Regulation 2	V_{LOAD2}	1mA≦I_{OUT}≦200mA		20	60	mV
Dropout Voltage	Vio	Please refer to another page				V
Ripple Rejection (Note5)	RR	f=1kHz, Vripple=0.5V, I_{OUT}=10mA		70		dB
V_{OUT} Temperature Coefficient (Note5)	$\Delta V_{OUT}/\Delta T$	I_{OUT}=10mA, –40≦Top≦85°C		±100		ppm/°C
Output Current Limit	Ilim		200	350		mA
Output Short-Circuit Current (Note5)	Ishort	V_{OUT}=0V		20		mA
CE High Threshold Voltage	V_{CEH}		1.5		V_{DD}	V
CE Low Threshold Voltage	V_{CEL}				0.3	V
CE High Threshold Current	I_{CEH}		–1.0		+1.0	µA
CE Low Threshold Current	I_{CEL}		–1.0		+1.0	µA
CL Discharge Resistance (Note5)	Rdisc	V_{CE}=0V, V_{DD}=6V		10		

Note5 : The parameter is guaranteed by design.

Electrical Characteristics 2 (Except where noted otherwise $V_{DD}=V_{OUT}$(TYP.)+1V, $V_{CE}=V_{DD}$, Ta=25°C)

Model No.	Item							
	Output Voltage				Dropout Voltage			
	V_{OUT} (V)				V_{OUT} (V)			
	Measurement Conditions	Min.	Typ.	Max.	Measurement Conditions	Min.	Typ.	Max.
MM3411A08	I_{OUT}=10mA	0.780	0.800	0.820	I_{OUT}=150mA 0.8V≦V_{OUT}<1.9V (Note6)		0.77	0.88
MM3411A09		0.880	0.900	0.920				
MM3411A10		0.980	1.000	1.020			0.69	0.79
MM3411A11		1.080	1.100	1.120				
MM3411A12		1.180	1.200	1.220				
MM3411A13		1.280	1.300	1.320			0.60	0.70
MM3411A14		1.380	1.400	1.420				
MM3411A15		1.480	1.500	1.520				
MM3411A16		1.580	1.600	1.620			0.51	0.61
MM3411A17		1.680	1.700	1.720				
MM3411A18		1.780	1.800	1.820				
MM3411A19		1.880	1.900	1.920	I_{OUT}=150mA 1.9V≦V_{OUT}≦5.0V $V_{DD}=V_{OUT}$ (TYP.) –0.2V		0.47	0.57
MM3411A20		1.980	2.000	2.020				
MM3411A21		2.079	2.100	2.121				
MM3411A22		2.178	2.200	2.222				
MM3411A23		2.277	2.300	2.323				
MM3411A24		2.376	2.400	2.424				
MM3411A25		2.475	2.500	2.525			0.31	0.41
MM3411A26		2.574	2.600	2.626				
MM3411A27		2.673	2.700	2.727				
MM3411A28		2.772	2.800	2.828				
MM3411A29		2.871	2.900	2.929				
MM3411A30		2.970	3.000	3.030				
MM3411A31		3.069	3.100	3.131				
MM3411A32		3.168	3.200	3.232				
MM3411A33		3.267	3.300	3.333				
MM3411A34		3.366	3.400	3.434				
MM3411A35		3.465	3.500	3.535			0.23	0.33
MM3411A36		3.564	3.600	3.636				
MM3411A37		3.663	3.700	3.737				
MM3411A38		3.762	3.800	3.838				
MM3411A39		3.861	3.900	3.939				
MM3411A40		3.960	4.000	4.040				
MM3411A41		4.059	4.100	4.141				
MM3411A42		4.158	4.200	4.242				
MM3411A43		4.257	4.300	4.343				
MM3411A44		4.356	4.400	4.444				
MM3411A45		4.455	4.500	4.545			0.19	0.28
MM3411A46		4.554	4.600	4.646				
MM3411A47		4.653	4.700	4.747				
MM3411A48		4.752	4.800	4.848				
MM3411A49		4.851	4.900	4.949				
MM3411A50		4.950	5.000	5.050				

Note6 : Dropout voltage maximum value in the input and it is confirmed that there is no output abnormal voltage impression the 150mA in the model less than V_{OUT}<1.9V.

Model No.	Item							
	Output Voltage				Dropout Voltage			
	V_{OUT} (V)				V_{OUT} (V)			
	Measurement Conditions	Min.	Typ.	Max.	Measurement Conditions	Min.	Typ.	Max.
MM3411Z08	I_{OUT}=10mA	0.830	0.850	0.870	I_{OUT}=150mA 0.8V≦V_{OUT}<1.9V (Note6)		0.77	0.88
MM3411Z09		0.930	0.950	0.970				
MM3411Z10		1.030	1.050	1.070			0.69	0.79
MM3411Z11		1.130	1.150	1.170				
MM3411Z12		1.230	1.250	1.270				
MM3411Z13		1.330	1.350	1.370			0.60	0.70
MM3411Z14		1.430	1.450	1.470				
MM3411Z15		1.530	1.550	1.570				
MM3411Z16		1.630	1.650	1.670			0.51	0.61
MM3411Z17		1.730	1.750	1.770				
MM3411Z18		1.830	1.850	1.870				
MM3411Z19		1.930	1.950	1.970	I_{OUT}=150mA 1.9V≦V_{OUT}≦5.0V V_{DD}=V_{OUT} (TYP.) –0.2V		0.47	0.57
MM3411Z20		2.030	2.050	2.071				
MM3411Z21		2.129	2.150	2.172				
MM3411Z22		2.228	2.250	2.273				
MM3411Z23		2.327	2.350	2.374				
MM3411Z24		2.426	2.450	2.475				
MM3411Z25		2.525	2.550	2.576			0.31	0.41
MM3411Z26		2.624	2.650	2.677				
MM3411Z27		2.723	2.750	2.778				
MM3411Z28		2.822	2.850	2.879				
MM3411Z29		2.921	2.950	2.980				
MM3411Z30		3.020	3.050	3.081				
MM3411Z31		3.119	3.150	3.182				
MM3411Z32		3.218	3.250	3.283				
MM3411Z33		3.317	3.350	3.384				
MM3411Z34		3.416	3.450	3.485				
MM3411Z35		3.515	3.550	3.586			0.23	0.33
MM3411Z36		3.614	3.650	3.687				
MM3411Z37		3.713	3.750	3.788				
MM3411Z38		3.812	3.850	3.889				
MM3411Z39		3.911	3.950	3.990				
MM3411Z40		4.010	4.050	4.091				
MM3411Z41		4.109	4.150	4.192				
MM3411Z42		4.208	4.250	4.293				
MM3411Z43		4.307	4.350	4.394				
MM3411Z44		4.406	4.450	4.495				
MM3411Z45		4.505	4.550	4.596			0.19	0.28
MM3411Z46		4.604	4.650	4.697				
MM3411Z47		4.703	4.750	4.798				
MM3411Z48		4.802	4.850	4.899				
MM3411Z49		4.901	4.950	5.000				

Note6 : Dropout voltage maximum value in the input and it is confirmed that there is no output abnormal voltage impression the 150mA in the model less than V_{OUT}<1.9V.

Electrical Characteristics 3 (Except where noted otherwise $V_{DD}=V_{OUT}$(TYP.)+1V, $V_{CE}=V_{DD}$, Ta=25°C)

Model No.	Item							
	Output Voltage				Dropout Voltage			
	V_{OUT} (V)				V_{OUT} (V)			
	Measurement Conditions	Min.	Typ.	Max.	Measurement Conditions	Min.	Typ.	Max.
MM3411A08	I_{OUT}=10mA	0.780	0.800	0.820	I_{OUT}=200mA 0.8V≦V_{OUT}<1.9V (Note7)		1.00	1.15
MM3411A09		0.880	0.900	0.920				
MM3411A10		0.980	1.000	1.020			0.90	1.04
MM3411A11		1.080	1.100	1.120				
MM3411A12		1.180	1.200	1.220				
MM3411A13		1.280	1.300	1.320			0.78	0.90
MM3411A14		1.380	1.400	1.420				
MM3411A15		1.480	1.500	1.520				
MM3411A16		1.580	1.600	1.620			0.67	0.77
MM3411A17		1.680	1.700	1.720				
MM3411A18		1.780	1.800	1.820				
MM3411A19		1.880	1.900	1.920	I_{OUT}=200mA 1.9V≦V_{OUT}≦5.0V $V_{DD}=V_{OUT}$ (TYP.) –0.2V		0.62	0.72
MM3411A20		1.980	2.000	2.020				
MM3411A21		2.079	2.100	2.121				
MM3411A22		2.178	2.200	2.222				
MM3411A23		2.277	2.300	2.323				
MM3411A24		2.376	2.400	2.424				
MM3411A25		2.475	2.500	2.525			0.40	0.50
MM3411A26		2.574	2.600	2.626				
MM3411A27		2.673	2.700	2.727				
MM3411A28		2.772	2.800	2.828				
MM3411A29		2.871	2.900	2.929				
MM3411A30		2.970	3.000	3.030				
MM3411A31		3.069	3.100	3.131				
MM3411A32		3.168	3.200	3.232				
MM3411A33		3.267	3.300	3.333				
MM3411A34		3.366	3.400	3.434				
MM3411A35		3.465	3.500	3.535			0.30	0.40
MM3411A36		3.564	3.600	3.636				
MM3411A37		3.663	3.700	3.737				
MM3411A38		3.762	3.800	3.838				
MM3411A39		3.861	3.900	3.939				
MM3411A40		3.960	4.000	4.040				
MM3411A41		4.059	4.100	4.141				
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MM3411A43		4.257	4.300	4.343				
MM3411A44		4.356	4.400	4.444				
MM3411A45		4.455	4.500	4.545			0.25	0.34
MM3411A46		4.554	4.600	4.646				
MM3411A47		4.653	4.700	4.747				
MM3411A48		4.752	4.800	4.848				
MM3411A49		4.851	4.900	4.949				
MM3411A50		4.950	5.000	5.050				

Note7 : Dropout voltage maximum value in the input and it is confirmed that there is no output abnormal voltage impression the 200mA in the model less than V_{OUT}<1.9V.

Model No.	Item							
	Output Voltage				Dropout Voltage			
	V_{OUT} (V)				V_{OUT} (V)			
	Measurement Conditions	Min.	Typ.	Max.	Measurement Conditions	Min.	Typ.	Max.
MM3411Z08	I_{OUT}=10mA	0.830	0.850	0.870	I_{OUT}=200mA 0.8V≦V_{OUT}<1.9V (Note7)		1.00	1.15
MM3411Z09		0.930	0.950	0.970				
MM3411Z10		1.030	1.050	1.070			0.90	1.04
MM3411Z11		1.130	1.150	1.170				
MM3411Z12		1.230	1.250	1.270				
MM3411Z13		1.330	1.350	1.370			0.78	0.90
MM3411Z14		1.430	1.450	1.470				
MM3411Z15		1.530	1.550	1.570				
MM3411Z16		1.630	1.650	1.670			0.67	0.77
MM3411Z17		1.730	1.750	1.770				
MM3411Z18		1.830	1.850	1.870				
MM3411Z19		1.930	1.950	1.970	I_{OUT}=200mA 1.9V≦V_{OUT}≦5.0V V_{DD}=V_{OUT} (TYP.) –0.2V		0.62	0.72
MM3411Z20		2.030	2.050	2.071				
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MM3411Z24		2.426	2.450	2.475				
MM3411Z25		2.525	2.550	2.576			0.40	0.50
MM3411Z26		2.624	2.650	2.677				
MM3411Z27		2.723	2.750	2.778				
MM3411Z28		2.822	2.850	2.879				
MM3411Z29		2.921	2.950	2.980				
MM3411Z30		3.020	3.050	3.081				
MM3411Z31		3.119	3.150	3.182				
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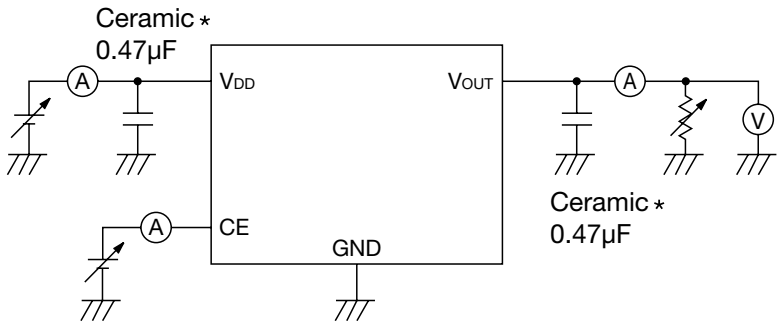
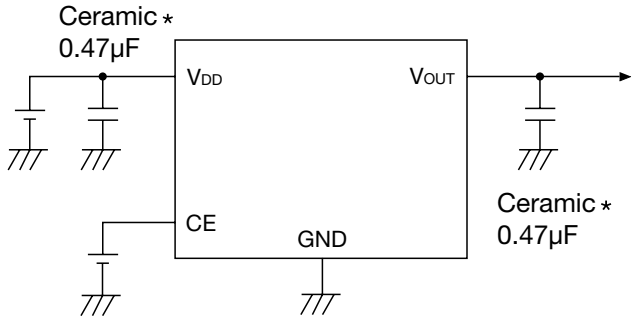
MM3411Z33		3.317	3.350	3.384				
MM3411Z34		3.416	3.450	3.485				
MM3411Z35		3.515	3.550	3.586			0.30	0.40
MM3411Z36		3.614	3.650	3.687				
MM3411Z37		3.713	3.750	3.788				
MM3411Z38		3.812	3.850	3.889				
MM3411Z39		3.911	3.950	3.990				
MM3411Z40		4.010	4.050	4.091				
MM3411Z41		4.109	4.150	4.192				
MM3411Z42		4.208	4.250	4.293				
MM3411Z43		4.307	4.350	4.394				
MM3411Z44		4.406	4.450	4.495				
MM3411Z45		4.505	4.550	4.596			0.25	0.34
MM3411Z46		4.604	4.650	4.697				
MM3411Z47		4.703	4.750	4.798				
MM3411Z48		4.802	4.850	4.899				
MM3411Z49		4.901	4.950	5.000				

Note7 : Dropout voltage maximum value in the input and it is confirmed that there is no output abnormal voltage impression the 200mA in the model less than V_{OUT}<1.9V.

Measuring Circuit



Application Circuit



* Temperature Characteristics : B

(Reference example of external parts)

· Output capacitor Ceramic capacitor 0.47µF
· Input capacitor Ceramic capacitor 0.47µF

· We shall not be liable for any trouble or damage caused by using this circuit.

· In the event a problem which may affect industrial property or any other rights of us or a third party is encountered during the use of information described in these circuit, we shall not be liable for any such problem, nor grant a license therefore.

· Note

1. Please use this IC within the stated absolute maximum ratings.
   The IC is liable to malfunction should the ratings be exceeded.
2. Due to restrictions on the package power dissipation, the output current value may not be satisfied.
   Attention should be paid to the power dissipation of the package when the output current is large or the voltage between Iinput and Output is high.
3. The output capacitor is required between output and GND to prevent oscillation.
4. The ESR of capacitor must be defined in ESR stability area. It is possible to use a ceramic capacitor without ESR resistance for output. The ceramic capacitor must be used more than 0.47µF and B temperature characteristics.
5. The wire of VDD and GND is required to print full ground plane for noise and stability.
6. The input capacitor must be connected a distance of less than 1cm from input pin.
7. It is able to oscillation when you use the capacitor with intense capacitance change such as micro.
   Please evaluate IC in the set.

8. In case the output voltage is above the input voltage, the overcurrent flow by internal parastic diode from output to input.In such application, the external bypass diode must be connected between output and input pin.
9. This IC will limit the output current with the overcurrent protection circuit when the overcurrent and the output do short-circuit.
   However, IC generates heat because of the substrate and use conditions and there is a possibility of destroying it exceeding a permissible loss.
   The characteristic changes depending on the substrate condition. Please evaluate IC in the set.
10. In case the output capacitor is over 2.2µF and steady current is under 5mA, it is able to oscillate.
    It is recommended that the output capacitor is under 2.2µF on condition that the current is under 5mA.
    Please evaluate IC in the set if it is used in the above condition.

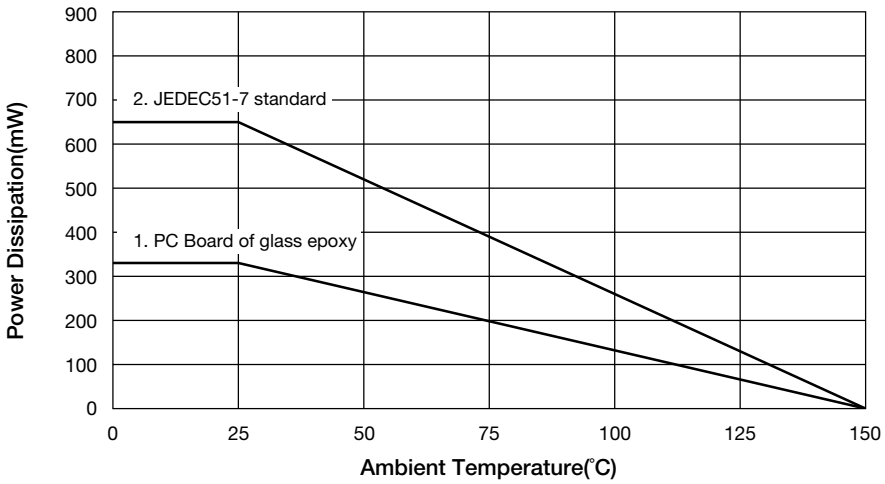
    Complement : The oscillation is low level noise (200~300µVrms/Vout=3.0V).
    So the above condition is recommended only if it is used for a sensitive sensor against noise.
    Except for sensitive part against noise, the restriction of above condition is not required.

About Power Dissipation

The Power dissipation change if board to mount IC change because radiative heat fix at board.It is reference data below, Evaluate IC in the set.

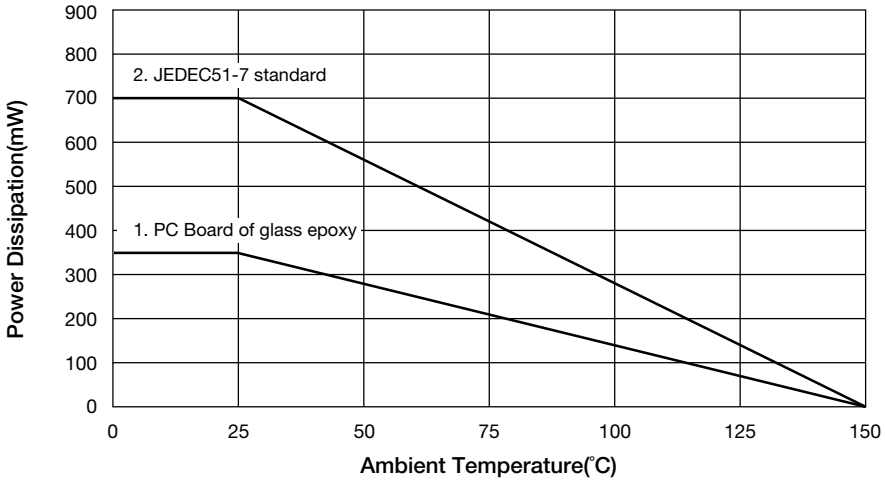
MM3411AxxURE

1. PC Board of glass epoxy
   Board size 100mm×100mm t=1.6mm Copper foil area 10%
   Power dissipation 330mW Ta=25°C
2. JEDEC51-7 standard
   Board size 114.3mm×76.2mm t=1.6mm Copper foil area 80%
   Power dissipation 650mW Ta=25°C (It is reference value measured by JEDEC51-7 standard.)



MM3411AxxNRE

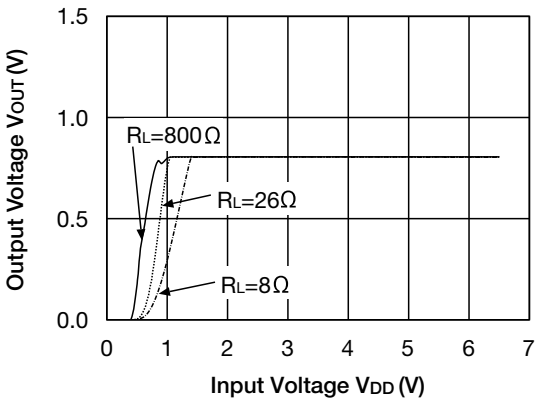
1. PC Board of glass epoxy
   Board size 60mm×40mm t=1.6mm Copper foil area 60%
   Power dissipation 350mW Ta=25°C
2. JEDEC51-7 standard
   Board size 114.3mm×76.2mm t=1.6mm Copper foil area 80%
   Power dissipation 700mW Ta=25°C (It is reference value measured by JEDEC51-7 standard.)



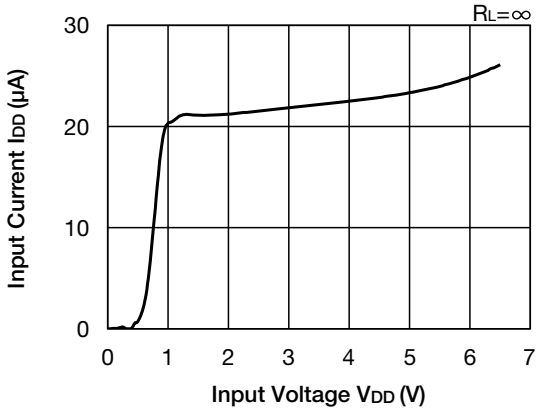
It is recommended to layout the VIA for heat radiation in the GND pattern of reverse (of IC) when there is the GND pattern in the inner layer (in using multiplayer substrate).
By increasing these copper foil pattern area of PCB, Power dissipation improves.

Characteristics (V_{OUT}=0.8V) (Except where noted otherwise V_{DD}=V_{OUT}(TYP.)+1V, V_{CE}=V_{DD}, Ta=25°C)

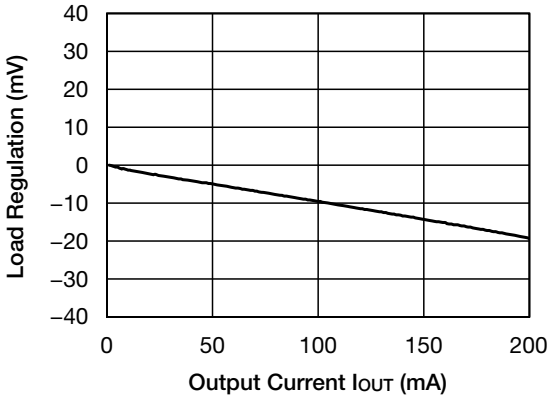
Input Voltage - Output Voltage



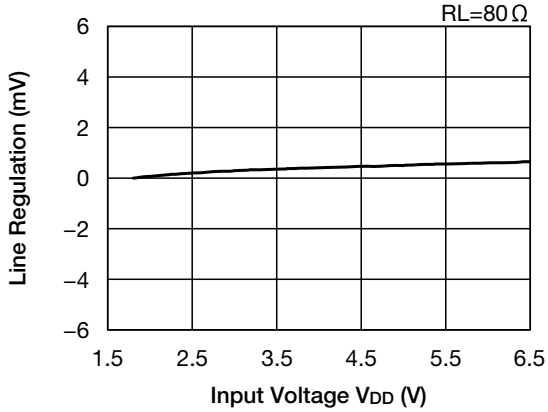
Input Voltage - Input Current



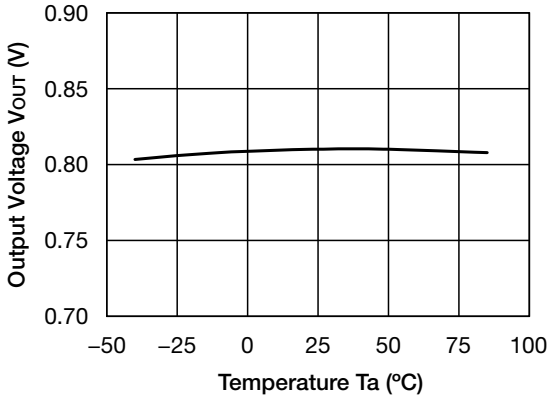
Load Regulation



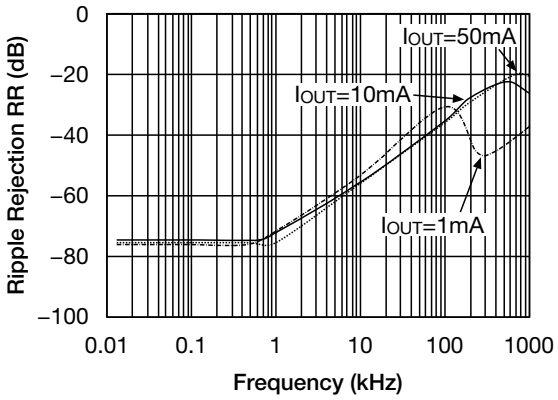
Line Regulation



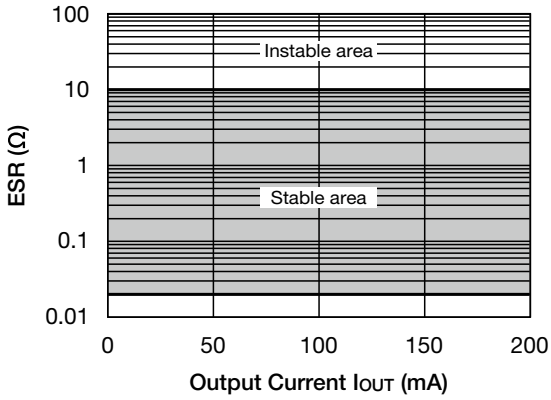
Vout Temperature Coefficient



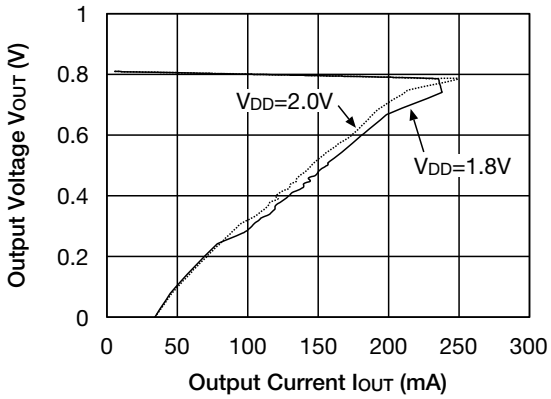
Ripple Rejection



ESR stable area

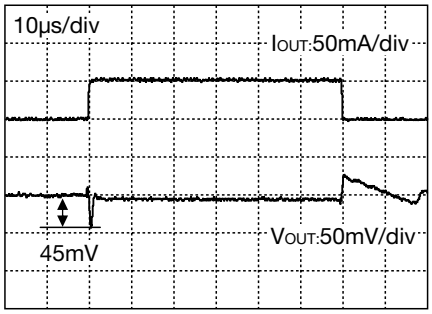


Current Limit

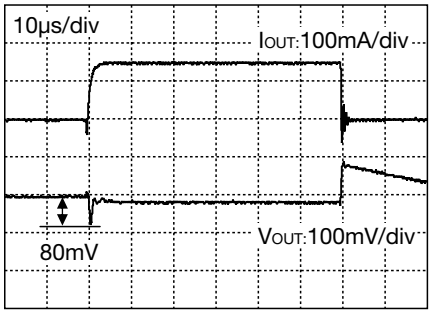


Load Transient response
(V_{DD}=V_{OUT}+1V, V_{CE}=V_{DD}, Cin=Cout=0.47µF)

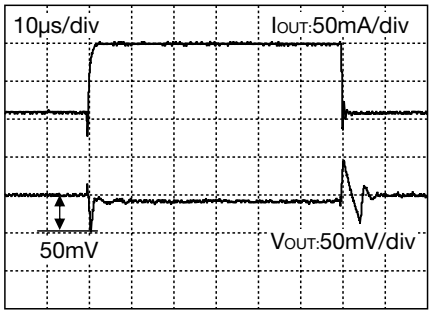
I_{OUT}=1mA⇔50mA



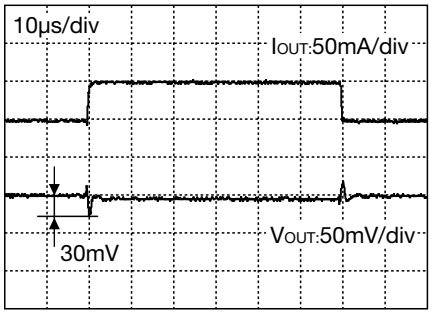
I_{OUT}=1mA⇔150mA



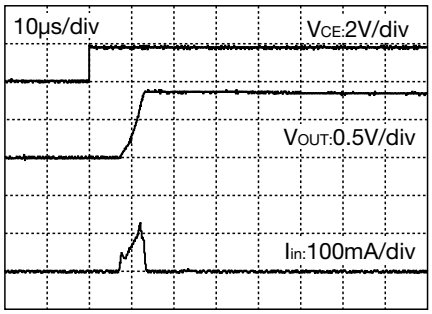
I_{OUT}=10mA⇔100mA



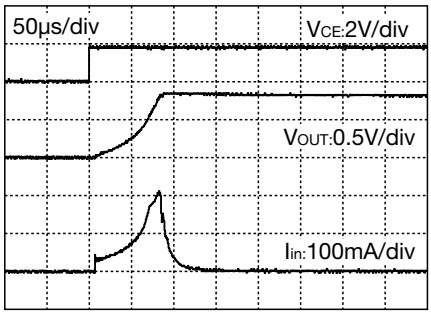
I_{OUT}=50mA⇔100mA



CE Transient
(V_{DD}=1.8V, V_{CE}=0V→V_{DD}, C_O=0.47µF)

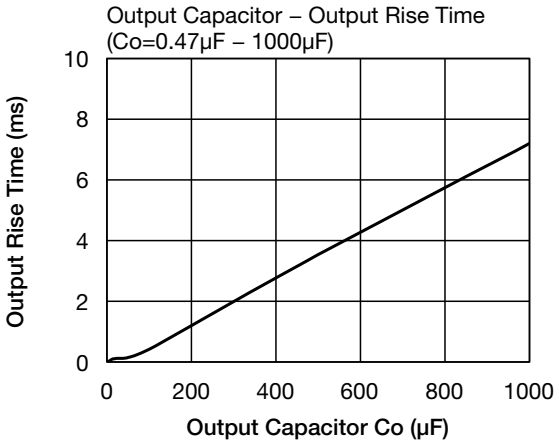


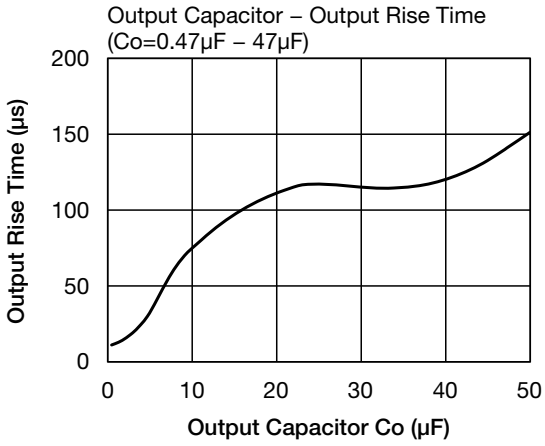
CE Transient
(V_{DD}=1.8V, V_{CE}=0V→V_{DD}, C_O=10µF)

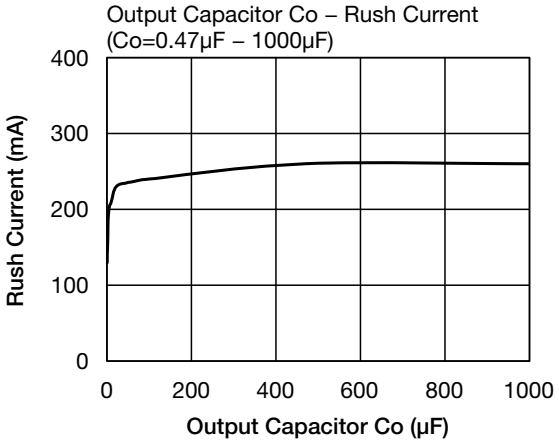


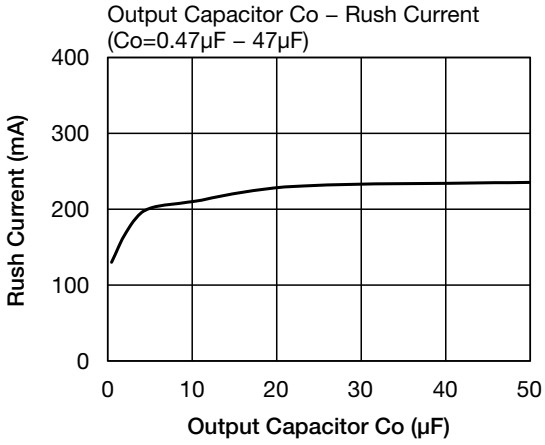
Output Rise Time

(V_{DD}=V_{OUT}+1V, V_{CE}=0V→V_{DD}, Cin=0.47µF)



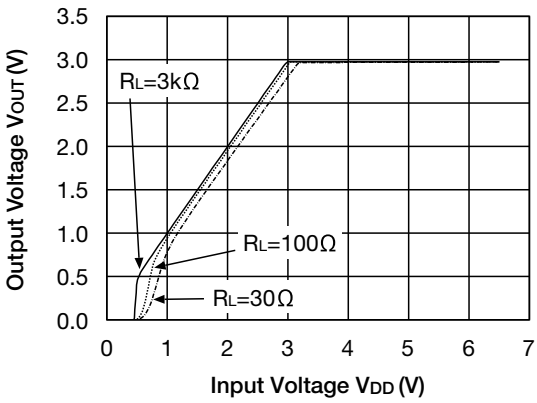




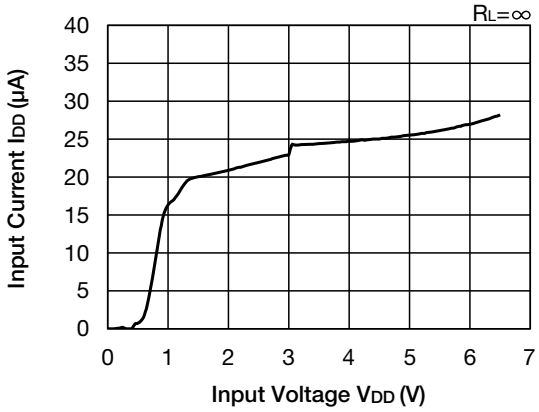


Characteristics (V_{OUT}=3.0V) (Except where noted otherwise V_{DD}=V_{OUT}(TYP.)+1V, V_{CE}=V_{DD}, Ta=25°C)

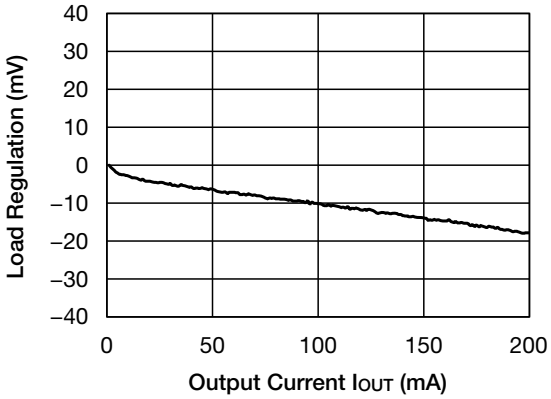
Input Voltage - Output Voltage



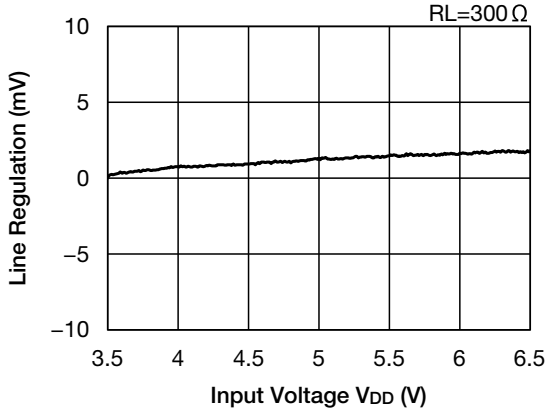
Input Voltage - Input Current



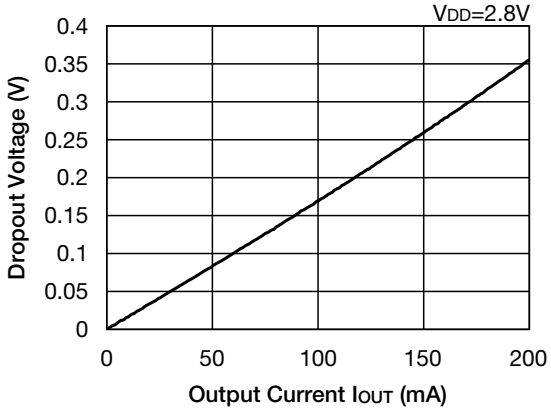
Load Regulation



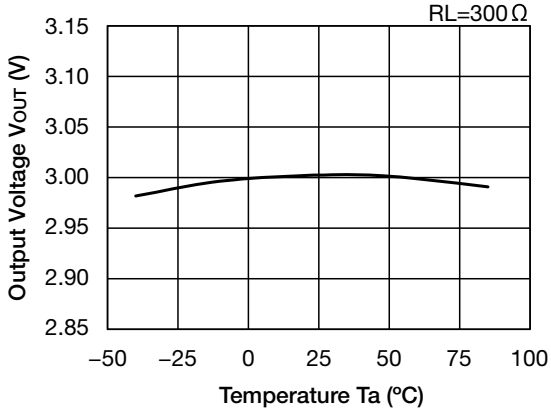
Line Regulation



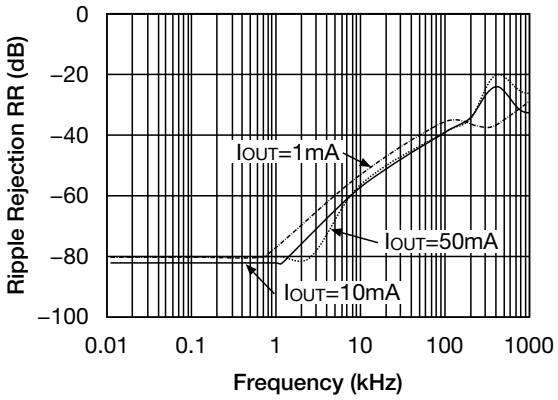
Dropout Voltage



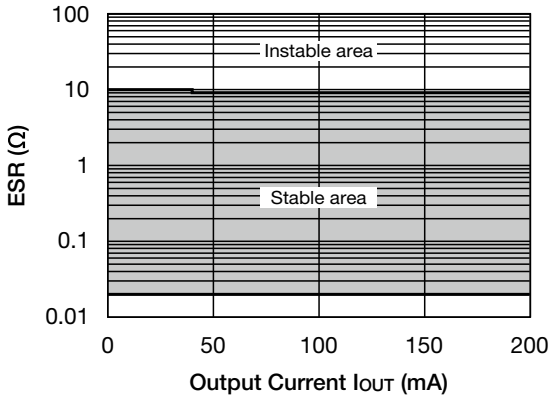
Vout Temperature Coefficient



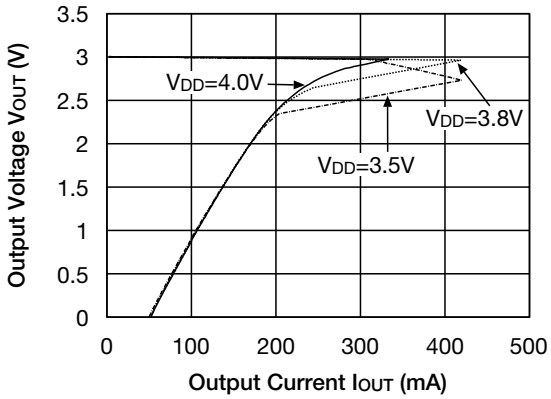
Ripple Rejection



ESR stable area

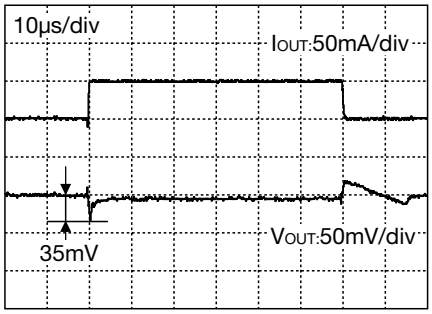


Current Limit

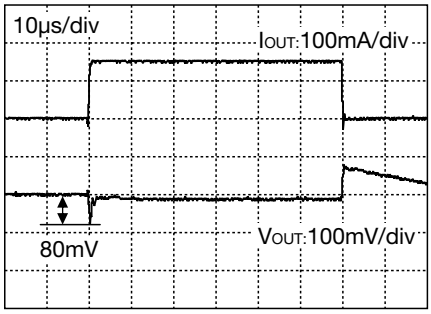


Load Transient response
(V_{DD}=V_{OUT}+1V, V_{CE}=V_{DD}, Cin=Cout=0.47μF)

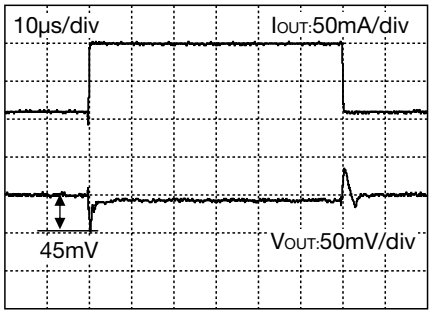
I_{OUT}=1mA⇔50mA



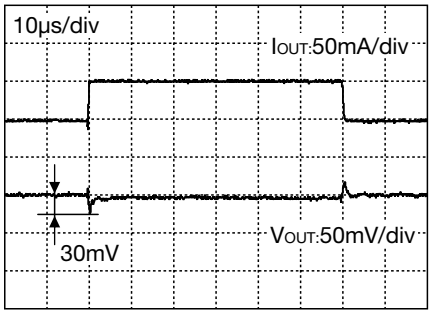
I_{OUT}=1mA⇔150mA



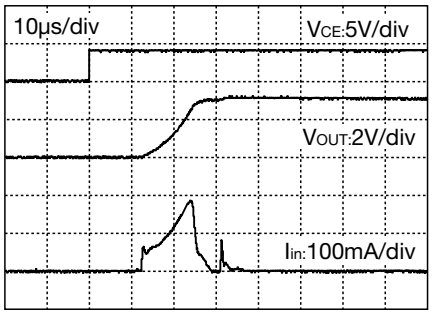
I_{OUT}=10mA⇔100mA



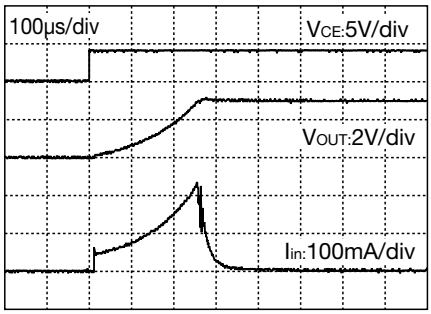
I_{OUT}=50mA⇔100mA



CE Transient
(V_{DD}=4.0V, V_{CE}=0V→V_{DD}, C_O=0.47μF)



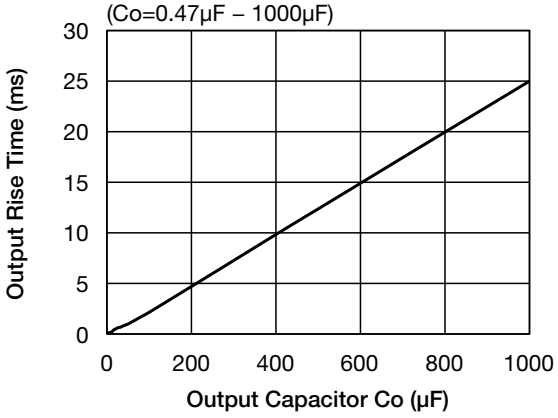
CE Transient
(V_{DD}=4.0V, V_{CE}=0V→V_{DD}, C_O=10μF)



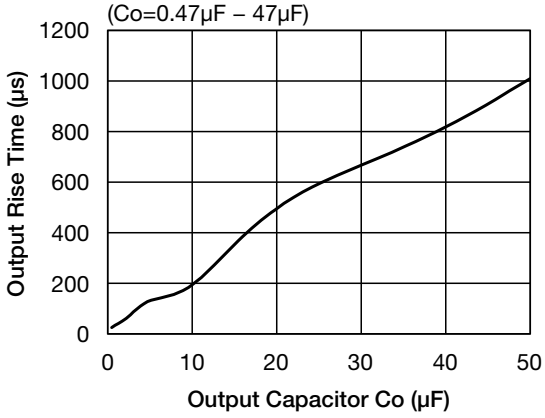
Output Rise Time

($V_{DD}=V_{OUT}+1V$, $V_{CE}=0V \rightarrow V_{DD}$, Cin=0.47µF)

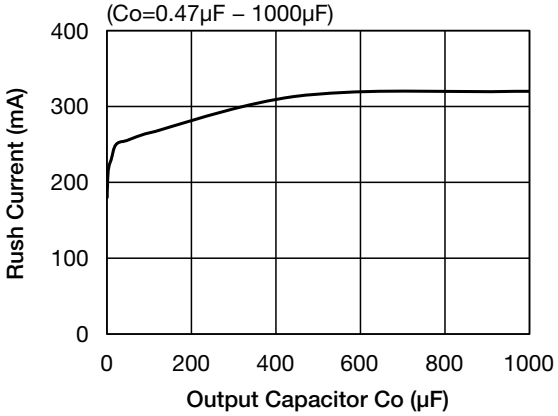
Output Capacitor – Output Rise Time
(Co=0.47µF – 1000µF)



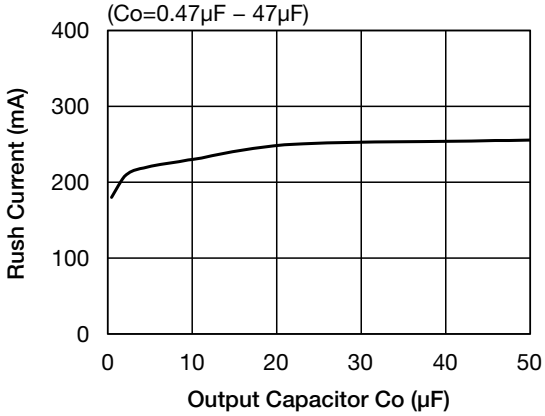
Output Capacitor – Output Rise Time
(Co=0.47µF – 47µF)



Output Capacitor Co – Rush Current
(Co=0.47µF – 1000µF)

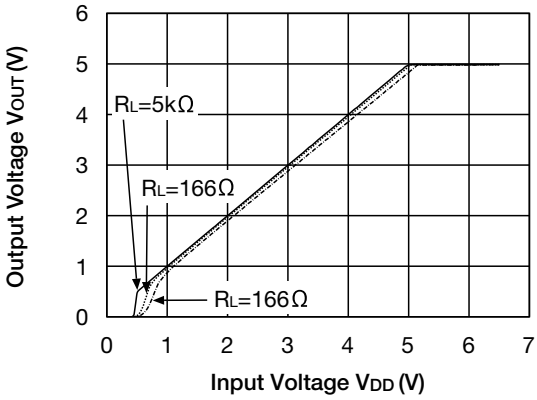


Output Capacitor Co – Rush Current
(Co=0.47µF – 47µF)

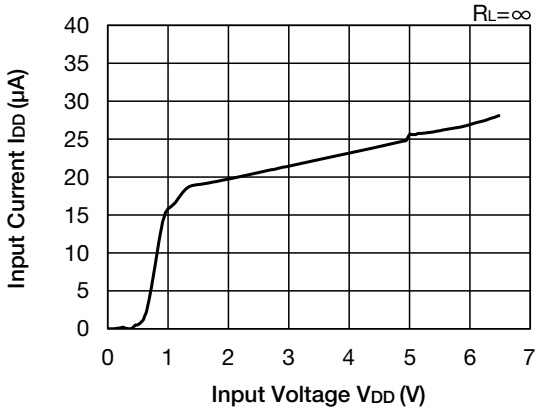


Characteristics (V_{OUT}=5.0V) (Except where noted otherwise V_{DD}=V_{OUT}(TYP.)+1V, V_{CE}=V_{DD}, Ta=25°C)

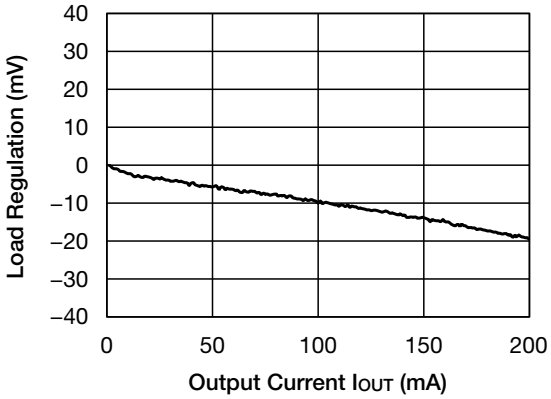
Input Voltage - Output Voltage



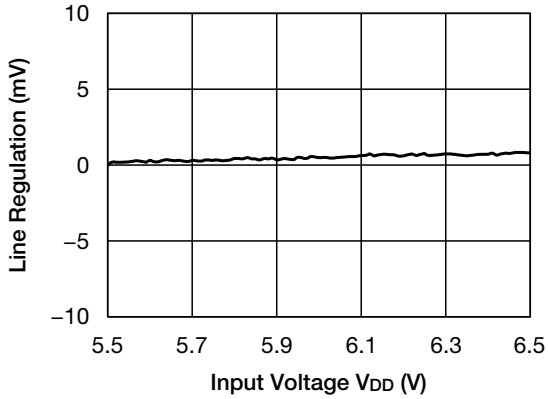
Input Voltage - Input Current



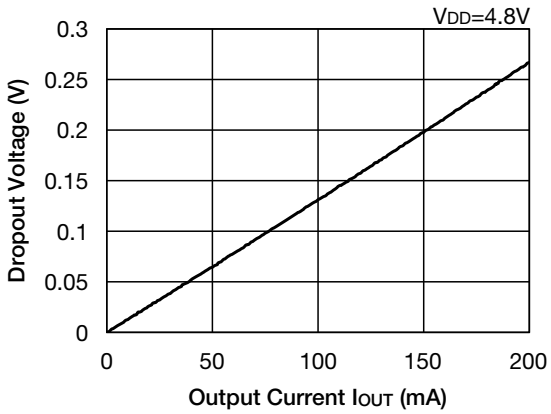
Load Regulation



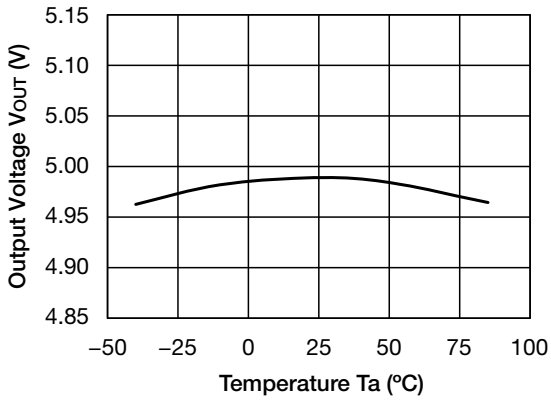
Line Regulation



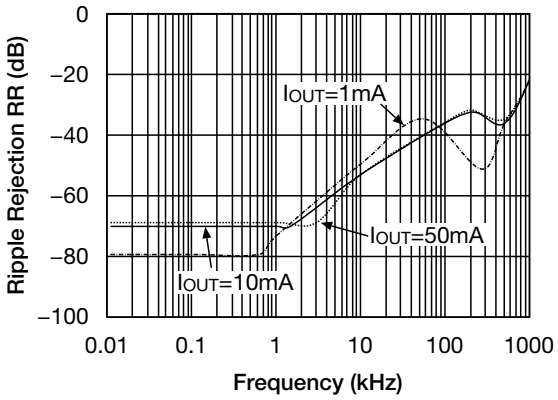
Dropout Voltage



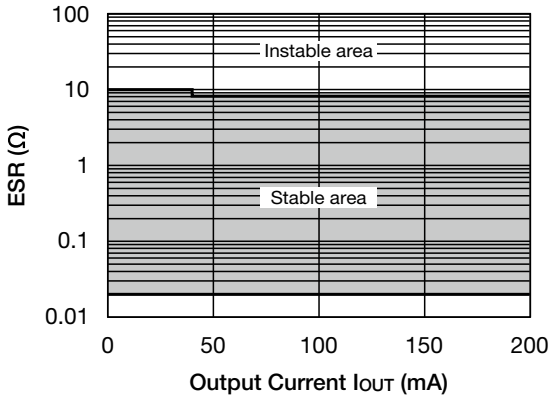
Vout Temperature Coefficient



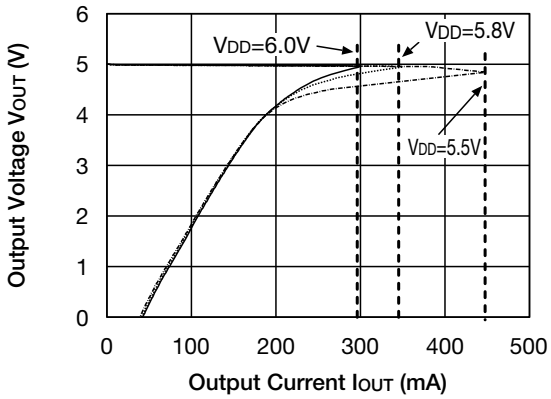
Ripple Rejection



ESR stable area

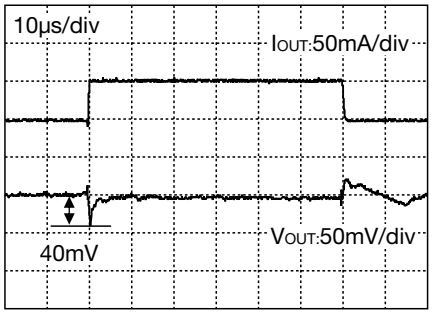


Current Limit

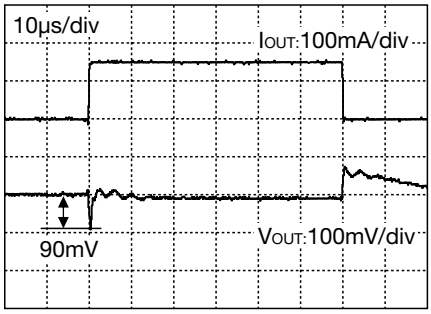


Load Transient response
(V_{DD}=V_{OUT}+1V, V_{CE}=V_{DD}, Cin=Cout=0.47µF)

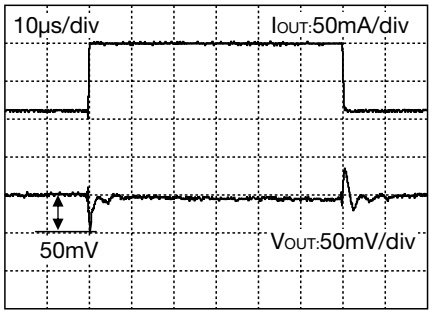
I_{OUT}=1mA⇔50mA



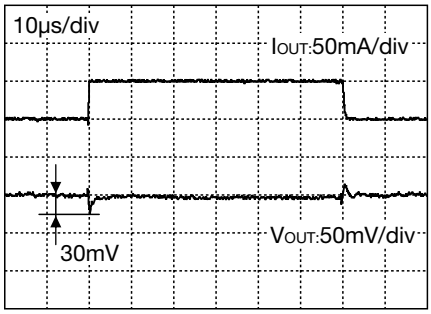
I_{OUT}=1mA⇔150mA



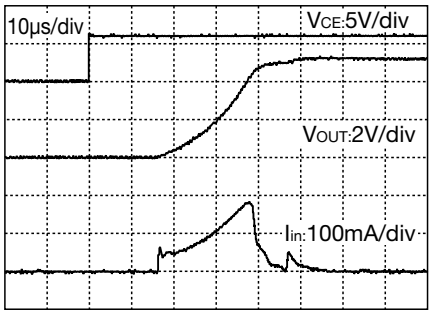
I_{OUT}=10mA⇔100mA



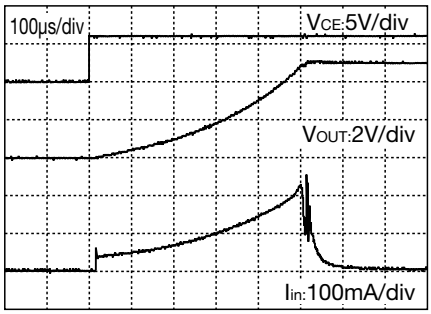
I_{OUT}=50mA⇔100mA



CE Transient
(V_{DD}=6.0V, V_{CE}=0V→V_{DD}, C_O=0.47µF)



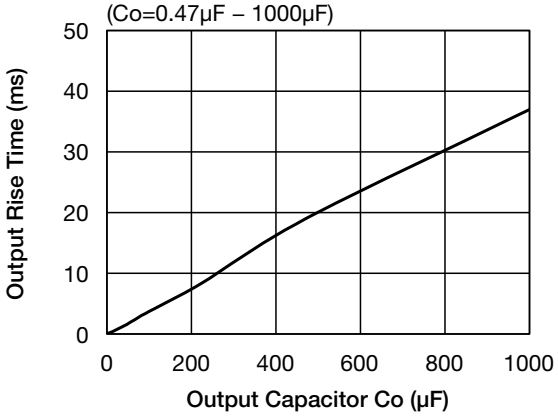
CE Transient
(V_{DD}=6.0V, V_{CE}=0V→V_{DD}, C_O=10µF)



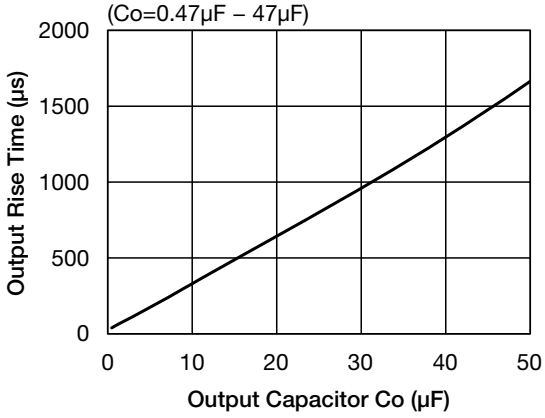
Output Rise Time

(V_{DD}=V_{OUT}+1V, V_{CE}=0V→V_{DD}, Cin=0.47µF)

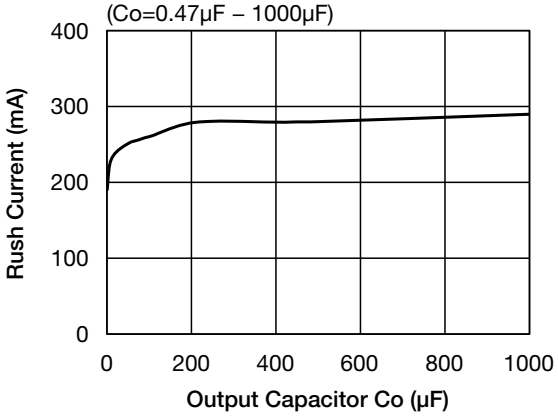
Output Capacitor – Output Rise Time
(Co=0.47µF – 1000µF)



Output Capacitor – Output Rise Time
(Co=0.47µF – 47µF)



Output Capacitor Co – Rush Current
(Co=0.47µF – 1000µF)



Output Capacitor Co – Rush Current
(Co=0.47µF – 47µF)