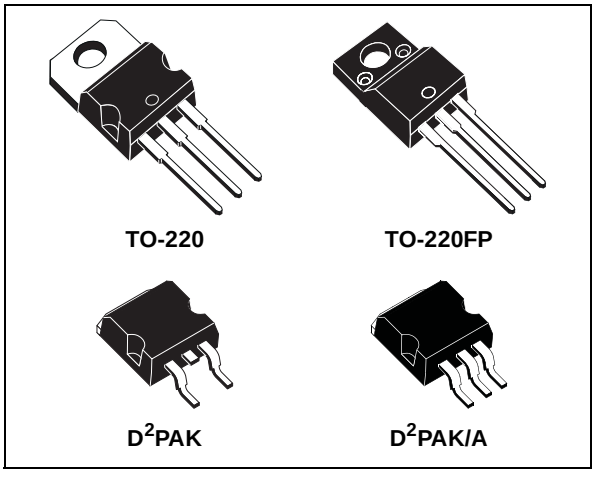
LD1085 SERIES

3A LOW DROP POSITIVE VOLTAGE REGULATOR ADJUSTABLE AND FIXED

- TYPICAL DROPOUT 1.3V (AT 3A)
- THREE TERMINAL ADJUSTABLE OR FIXED OUTPUT VOLTAGE 1.5V, 1.8V, 2.5V, 2.85V, 3.3V, 3.6V, 5V, 8V, 9V, 12V.
- GUARANTEED OUTPUT CURRENT UP TO 3A
- OUPUT TOLERANCE ±1% AT 25°C AND ±2% IN FULL TEMPERATURE RANGE
- INTERNAL POWER AND THERMAL LIMIT
- WIDE OPERATING TEMPERATURE RANGE -40°C TO 125°C
- PACKAGE AVAILABLE: TO-220, TO-220FP D^2PAK, D^2PAK/A
- PINOUT COMPATIBILITY WITH STANDARD ADJUSTABLE VREG



DESCRIPTION

The LD1085 is a LOW DROP Voltage Regulator able to provide up to 3A of Output Current. Dropout is guaranteed at a maximum of 1.2V at the maximum output current, decreasing at lower loads. The LD1085 is pin to pin compatible with the older 3-terminal adjustable regulators, but has better performances in term of drop and output tolerance.

A 2.85V output version is suitable for SCSI-2 active termination. Unlike PNP regulators, where a part of the output current is wasted as quiescent current, the LD1085 quiescent current flows into the load, so increase efficiency. Only a 10µF minimum capacitor is need for stability.
The device is supplied in TO-220, TO-220FP, D^2PAK and D^2PAK/A. On chip trimming allows the regulator to reach a very tight output voltage tolerance, within ±1% at 25°C.

Figure 1: Schematic Diagram

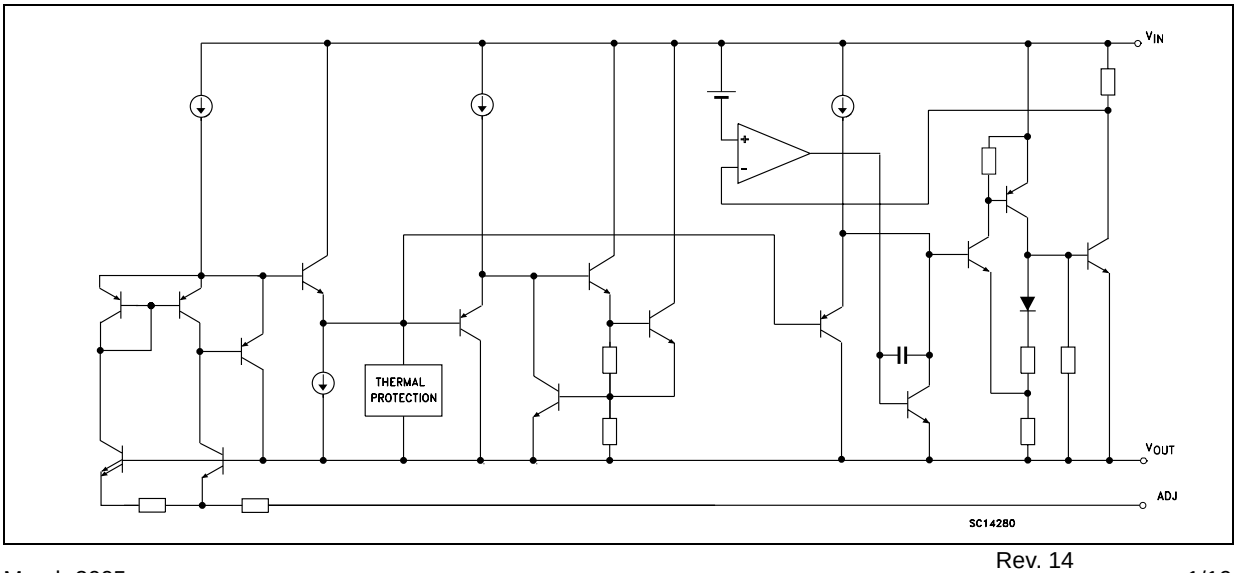


Figure 2: Pin Connection (top view)

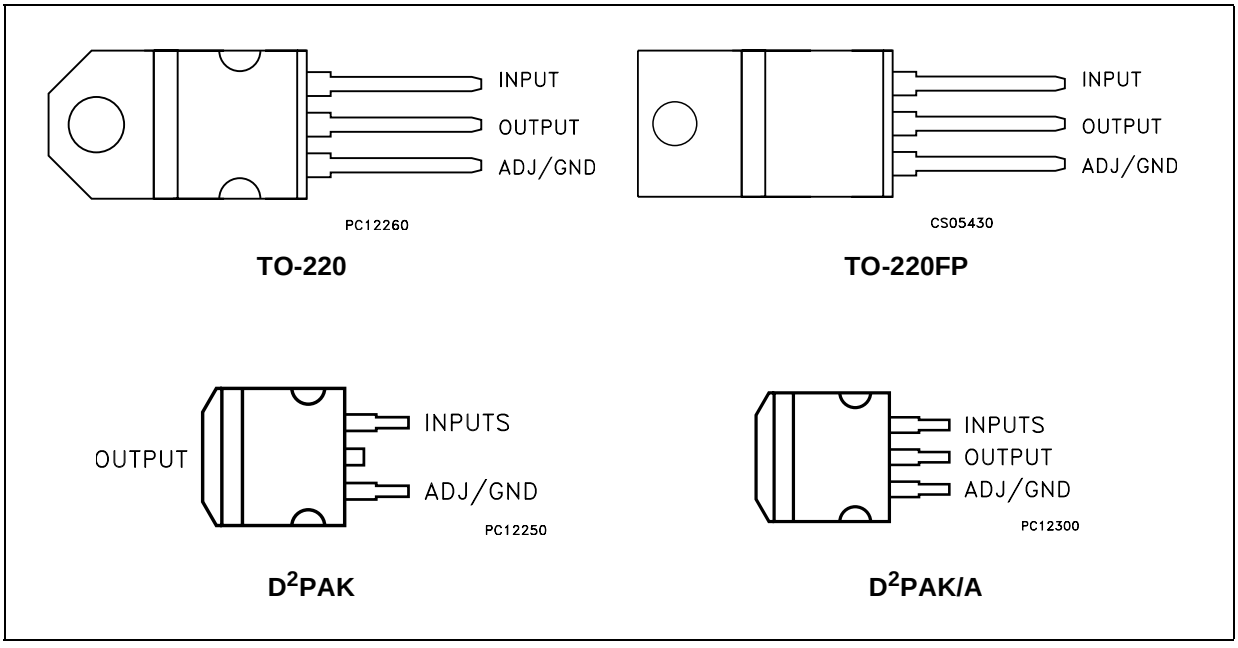


Table 1: Order Codes

TO-220	TO-220FP	D^2PAK (*)	D^2PAK/A (*)	OUTPUT VOLTAGE
LD1085V15	LD1085P15	LD1085D2T15	LD1085D2M15	1.5 V
LD1085V18	LD1085P18	LD1085D2T18	LD1085D2M18	1.8 V
LD1085V25	LD1085P25	LD1085D2T25	LD1085D2M25	2.5 V
LD1085V28	LD1085P28	LD1085D2T28	LD1085D2M28	2.85 V
LD1085V33	LD1085P33	LD1085D2T33	LD1085D2M33	3.3 V
LD1085V36	LD1085P36	LD1085D2T36	LD1085D2M36	3.6 V
LD1085V50	LD1085P50	LD1085D2T50	LD1085D2M50	5.0 V
LD1085V80	LD1085P80	LD1085D2T80	LD1085D2M80	8.0 V
LD1085V90	LD1085P90	LD1085D2T90	LD1085D2M90	9.0 V
LD1085V12	LD1085P12	LD1085D2T12	LD1085D2M12	12.0 V
LD1085V	LD1085P	LD1085D2T	LD1085D2M	ADJ

(*) Available in Tape & Reel with the suffix "R" for fixed version and "-R" for adjustable version.

Table 2: Absolute Maximum Ratings

Symbol	Parameter	Value	Unit
V_I	DC Input Voltage	30	V
I_O	Output Current	Internally Limited	mA
P_D	Power Dissipation	Internally Limited	mW
T_{stg}	Storage Temperature Range	-55 to +150	°C
T_{op}	Operating Junction Temperature Range	-40 to +125	°C

Absolute Maximum Ratings are those values beyond which damage to the device may occur. Functional operation under these condition is not implied.

Table 3: Thermal Data

Symbol	Parameter	TO-220	D^2PAK	Unit
$R_{thj\text{-}case}$	Thermal Resistance Junction-case	3	3	°C/W
$R_{thj\text{-}amb}$	Thermal Resistance Junction-ambient	50	62.5	°C/W

Figure 3: Application Circuits

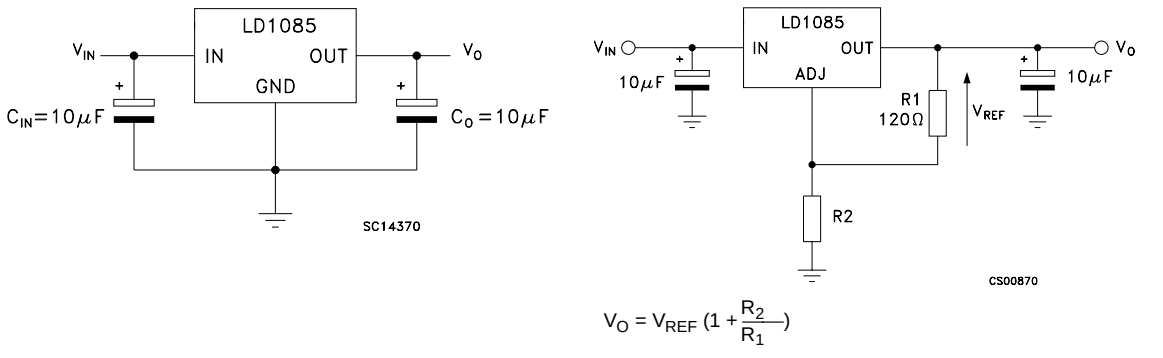


Table 4: Electrical Characteristics Of LD1085#15 (V_I=4.5V, $C_I = C_O$ =10µF, T_A = -40 to 125°C, unless otherwise specified.)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	I_O = 0 mA T_J = 25°C	1.485	1.5	1.515	V
		I_O = 0 to 5A V_I = 3.1 to 30V (note 1)	1.47	1.5	1.53	V
ΔV_O	Line Regulation	I_O = 0 mA V_I = 3.1 to 18V T_J = 25°C		0.2	4	mV
		I_O = 0 mA V_I = 3.1 to 15V		0.4	4	mV
ΔV_O	Load Regulation	I_O = 0 to 3A T_J = 25°C		2	10	mV
		I_O = 0 to 3A		4	20	mV
V_d	Dropout Voltage	I_O =3 A		1.3	1.5	V
I_q	Quiescent Current	$V_I \leq 30V$		5	10	mA
I_{sc}	Short Circuit Current	$V_I - V_O$ = 5V	3.2	4.5		A
		$V_I - V_O$ = 25V	0.2	0.5		A
	Thermal Regulation	T_A = 25°C, 30ms pulse		0.008	0.04	%/W
SVR	Supply Voltage Rejection	f = 120 Hz, C_O = 25 µF, I_O = 3A V_I = 7.5 ± 3V	60	72		dB
eN	RMS Output Noise Voltage (% of V_O)	T_A = 25°C f =10Hz to 10KHz		0.003		%
S	Temperature Stability			0.5		%
S	Long Term Stability	T_A = 125°C 1000Hrs		0.5		%

NOTE 1: See short-circuit current curve for available output current at fixed dropout.

Table 5: Electrical Characteristics Of LD1085#18 (V_I=4.8V, $C_I = C_O$ =10µF, T_A = -40 to 125°C, unless otherwise specified.)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	I_O = 0 mA T_J = 25°C	1.782	1.8	1.818	V
		I_O = 0 to 5A V_I = 3.4 to 30V (note 1)	1.764	1.8	1.836	V
ΔV_O	Line Regulation	I_O = 0 mA V_I = 3.4 to 18V T_J = 25°C		0.2	4	mV
		I_O = 0 mA V_I = 3.4 to 15V		0.4	4	mV
ΔV_O	Load Regulation	I_O = 0 to 3A T_J = 25°C		2	10	mV
		I_O = 0 to 3A		4	20	mV
V_d	Dropout Voltage	I_O =3 A		1.3	1.5	V
I_q	Quiescent Current	$V_I \leq$ 30V		5	10	mA
I_{sc}	Short Circuit Current	$V_I - V_O$ = 5V	3.2	4.5		A
		$V_I - V_O$ = 25V	0.2	0.5		A
	Thermal Regulation	T_A = 25°C, 30ms pulse		0.008	0.04	%/W
SVR	Supply Voltage Rejection	f = 120 Hz, C_O = 25 µF, I_O = 3A V_I = 7.5 ± 3V	60	72		dB
eN	RMS Output Noise Voltage (% of V_O)	T_A = 25°C f =10Hz to 10KHz		0.003		%
S	Temperature Stability			0.5		%
S	Long Term Stability	T_A = 125°C 1000Hrs		0.5		%

NOTE 1: See short-circuit current curve for available output current at fixed dropout.

Table 6: Electrical Characteristics Of LD1085#25 (V_I=5.5V, $C_I = C_O$ =10µF, T_A = -40 to 125°C, unless otherwise specified.)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	I_O = 0 mA T_J = 25°C	2.475	2.5	2.525	V
		I_O = 0 to 3A V_I = 4.1 to 30V (note 1)	2.45	2.5	2.55	V
ΔV_O	Line Regulation	I_O = 0 mA V_I = 4.1 to 18V T_J = 25°C		0.2	4	mV
		I_O = 0 mA V_I = 4.1 to 18V		0.4	4	mV
ΔV_O	Load Regulation	I_O = 0 to 3A T_J = 25°C		2	10	mV
		I_O = 0 to 3A		4	20	mV
V_d	Dropout Voltage	I_O =3 A		1.3	1.5	V
I_q	Quiescent Current	$V_I \leq$ 30V		5	10	mA
I_{sc}	Short Circuit Current	$V_I - V_O$ = 5V	3.2	4.5		A
		$V_I - V_O$ = 25V	0.2	0.5		A
	Thermal Regulation	T_A = 25°C, 30ms pulse		0.008	0.04	%/W
SVR	Supply Voltage Rejection	f = 120 Hz, C_O = 25 µF, I_O = 3A V_I = 7.5 ± 3V	60	72		dB
eN	RMS Output Noise Voltage (% of V_O)	T_A = 25°C f =10Hz to 10KHz		0.003		%
S	Temperature Stability			0.5		%
S	Long Term Stability	T_A = 125°C 1000Hrs		0.5		%

NOTE 1: See short-circuit current curve for available output current at fixed dropout.

Table 7: Electrical Characteristics Of LD1085#285 (V_I=5.85V, $C_I = C_O$ =10µF, T_A = -40 to 125°C, unless otherwise specified.)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	I_O = 0 mA T_J = 25°C	2.821	2.85	2.879	V
		I_O = 0 to 3A V_I = 4.5 to 30V (note 1)	2.793	2.85	2.907	V
ΔV_O	Line Regulation	I_O = 0 mA V_I = 4.5 to 18V T_J = 25°C		0.2	6	mV
		I_O = 0 mA V_I = 4.5 to 18V		0.5	6	mV
ΔV_O	Load Regulation	I_O = 0 to 3A T_J = 25°C		3	15	mV
		I_O = 0 to 3A		7	20	mV
V_d	Dropout Voltage	I_O =3 A		1.3	1.5	V
I_q	Quiescent Current	$V_I \leq$ 30V		5	10	mA
I_{sc}	Short Circuit Current	$V_I - V_O$ = 5V	3.2	4.5		A
		$V_I - V_O$ = 25V	0.2	0.5		A
	Thermal Regulation	T_A = 25°C, 30ms pulse		0.008	0.04	%/W
SVR	Supply Voltage Rejection	f = 120 Hz, C_O = 25 µF, I_O = 3A V_I = 7.85 ± 3V	60	72		dB
eN	RMS Output Noise Voltage (% of V_O)	T_A = 25°C f =10Hz to 10KHz		0.003		%
S	Temperature Stability			0.5		%
S	Long Term Stability	T_A = 125°C 1000Hrs		0.5		%

NOTE 1: See short-circuit current curve for available output current at fixed dropout.

Table 8: Electrical Characteristics Of LD1085#33 (V_I=6.3V, $C_I = C_O$ =10µF, T_A = -40 to 125°C, unless otherwise specified.)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	I_O = 0 mA T_J = 25°C	3.267	3.3	3.333	V
		I_O = 0 to 3A V_I = 4.9 to 30V (note 1)	3.234	3.35	3.366	V
ΔV_O	Line Regulation	I_O = 0 mA V_I = 4.9 to 18V T_J = 25°C		0.5	6	mV
		I_O = 0 mA V_I = 4.9 to 18V		1	6	mV
ΔV_O	Load Regulation	I_O = 0 to 3A T_J = 25°C		3	15	mV
		I_O = 0 to 3A		7	20	mV
V_d	Dropout Voltage	I_O =3 A		1.3	1.5	V
I_q	Quiescent Current	$V_I \leq$ 30V		5	10	mA
I_{sc}	Short Circuit Current	$V_I - V_O$ = 5V	3.2	4.5		A
		$V_I - V_O$ = 25V	0.2	0.5		A
	Thermal Regulation	T_A = 25°C, 30ms pulse		0.008	0.04	%/W
SVR	Supply Voltage Rejection	f = 120 Hz, C_O = 25 µF, I_O = 5A V_I = 8.3 ± 3V	60	72		dB
eN	RMS Output Noise Voltage (% of V_O)	T_A = 25°C f =10Hz to 10KHz		0.003		%
S	Temperature Stability			0.5		%
S	Long Term Stability	T_A = 125°C 1000Hrs		0.5		%

NOTE 1: See short-circuit current curve for available output current at fixed dropout.

Table 9: Electrical Characteristics Of LD1085#36 (V_I=6.6V, C_I = C_O =10µF, T_A = -40 to 125°C, unless otherwise specified.)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	I_O = 0 mA T_J = 25°C	3.564	3.6	3.636	V
		I_O = 0 to 3A V_I = 5.2 to 30V (note 1)	3.528	3.6	3.672	V
ΔV_O	Line Regulation	I_O = 0 mA V_I = 5.2 to 18V T_J = 25°C		0.5	10	mV
		I_O = 0 mA V_I = 5.2 to 18V		1	10	mV
ΔV_O	Load Regulation	I_O = 0 to 3A T_J = 25°C		3	15	mV
		I_O = 0 to 3A		7	20	mV
V_d	Dropout Voltage	I_O =3 A		1.3	1.5	V
I_q	Quiescent Current	$V_I \leq$ 30V		5	10	mA
I_{sc}	Short Circuit Current	V_I - V_O = 5V	3.2	4.5		A
		V_I - V_O = 25V	0.2	0.5		A
	Thermal Regulation	T_A = 25°C, 30ms pulse		0.008	0.04	%/W
SVR	Supply Voltage Rejection	f = 120 Hz, C_O = 25 µF, I_O = 3A V_I = 8.6 ± 3V	60	72		dB
eN	RMS Output Noise Voltage (% of V_O)	T_A = 25°C f =10Hz to 10KHz		0.003		%
S	Temperature Stability			0.5		%
S	Long Term Stability	T_A = 125°C 1000Hrs		0.5		%

NOTE 1: See short-circuit current curve for available output current at fixed dropout.

Table 10: Electrical Characteristics Of LD1085#50 (V_I=8V, C_I = C_O =10µF, T_A = -40 to 125°C, unless otherwise specified.)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	I_O = 0 mA T_J = 25°C	4.95	5	5.05	V
		I_O = 0 to 3A V_I = 6.6 to 30V (note 1)	4.9	5	5.1	V
ΔV_O	Line Regulation	I_O = 0 mA V_I = 6.6 to 20V T_J = 25°C		0.5	10	mV
		I_O = 0 mA V_I = 6.6 to 20V		1	10	mV
ΔV_O	Load Regulation	I_O = 0 to 3A T_J = 25°C		5	10	mV
		I_O = 0 to 3A		10	35	mV
V_d	Dropout Voltage	I_O =3 A		1.3	1.5	V
I_q	Quiescent Current	$V_I \leq$ 30V		5	10	mA
I_{sc}	Short Circuit Current	V_I - V_O = 5V	3.2	4.5		A
		V_I - V_O = 25V	0.2	0.5		A
	Thermal Regulation	T_A = 25°C, 30ms pulse		0.008	0.04	%/W
SVR	Supply Voltage Rejection	f = 120 Hz, C_O = 25 µF, I_O = 3A V_I = 10 ± 3V	60	72		dB
eN	RMS Output Noise Voltage (% of V_O)	T_A = 25°C f =10Hz to 10KHz		0.003		%
S	Temperature Stability			0.5		%
S	Long Term Stability	T_A = 125°C 1000Hrs		0.5		%

NOTE 1: See short-circuit current curve for available output current at fixed dropout.

Table 11: Electrical Characteristics Of LD1085#80 (V_I=11V, $C_I = C_O$ =10µF, T_A = -40 to 125°C, unless otherwise specified.)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	I_O = 0 mA T_J = 25°C	7.92	8	8.08	V
		I_O = 0 to 3A V_I = 9.8 to 30V (note 1)	7.84	8	8.16	V
ΔV_O	Line Regulation	I_O = 0 mA V_I = 9.8 to 20V T_J = 25°C		1	18	mV
		I_O = 0 mA V_I = 9.8 to 20V		2	18	mV
ΔV_O	Load Regulation	I_O = 0 to 3A T_J = 25°C		8	30	mV
		I_O = 0 to 3A		12	60	mV
V_d	Dropout Voltage	I_O =3 A		1.3	1.5	V
I_q	Quiescent Current	$V_I \leq$ 30V		5	10	mA
I_{sc}	Short Circuit Current	$V_I - V_O$ = 5V	3.2	4.5		A
		$V_I - V_O$ = 25V	0.2	0.5		A
	Thermal Regulation	T_A = 25°C, 30ms pulse		0.008	0.04	%/W
SVR	Supply Voltage Rejection	f = 120 Hz, C_O = 25 µF, I_O = 3A V_I = 13 ± 3V	54	71		dB
eN	RMS Output Noise Voltage (% of V_O)	T_A = 25°C f =10Hz to 10KHz		0.003		%
S	Temperature Stability			0.5		%
S	Long Term Stability	T_A = 125°C 1000Hrs		0.5		%

NOTE 1: See short-circuit current curve for available output current at fixed dropout.

Table 12: Electrical Characteristics Of LD1085#90 (V_I=12V, $C_I = C_O$ =10µF, T_A = -40 to 125°C, unless otherwise specified.)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	I_O = 0 mA T_J = 25°C	8.91	9	9.09	V
		I_O = 0 to 3A V_I = 11 to 30V (note 1)	8.82	9	9.18	V
ΔV_O	Line Regulation	I_O = 0 mA V_I = 11 to 20V T_J = 25°C		1	20	mV
		I_O = 0 mA V_I = 11 to 20V		2	20	mV
ΔV_O	Load Regulation	I_O = 0 to 3A T_J = 25°C		8	30	mV
		I_O = 0 to 3A		12	60	mV
V_d	Dropout Voltage	I_O =3 A		1.3	1.5	V
I_q	Quiescent Current	$V_I \leq$ 30V		5	10	mA
I_{sc}	Short Circuit Current	$V_I - V_O$ = 5V	3.2	4.5		A
		$V_I - V_O$ = 25V	0.2	0.5		A
	Thermal Regulation	T_A = 25°C, 30ms pulse		0.008	0.04	%/W
SVR	Supply Voltage Rejection	f = 120 Hz, C_O = 25 µF, I_O = 3A V_I = 14 ± 3V	54	70		dB
eN	RMS Output Noise Voltage (% of V_O)	T_A = 25°C f =10Hz to 10KHz		0.003		%
S	Temperature Stability			0.5		%
S	Long Term Stability	T_A = 125°C 1000Hrs		0.5		%

NOTE 1: See short-circuit current curve for available output current at fixed dropout.

Table 13: Electrical Characteristics Of LD1085#12 (V_I=15V, C_I = C_O =10µF, T_A = -40 to 125°C, unless otherwise specified.)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	I_O = 0 mA T_J = 25°C	11.88	12	12.12	V
		I_O = 0 to 3A V_I = 13.8 to 30V (note 1)	11.76	12	12.24	V
ΔV_O	Line Regulation	I_O = 0 mA V_I = 13.8 to 25V T_J = 25°C		1	25	mV
		I_O = 0 mA V_I = 13.8 to 25V		2	25	mV
ΔV_O	Load Regulation	I_O = 0 to 3A T_J = 25°C		12	36	mV
		I_O = 0 to 3A		24	72	mV
V_d	Dropout Voltage	I_O =3 A		1.3	1.5	V
I_q	Quiescent Current	$V_I \leq$ 30V		5	10	mA
I_{sc}	Short Circuit Current	V_I - V_O = 5V	3.2	4.5		A
		V_I - V_O = 25V	0.2	0.5		A
	Thermal Regulation	T_A = 25°C, 30ms pulse		0.008	0.04	%/W
SVR	Supply Voltage Rejection	f = 120 Hz, C_O = 25 µF, I_O = 3A V_I = 17 ± 3V	54	66		dB
eN	RMS Output Noise Voltage (% of V_O)	T_A = 25°C f =10Hz to 10KHz		0.003		%
S	Temperature Stability			0.5		%
S	Long Term Stability	T_A = 125°C 1000Hrs		0.5		%

NOTE 1: See short-circuit current curve for available output current at fixed dropout.

Table 14: Electrical Characteristics Of LD1085# (V_I=4.25V, C_I = C_O =10µF, T_A = -40 to 125°C, unless otherwise specified.)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	I_O = 10mA T_J = 25°C	1.237	1.25	1.263	V
		I_O = 10mA to 5A V_I = 2.85 to 30V (note 1)	1.225	1.25	1.275	V
ΔV_O	Line Regulation	I_O = 10mA V_I = 2.85 to 16.5V T_J = 25°C		0.015	0.2	%
		I_O = 10mA V_I = 2.85 to 16.5V		0.035	0.2	%
ΔV_O	Load Regulation	I_O = 10mA to 5A T_J = 25°C		0.1	0.3	%
		I_O = 0 to 5A		0.2	0.4	%
V_d	Dropout Voltage	I_O = 5A		1.3	1.5	V
$I_{O(min)}$	Minimum Load Current	V_I = 30V		3	10	mA
I_{sc}	Short Circuit Current	V_I - V_O = 5V	5.5	6.5		A
		V_I - V_O = 25V	0.5	0.7		A
	Thermal Regulation	T_A = 25°C, 30ms pulse		0.003	0.015	%/W
SVR	Supply Voltage Rejection	f = 120 Hz, C_O = 25 µF, C_{ADJ} = 25 µF, I_O = 5A V_I = 6.25 ± 3V	60	72		dB
I_{ADJ}	Adjust Pin Current	V_I = 4.25V I_O = 10 mA		55	120	µA
ΔI_{ADJ}	Adjust Pin Current Change	I_O = 10mA to 5A V_I = 2.85 to 16.5V (note 1)		0.2	5	µA
eN	RMS Output Noise Voltage (% of V_O)	T_A = 25°C f =10Hz to 10KHz		0.003		%
S	Temperature Stability			0.5		%
S	Long Term Stability	T_A = 125°C 1000Hrs		0.5		%

NOTE 1: See short-circuit current curve for available output current at fixed dropout.

TYPICAL CHARACTERISTICS (unless otherwise specified T_j = 25°C, C_I=C_O=10µF)

Figure 4: Output Voltage vs Temperature

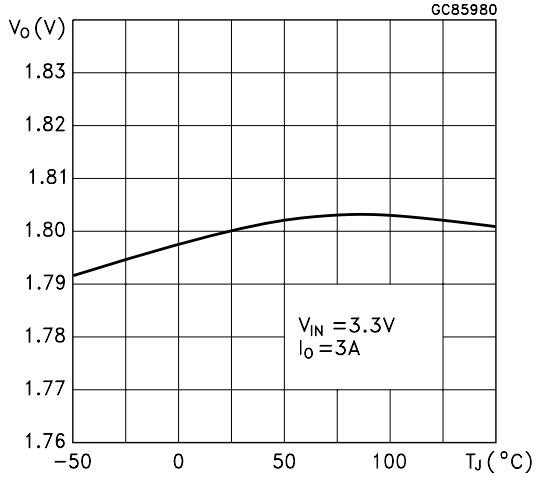


Figure 5: Output Voltage vs Temperature

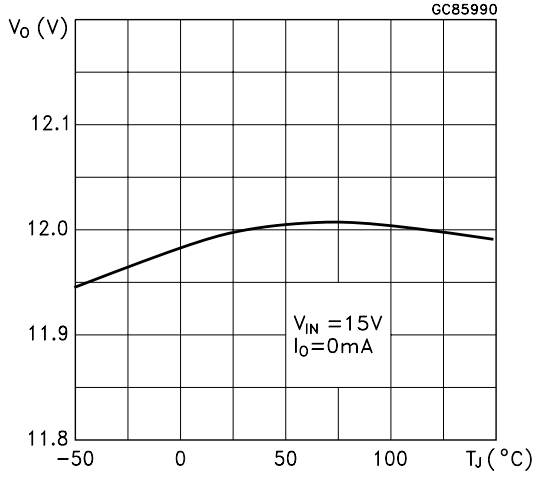


Figure 6: Output Voltage vs Temperature

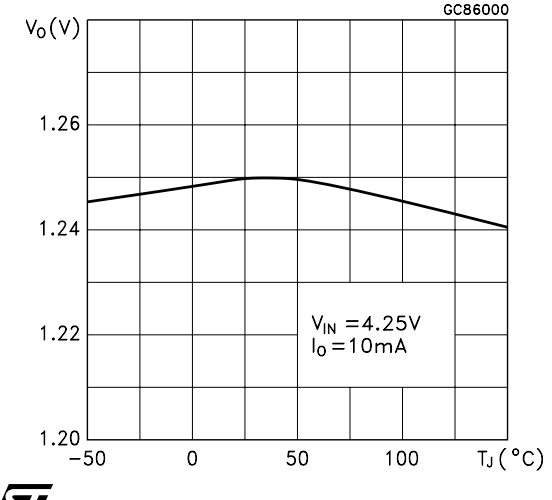


Figure 7: Short Circuit Current vs Dropout Voltage

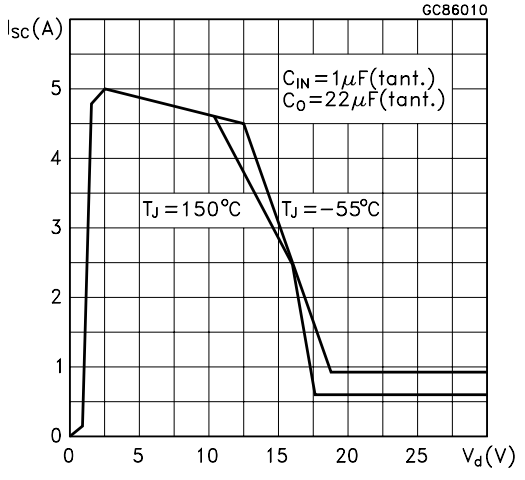


Figure 8: Line Regulation vs Temperature

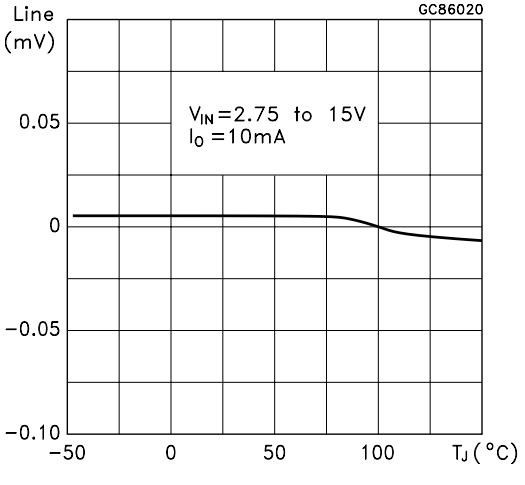


Figure 9: Load Regulation vs Temperature

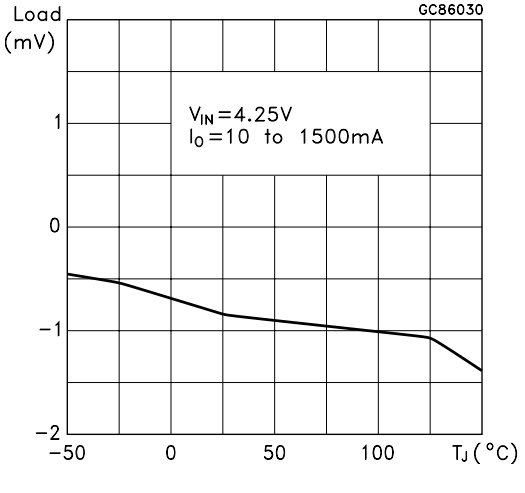


Figure 10: Dropout Voltage vs Temperature

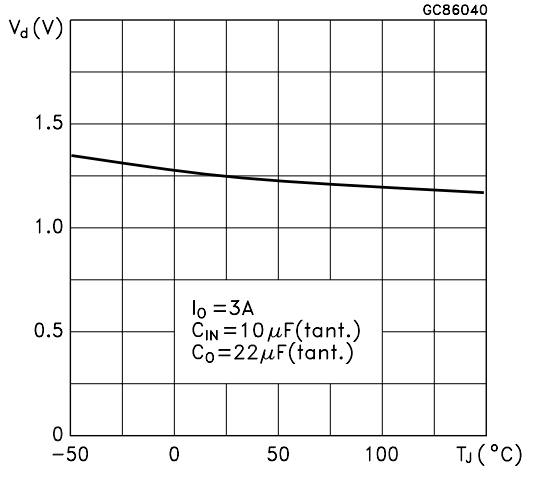


Figure 11: Dropout Voltage vs Output Current

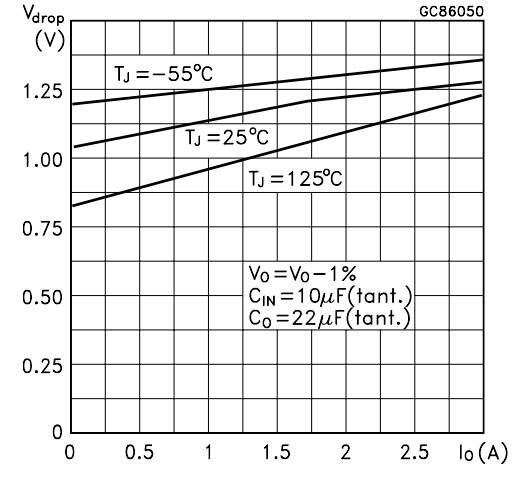


Figure 12: Adjust Pin Current vs Temperature

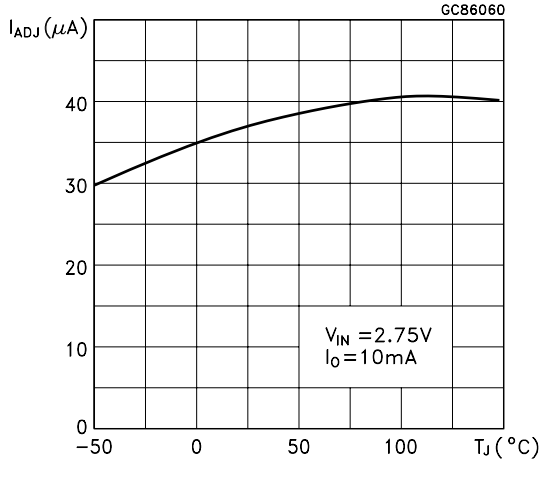


Figure 13: Quiescent Current vs Temperature

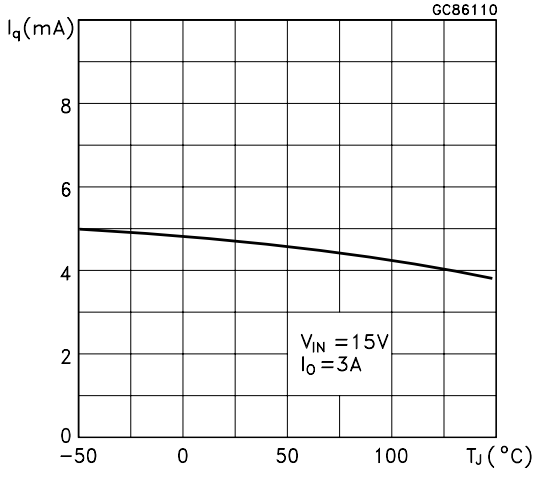


Figure 14: Dropout Voltage vs Output Current

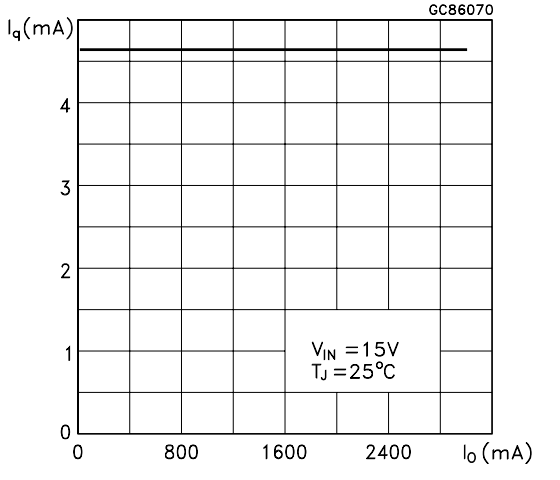


Figure 15: Supply Voltage Rejection vs Output Current

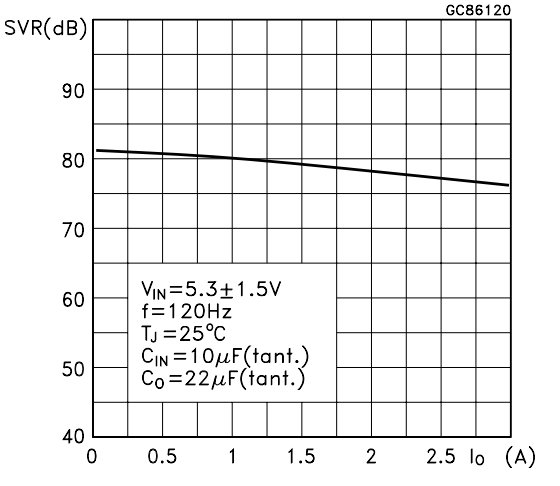


Figure 16: Supply Voltage Rejection vs Frequency

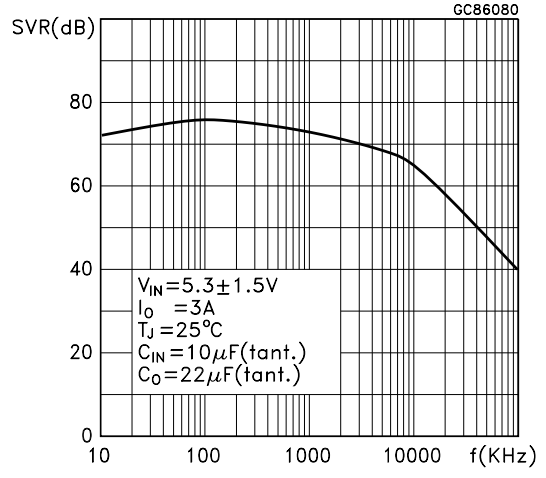


Figure 17: Supply Voltage Rejection vs Temperature

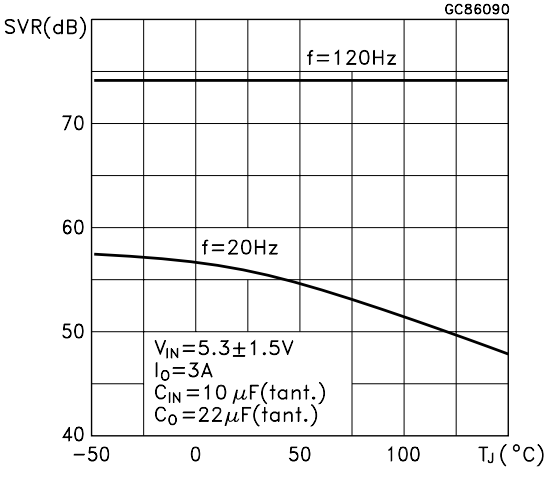


Figure 18: Minimum Load Current vs Temperature

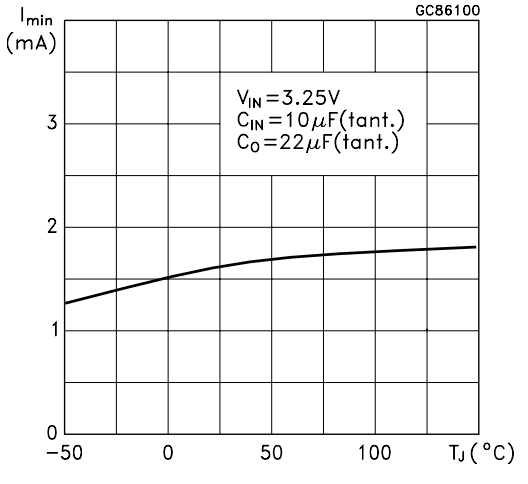


Figure 19: Stability

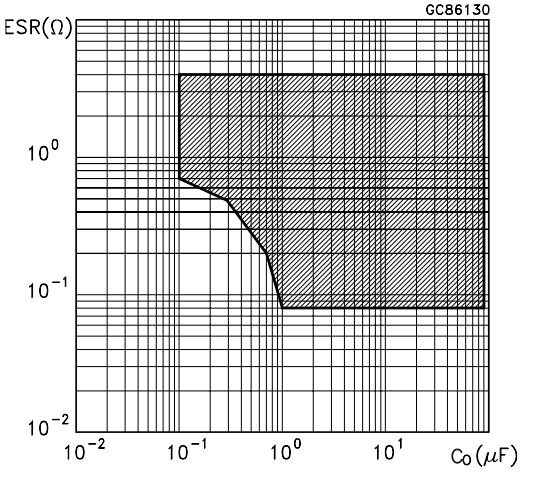


Figure 20: Stability

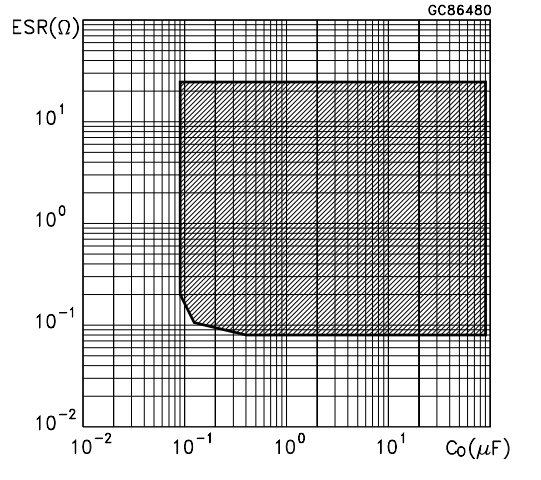
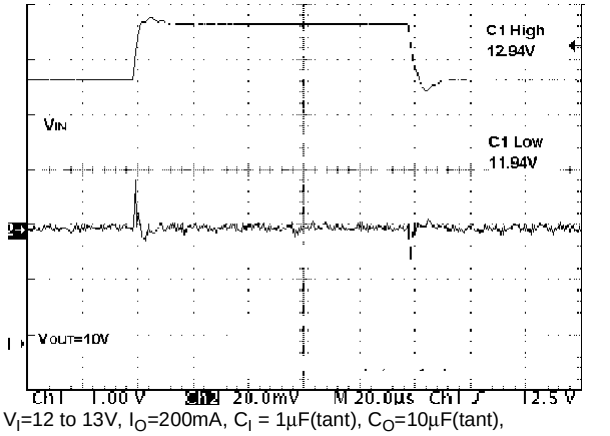
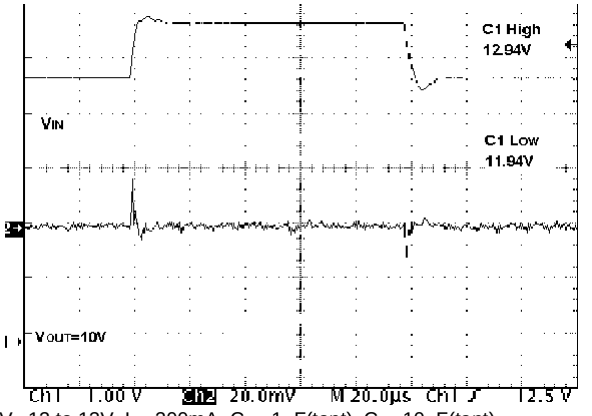


Figure 21: Line Transient



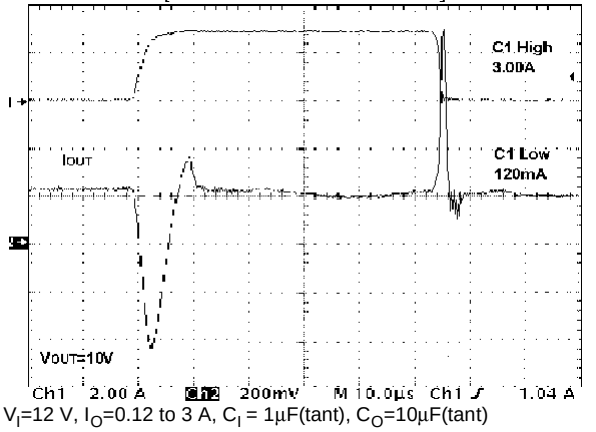
V_I=12 to 13V, I_O=200mA, C_I = 1μF(tant), C_O=10μF(tant), C_{ADJ} = 1μF

Figure 22: Line Transient



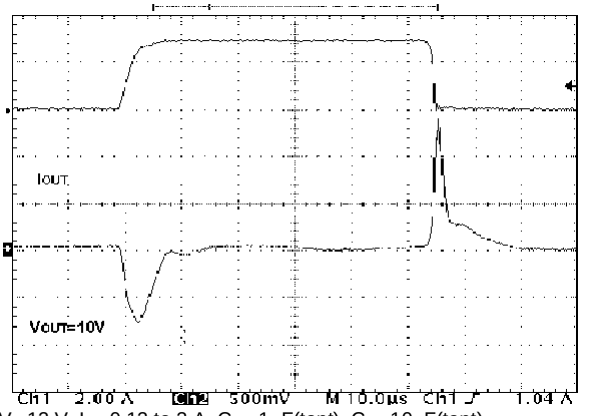
V_I=12 to 13V, I_O=200mA, C_I = 1µF(tant), C_O=10µF(tant),
C_{ADJ} =1µF

Figure 23: Load Transient



V_I=12 V, I_O=0.12 to 3 A, C_I = 1µF(tant), C_O=10µF(tant)
C_{ADJ} =1µF

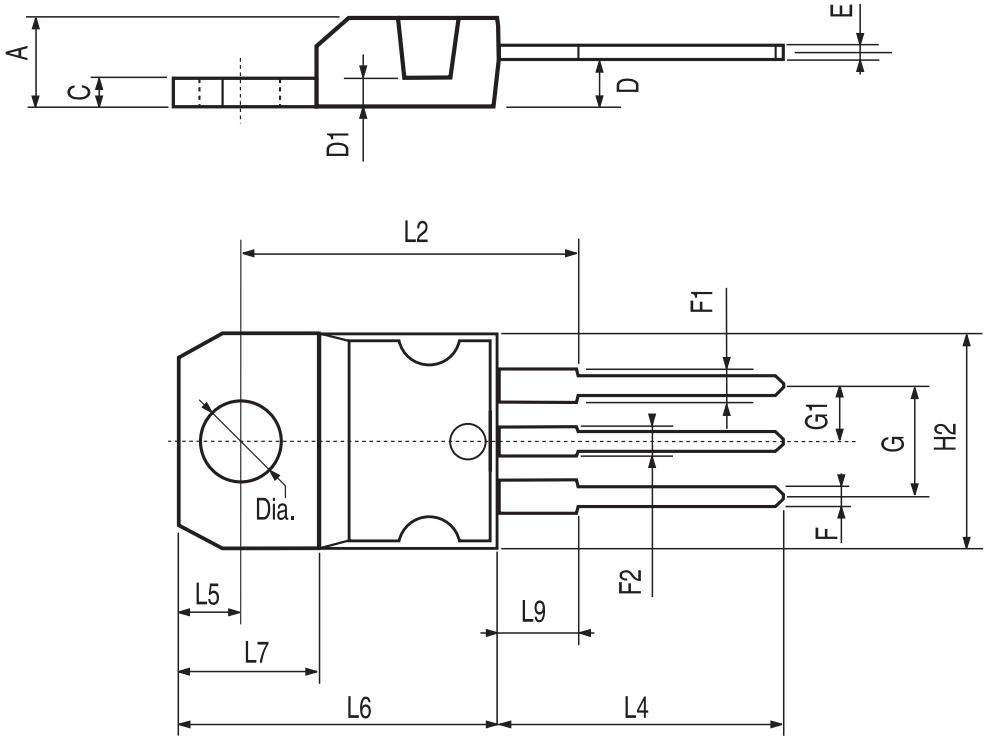
Figure 24: Load Transient



V_I=12 V, I_O=0.12 to 3 A, C_I = 1µF(tant), C_O=10µF(tant)
C_{ADJ} =1µF

TO-220 MECHANICAL DATA

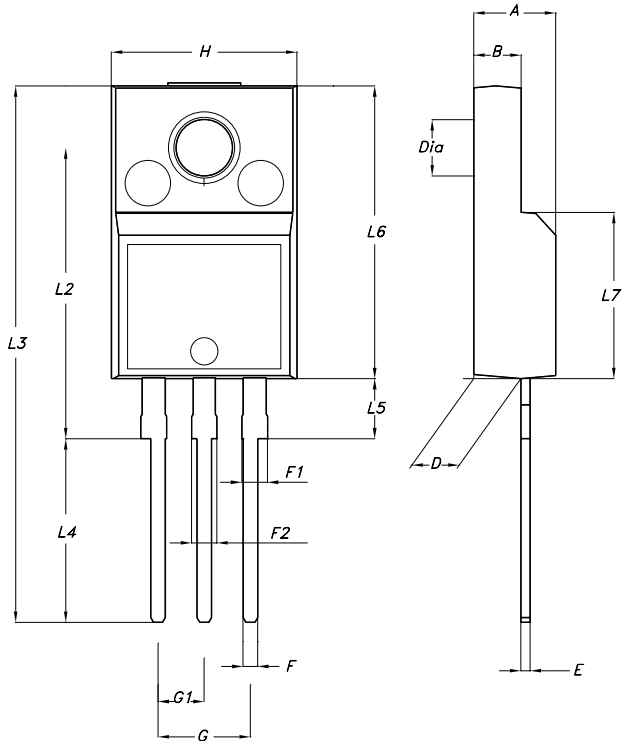
DIM.	mm.			inch		
	MIN.	TYP	MAX.	MIN.	TYP.	MAX.
A	4.40		4.60	0.173		0.181
C	1.23		1.32	0.048		0.051
D	2.40		2.72	0.094		0.107
D1		1.27			0.050	
E	0.49		0.70	0.019		0.027
F	0.61		0.88	0.024		0.034
F1	1.14		1.70	0.044		0.067
F2	1.14		1.70	0.044		0.067
G	4.95		5.15	0.194		0.203
G1	2.4		2.7	0.094		0.106
H2	10.0		10.40	0.393		0.409
L2		16.4			0.645	
L4	13.0		14.0	0.511		0.551
L5	2.65		2.95	0.104		0.116
L6	15.25		15.75	0.600		0.620
L7	6.2		6.6	0.244		0.260
L9	3.5		3.93	0.137		0.154
DIA.	3.75		3.85	0.147		0.151



P011C

TO-220FP MECHANICAL DATA

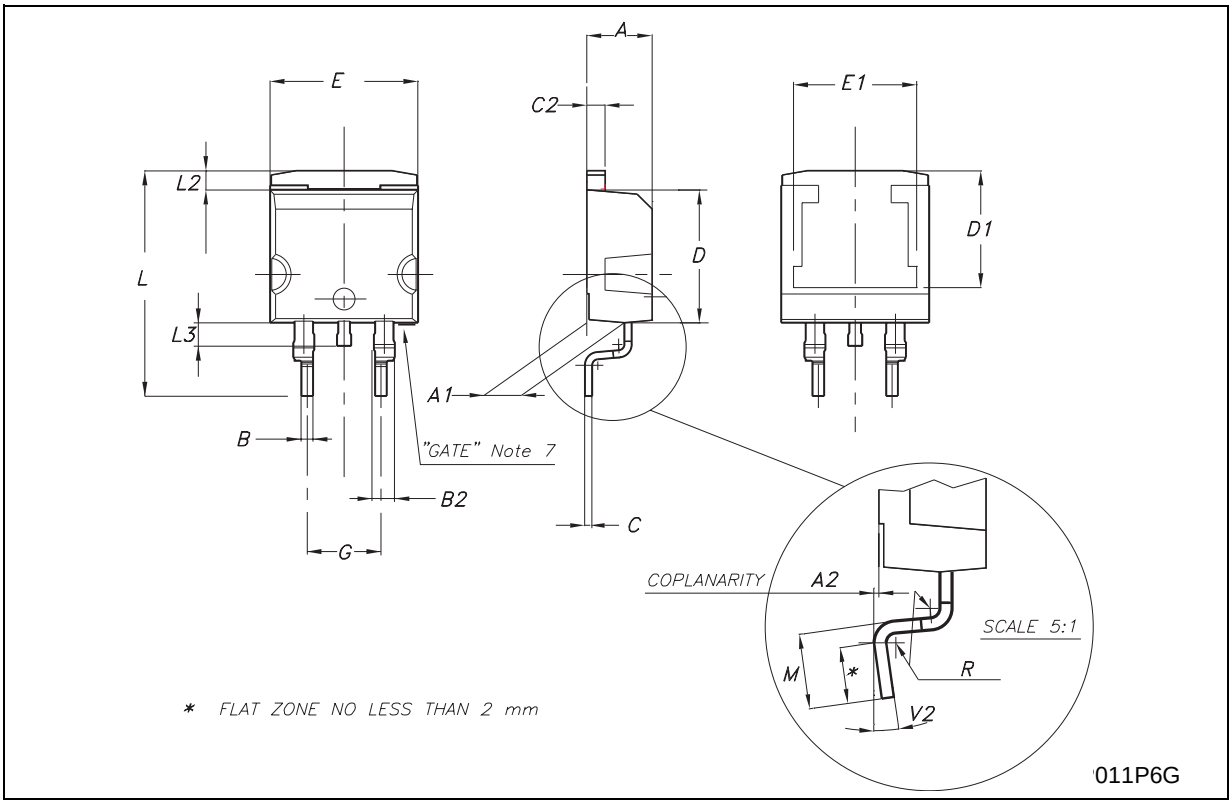
DIM.	mm.			inch		
	MIN.	TYP	MAX.	MIN.	TYP.	MAX.
A	4.40		4.60	0.173		0.181
B	2.5		2.7	0.098		0.106
D	2.5		2.75	0.098		0.108
E	0.45		0.70	0.017		0.027
F	0.75		1	0.030		0.039
F1	1.15		1.50	0.045		0.059
F2	1.15		1.50	0.045		0.059
G	4.95		5.2	0.194		0.204
G1	2.4		2.7	0.094		0.106
H	10.0		10.40	0.393		0.409
L2		16			0.630	
L3	28.6		30.6	1.126		1.204
L4	9.8		10.6	0.385		0.417
L5	2.9		3.6	0.114		0.142
L6	15.9		16.4	0.626		0.645
L7	9		9.3	0.354		0.366
DIA.	3		3.2	0.118		0.126



7012510A-H

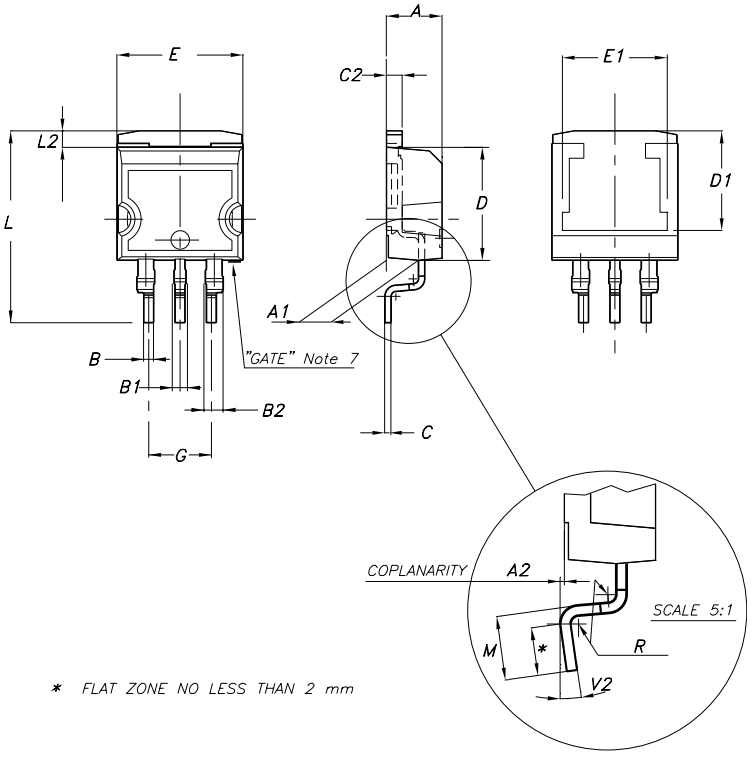
D²PAK MECHANICAL DATA

DIM.	mm.			inch		
	MIN.	TYP	MAX.	MIN.	TYP.	MAX.
A	4.4		4.6	0.173		0.181
A1	2.49		2.69	0.098		0.106
A2	0.03		0.23	0.001		0.009
B	0.7		0.93	0.027		0.036
B2	1.14		1.7	0.044		0.067
C	0.45		0.6	0.017		0.023
C2	1.23		1.36	0.048		0.053
D	8.95		9.35	0.352		0.368
D1		8			0.315	
E	10		10.4	0.393		0.409
E1		8.5			0.335	
G	4.88		5.28	0.192		0.208
L	15		15.85	0.590		0.624
L2	1.27		1.4	0.050		0.055
L3	1.4		1.75	0.055		0.068
M	2.4		3.2	0.094		0.126
R		0.4			0.016	
V2	0°		8°	0°		8°



D^2PAK/A MECHANICAL DATA

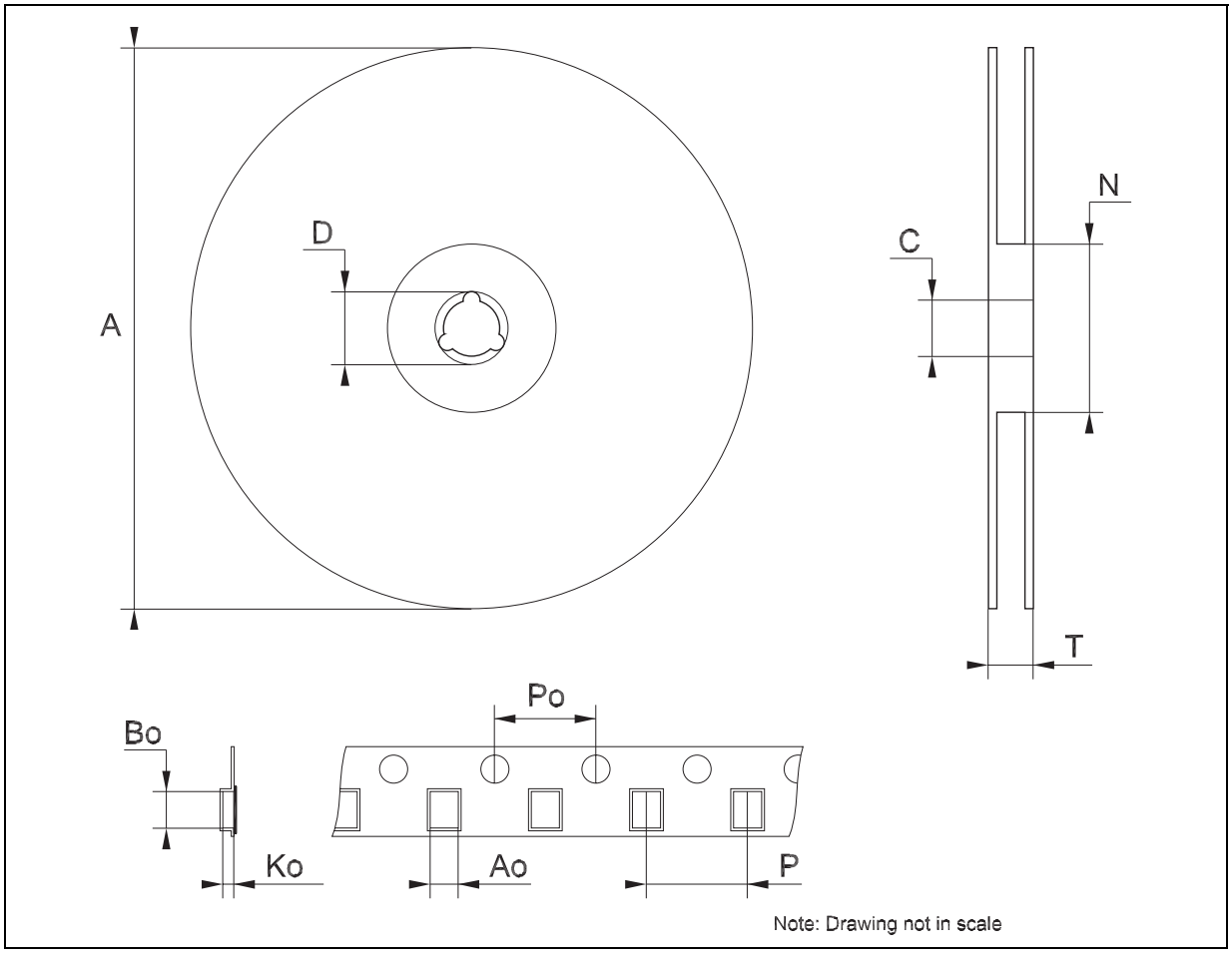
DIM.	mm.			inch		
	MIN.	TYP	MAX.	MIN.	TYP.	MAX.
A	4.40		4.60	0.173		0.181
A1	2.49		2.69	0.098		0.106
A2	0.03		0.23	0.001		0.009
B	0.7		0.93	0.028		0.037
B1	0.8		1.3	0.031		0.051
B2	1.14		1.7	0.045		0.067
C	0.45		0.60	0.018		0.024
C2	1.23		1.36	0.048		0.054
D	8.95		9.35	0.352		0.368
D1		8			0.315	
E	10		10.4	0.394		0.409
E1		8.5			0.335	
G	4.88		5.28	0.192		0.208
L	15		15.85	0.591		0.624
L2	1.27		1.4	0.050		0.055
M	2.4		3.2	0.094		0.126
R		0.4			0.016	
V2	0°		8°	0°		8°



7106164/D

Tape & Reel D^2PAK-P^2PAK-D^2PAK/A-P^2PAK/A MECHANICAL DATA

DIM.	mm.			inch		
	MIN.	TYP	MAX.	MIN.	TYP.	MAX.
A			180			7.086
C	12.8	13.0	13.2	0.504	0.512	0.519
D	20.2			0.795		
N	60			2.362		
T			14.4			0.567
Ao	10.50	10.6	10.70	0.413	0.417	0.421
Bo	15.70	15.80	15.90	0.618	0.622	0.626
Ko	4.80	4.90	5.00	0.189	0.193	0.197
Po	3.9	4.0	4.1	0.153	0.157	0.161
P	11.9	12.0	12.1	0.468	0.472	0.476



Note: Drawing not in scale

Table 15: Revision History

Date	Revision	Description of Changes
07-Oct-2004	12	Mistake Order Codes - Table 1.
08-Feb-2005	13	Mistake U.M. Load Regulation - V ==> mV.
01-Mar-2005	14	Version 1.2V removed.