



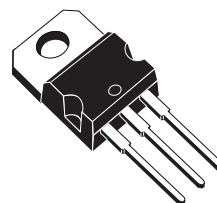
2% NEGATIVE VOLTAGE REGULATORS

- OUTPUT CURRENT TO 1.5A
- OUTPUT VOLTAGES OF -5; -5.2; -6; -8; -12; -15; -18; -20; -22; -24V
- THERMAL OVERLOAD PROTECTION
- SHORT CIRCUIT PROTECTION
- OUTPUT TRANSITION SOA PROTECTION

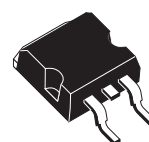
DESCRIPTION

The L7900AC series of three-terminal negative regulators is available in TO-220 and D²PAK packages and several fixed output voltages. These regulators can provide local on-card regulation, eliminating the distribution problems associated with single point regulation; furthermore, having the same voltage option as the L7800A positive standard series, they are particularly suited for split power supplies. In addition, the -5.2V is also available for ECL system. If adequate heat sinking is provided, they can deliver over 1.5A output current.

Although designed primarily as fixed voltage regulators, these devices can be used with external components to obtain adjustable voltages and currents.

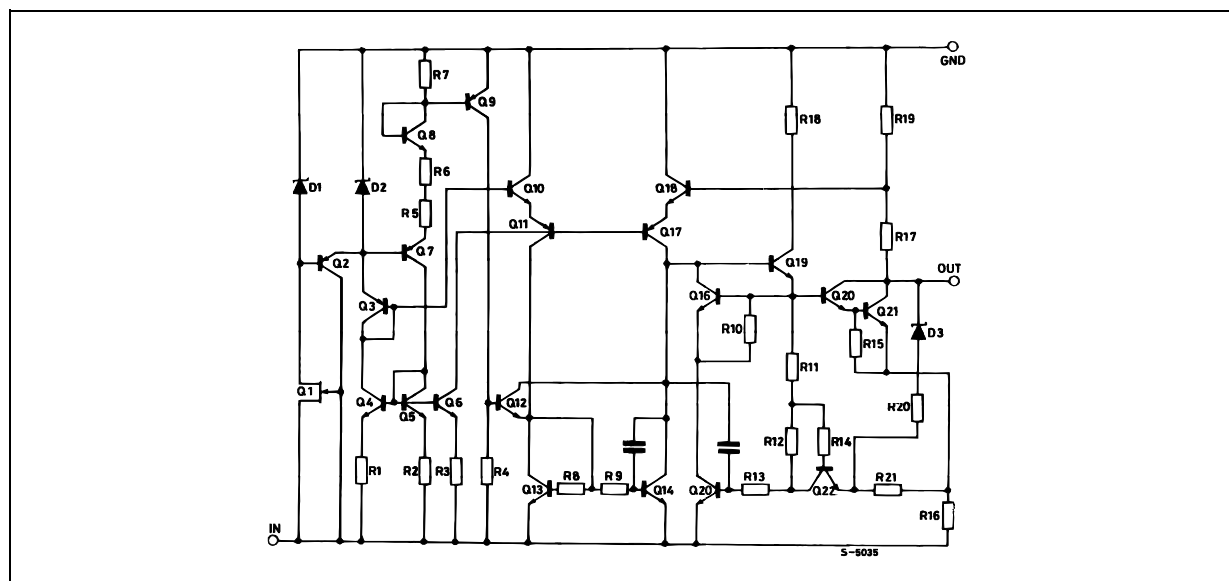


TO-220



D²PAK

SCHEMATIC DIAGRAM



L7900AC SERIES

ABSOLUTE MAXIMUM RATINGS

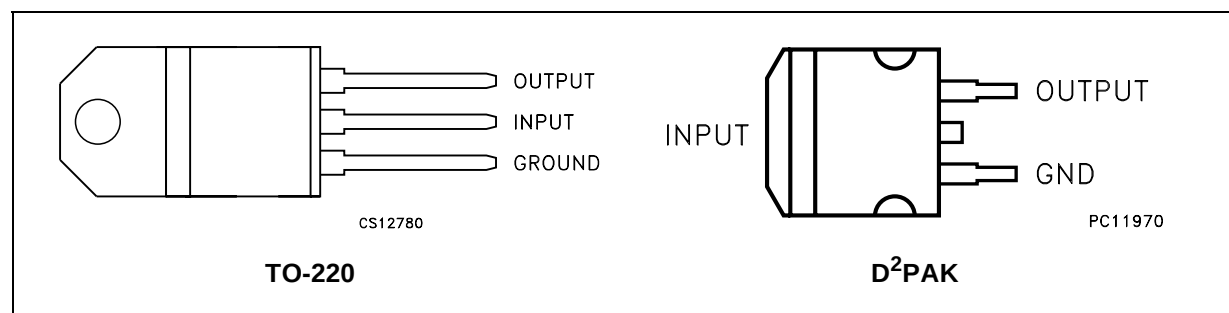
Symbol	Parameter ²		Value	Unit
V _I	DC Input Voltage	for V _O = -5 to -18V	-35	V
		for V _O = -20, -24V	-40	
I _O	Output Current		Internally Limited	
P _{tot}	Power Dissipation		Internally Limited	
T _{stg}	Storage Temperature Range		-65 to 150	°C
T _{op}	Operating Junction Temperature Range		0 to 125	°C

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

THERMAL DATA

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

CONNECTION DIAGRAM (top view)

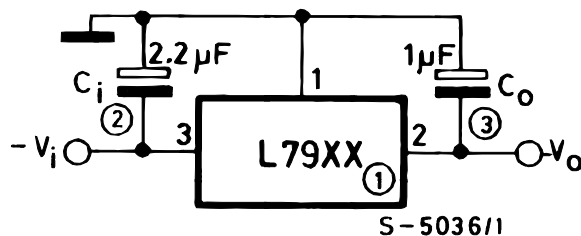


ORDERING CODES

TYPE	TO-220	D ² PAK (*)	OUTPUT VOLTAGE
L7905AC	L7905ACV	L7905ACD2T	-5 V
L7952AC	L7952ACV	L7952ACD2T	-5.2 V
L7906AC	L7906ACV	L7906ACD2T	-6 V
L7908AC	L7908ACV	L7908ACD2T	-8 V
L7912AC	L7912ACV	L7912ACD2T	-12 V
L7915AC	L7915ACV	L7915ACD2T	-15 V
L7918AC	L7918ACV	L7918ACD2T	-18 V
L7920AC	L7920ACV	L7920ACD2T	-20 V
L7922AC	L7922ACV	L7922ACD2T	-22 V
L7924AC	L7924ACV	L7924ACD2T	-24 V

(*) Available in Tape & Reel with the suffix "-TR".

APPLICATION CIRCUITS



ELECTRICAL CHARACTERISTICS OF L7905A (refer to the test circuits, $T_J = 0$ to 125°C , $V_I = -10\text{V}$, $I_O = 500\text{ mA}$, $C_I = 2.2\text{ }\mu\text{F}$, $C_O = 1\text{ }\mu\text{F}$ unless otherwise specified).

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	$T_J = 25^\circ\text{C}$	-4.9	-5	-5.1	V
V_O	Output Voltage	$I_O = -5\text{ mA to } -1\text{ A}$ $P_O \leq 15\text{ W}$ $V_I = 8\text{ to } 20\text{ V}$	-4.8	-5	-5.2	V
$\Delta V_O^{(*)}$	Line Regulation	$V_I = -7\text{ to } -25\text{ V}$ $T_J = 25^\circ\text{C}$			100	mV
		$V_I = -8\text{ to } -12\text{ V}$ $T_J = 25^\circ\text{C}$			50	
$\Delta V_O^{(*)}$	Load Regulation	$I_O = 5\text{ mA to } 1.5\text{ A}$ $T_J = 25^\circ\text{C}$			100	mV
		$I_O = 250\text{ to } 750\text{ mA}$ $T_J = 25^\circ\text{C}$			50	
I_d	Quiescent Current	$T_J = 25^\circ\text{C}$			3	mA
ΔI_d	Quiescent Current Change	$I_O = 5\text{ mA to } 1\text{ A}$			0.5	mA
		$V_I = -8\text{ to } -25\text{ V}$			1.3	
$\Delta V_O/\Delta T$	Output Voltage Drift	$I_O = 5\text{ mA}$		-0.4		mV/ $^\circ\text{C}$
eN	Output Noise Voltage	$B = 10\text{ Hz to } 100\text{ kHz}$ $T_J = 25^\circ\text{C}$		100		μV
SVR	Supply Voltage Rejection	$\Delta V_I = 10\text{ V}$ $f = 120\text{ Hz}$	54	60		dB
V_d	Dropout Voltage	$I_O = 1\text{ A}$ $T_J = 25^\circ\text{C}$ $\Delta V_O = 100\text{ mV}$		1.4		V
I_{sc}	Short Circuit Current			2.1		A
I_{scp}	Short Circuit Peak Current	$T_J = 25^\circ\text{C}$		2.5		A

(*) Load and line regulation are specified at constant junction temperature. Changes in V_O due to heating effects must be taken into account separately. Pulse testing with low duty cycle is used.

L7900AC SERIES

ELECTRICAL CHARACTERISTICS OF L7952A (refer to the test circuits, $T_J = 0$ to 125°C , $V_I = -10\text{V}$, $I_O = 500\text{ mA}$, $C_I = 2.2\text{ }\mu\text{F}$, $C_O = 1\text{ }\mu\text{F}$ unless otherwise specified).

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	$T_J = 25^\circ\text{C}$	-5.1	-5.2	-5.3	V
V_O	Output Voltage	$I_O = -5\text{ mA to }-1\text{ A}$ $P_O \leq 15\text{W}$ $V_I = -9\text{ to }-21\text{ V}$	-5	-5.2	-5.4	V
$\Delta V_O(^*)$	Line Regulation	$V_I = -8\text{ to }-25\text{ V}$ $T_J = 25^\circ\text{C}$			105	mV
		$V_I = -9\text{ to }-13\text{ V}$ $T_J = 25^\circ\text{C}$			52	
$\Delta V_O(^*)$	Load Regulation	$I_O = 5\text{ mA to }1.5\text{ A}$ $T_J = 25^\circ\text{C}$			105	mV
		$I_O = 250\text{ to }750\text{ mA}$ $T_J = 25^\circ\text{C}$			52	
I_d	Quiescent Current	$T_J = 25^\circ\text{C}$			3	mA
ΔI_d	Quiescent Current Change	$I_O = 5\text{ mA to }1\text{ A}$			0.5	mA
		$V_I = -9\text{ to }-25\text{ V}$			1.3	
$\Delta V_O/\Delta T$	Output Voltage Drift	$I_O = 5\text{ mA}$		-0.5		mV/ $^\circ\text{C}$
eN	Output Noise Voltage	$B = 10\text{Hz to }100\text{kHz}$ $T_J = 25^\circ\text{C}$		125		μV
SVR	Supply Voltage Rejection	$\Delta V_I = 10\text{ V}$ $f = 120\text{Hz}$	54	60		dB
V_d	Dropout Voltage	$I_O = 1\text{ A}$ $T_J = 25^\circ\text{C}$ $\Delta V_O = 100\text{ mV}$		1.4		V
I_{sc}	Short Circuit Current			2.1		A
I_{scp}	Short Circuit Peak Current	$T_J = 25^\circ\text{C}$		2.5		A

(*) Load and line regulation are specified at constant junction temperature. Changes in V_O due to heating effects must be taken into account separately. Pulse testing with low duty cycle is used.

ELECTRICAL CHARACTERISTICS OF L7906A (refer to the test circuits, $T_J = 0$ to 125°C , $V_I = -11\text{V}$, $I_O = 500\text{ mA}$, $C_I = 2.2\text{ }\mu\text{F}$, $C_O = 1\text{ }\mu\text{F}$ unless otherwise specified).

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	$T_J = 25^\circ\text{C}$	-5.88	-6	-6.12	V
V_O	Output Voltage	$I_O = -5\text{ mA to }-1\text{ A}$ $P_O \leq 15\text{W}$ $V_I = -9.5\text{ to }-21.5\text{ V}$	-5.76	-6	-6.24	V
$\Delta V_O(^*)$	Line Regulation	$V_I = -8.5\text{ to }-25\text{ V}$ $T_J = 25^\circ\text{C}$			120	mV
		$V_I = -9\text{ to }-15\text{ V}$ $T_J = 25^\circ\text{C}$			60	
$\Delta V_O(^*)$	Load Regulation	$I_O = 5\text{ mA to }1.5\text{ A}$ $T_J = 25^\circ\text{C}$			120	mV
		$I_O = 250\text{ to }750\text{ mA}$ $T_J = 25^\circ\text{C}$			60	
I_d	Quiescent Current	$T_J = 25^\circ\text{C}$			3	mA
ΔI_d	Quiescent Current Change	$I_O = 5\text{ mA to }1\text{ A}$			0.5	mA
		$V_I = -9.5\text{ to }-25\text{ V}$			1.3	
$\Delta V_O/\Delta T$	Output Voltage Drift	$I_O = 5\text{ mA}$		-0.6		mV/ $^\circ\text{C}$
eN	Output Noise Voltage	$B = 10\text{Hz to }100\text{kHz}$ $T_J = 25^\circ\text{C}$		144		μV
SVR	Supply Voltage Rejection	$\Delta V_I = 10\text{ V}$ $f = 120\text{Hz}$	54	60		dB
V_d	Dropout Voltage	$I_O = 1\text{ A}$ $T_J = 25^\circ\text{C}$ $\Delta V_O = 100\text{ mV}$		1.4		V
I_{sc}	Short Circuit Current			2		A
I_{scp}	Short Circuit Peak Current	$T_J = 25^\circ\text{C}$		2.5		A

(*) Load and line regulation are specified at constant junction temperature. Changes in V_O due to heating effects must be taken into account separately. Pulse testing with low duty cycle is used.

ELECTRICAL CHARACTERISTICS OF L7908A (refer to the test circuits, $T_J = 0$ to 125°C , $V_I = -14\text{V}$, $I_O = 500\text{ mA}$, $C_I = 2.2\text{ }\mu\text{F}$, $C_O = 1\text{ }\mu\text{F}$ unless otherwise specified).

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	$T_J = 25^\circ\text{C}$	-7.84	-8	-8.16	V
V_O	Output Voltage	$I_O = -5\text{ mA to }-1\text{ A}$ $P_O \leq 15\text{W}$ $V_I = -11.5\text{ to }-23\text{ V}$	-7.68	-8	-8.32	V
$\Delta V_O(^*)$	Line Regulation	$V_I = -10.5\text{ to }-25\text{ V}$ $T_J = 25^\circ\text{C}$			160	mV
		$V_I = -11\text{ to }-17\text{ V}$ $T_J = 25^\circ\text{C}$			80	
$\Delta V_O(^*)$	Load Regulation	$I_O = 5\text{ mA to }1.5\text{ A}$ $T_J = 25^\circ\text{C}$			160	mV
		$I_O = 250\text{ to }750\text{ mA}$ $T_J = 25^\circ\text{C}$			80	
I_d	Quiescent Current	$T_J = 25^\circ\text{C}$			3	mA
ΔI_d	Quiescent Current Change	$I_O = 5\text{ mA to }1\text{ A}$			0.5	mA
		$V_I = -11.5\text{ to }-25\text{ V}$			1	
$\Delta V_O/\Delta T$	Output Voltage Drift	$I_O = 5\text{ mA}$		-0.6		mV/ $^\circ\text{C}$
eN	Output Noise Voltage	$B = 10\text{Hz to }100\text{KHz}$ $T_J = 25^\circ\text{C}$		175		μV
SVR	Supply Voltage Rejection	$\Delta V_I = 10\text{ V}$ $f = 120\text{Hz}$	54	60		dB
V_d	Dropout Voltage	$I_O = 1\text{ A}$ $T_J = 25^\circ\text{C}$ $\Delta V_O = 100\text{ mV}$		1.1		V
I_{sc}	Short Circuit Current			1.5		A
I_{scp}	Short Circuit Peak Current	$T_J = 25^\circ\text{C}$		2.5		A

(*) Load and line regulation are specified at constant junction temperature. Changes in V_O due to heating effects must be taken into account separately. Pulse testing with low duty cycle is used.

ELECTRICAL CHARACTERISTICS OF L7912A (refer to the test circuits, $T_J = 0$ to 125°C , $V_I = -19\text{V}$, $I_O = 500\text{ mA}$, $C_I = 2.2\text{ }\mu\text{F}$, $C_O = 1\text{ }\mu\text{F}$ unless otherwise specified).

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	$T_J = 25^\circ\text{C}$	-11.75	-12	-12.25	V
V_O	Output Voltage	$I_O = -5\text{ mA to }-1\text{ A}$ $P_O \leq 15\text{W}$ $V_I = -15.5\text{ to }-27\text{ V}$	-11.5	-12	-12.5	V
$\Delta V_O(^*)$	Line Regulation	$V_I = -14.5\text{ to }-30\text{ V}$ $T_J = 25^\circ\text{C}$			240	mV
		$V_I = -16\text{ to }-22\text{ V}$ $T_J = 25^\circ\text{C}$			120	
$\Delta V_O(^*)$	Load Regulation	$I_O = 5\text{ mA to }1.5\text{ A}$ $T_J = 25^\circ\text{C}$			240	mV
		$I_O = 250\text{ to }750\text{ mA}$ $T_J = 25^\circ\text{C}$			120	
I_d	Quiescent Current	$T_J = 25^\circ\text{C}$			3	mA
ΔI_d	Quiescent Current Change	$I_O = 5\text{ mA to }1\text{ A}$			0.5	mA
		$V_I = -15\text{ to }-25\text{ V}$			1	
$\Delta V_O/\Delta T$	Output Voltage Drift	$I_O = 5\text{ mA}$		-0.8		mV/ $^\circ\text{C}$
eN	Output Noise Voltage	$B = 10\text{Hz to }100\text{KHz}$ $T_J = 25^\circ\text{C}$		200		μV
SVR	Supply Voltage Rejection	$\Delta V_I = 10\text{ V}$ $f = 120\text{Hz}$	54	60		dB
V_d	Dropout Voltage	$I_O = 1\text{ A}$ $T_J = 25^\circ\text{C}$ $\Delta V_O = 100\text{ mV}$		1.1		V
I_{sc}	Short Circuit Current			1.5		A
I_{scp}	Short Circuit Peak Current	$T_J = 25^\circ\text{C}$		2.5		A

(*) Load and line regulation are specified at constant junction temperature. Changes in V_O due to heating effects must be taken into account separately. Pulse testing with low duty cycle is used.

L7900AC SERIES

ELECTRICAL CHARACTERISTICS OF L7915A (refer to the test circuits, $T_J = 0$ to 125°C , $V_I = -23\text{V}$, $I_O = 500\text{ mA}$, $C_I = 2.2\text{ }\mu\text{F}$, $C_O = 1\text{ }\mu\text{F}$ unless otherwise specified).

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	$T_J = 25^\circ\text{C}$	-14.7	-15	-15.3	V
V_O	Output Voltage	$I_O = -5\text{ mA to }-1\text{ A}$ $P_O \leq 15\text{ W}$ $V_I = -18.5\text{ to }-30\text{ V}$	-14.4	-15	-15.6	V
$\Delta V_O(^*)$	Line Regulation	$V_I = -17.5\text{ to }-30\text{ V}$ $T_J = 25^\circ\text{C}$			300	mV
		$V_I = -20\text{ to }-26\text{ V}$ $T_J = 25^\circ\text{C}$			150	
$\Delta V_O(^*)$	Load Regulation	$I_O = 5\text{ mA to }1.5\text{ A}$ $T_J = 25^\circ\text{C}$			300	mV
		$I_O = 250\text{ to }750\text{ mA}$ $T_J = 25^\circ\text{C}$			150	
I_d	Quiescent Current	$T_J = 25^\circ\text{C}$			3	mA
ΔI_d	Quiescent Current Change	$I_O = 5\text{ mA to }1\text{ A}$			0.5	mA
		$V_I = -18.5\text{ to }-30\text{ V}$			1	
$\Delta V_O/\Delta T$	Output Voltage Drift	$I_O = 5\text{ mA}$		-0.9		mV/ $^\circ\text{C}$
eN	Output Noise Voltage	$B = 10\text{ Hz to }100\text{ KHz}$ $T_J = 25^\circ\text{C}$		250		μV
SVR	Supply Voltage Rejection	$\Delta V_I = 10\text{ V}$ $f = 120\text{ Hz}$	54	60		dB
V_d	Dropout Voltage	$I_O = 1\text{ A}$ $T_J = 25^\circ\text{C}$ $\Delta V_O = 100\text{ mV}$		1.1		V
I_{sc}	Short Circuit Current			1.3		A
I_{scp}	Short Circuit Peak Current	$T_J = 25^\circ\text{C}$		2.3		A

(*) Load and line regulation are specified at constant junction temperature. Changes in V_O due to heating effects must be taken into account separately. Pulse testing with low duty cycle is used.

ELECTRICAL CHARACTERISTICS OF L7918A (refer to the test circuits, $T_J = 0$ to 125°C , $V_I = -27\text{V}$, $I_O = 500\text{ mA}$, $C_I = 2.2\text{ }\mu\text{F}$, $C_O = 1\text{ }\mu\text{F}$ unless otherwise specified).

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	$T_J = 25^\circ\text{C}$	-17.64	-18	-18.36	V
V_O	Output Voltage	$I_O = -5\text{ mA to }-1\text{ A}$ $P_O \leq 15\text{ W}$ $V_I = -22\text{ to }-33\text{ V}$	-17.3	-18	-18.7	V
$\Delta V_O(^*)$	Line Regulation	$V_I = -21\text{ to }-33\text{ V}$ $T_J = 25^\circ\text{C}$			360	mV
		$V_I = -24\text{ to }-30\text{ V}$ $T_J = 25^\circ\text{C}$			180	
$\Delta V_O(^*)$	Load Regulation	$I_O = 5\text{ mA to }1.5\text{ A}$ $T_J = 25^\circ\text{C}$			360	mV
		$I_O = 250\text{ to }750\text{ mA}$ $T_J = 25^\circ\text{C}$			180	
I_d	Quiescent Current	$T_J = 25^\circ\text{C}$			3	mA
ΔI_d	Quiescent Current Change	$I_O = 5\text{ mA to }1\text{ A}$			0.5	mA
		$V_I = -22\text{ to }-33\text{ V}$			1	
$\Delta V_O/\Delta T$	Output Voltage Drift	$I_O = 5\text{ mA}$		-1		mV/ $^\circ\text{C}$
eN	Output Noise Voltage	$B = 10\text{ Hz to }100\text{ KHz}$ $T_J = 25^\circ\text{C}$		300		μV
SVR	Supply Voltage Rejection	$\Delta V_I = 10\text{ V}$ $f = 120\text{ Hz}$	54	60		dB
V_d	Dropout Voltage	$I_O = 1\text{ A}$ $T_J = 25^\circ\text{C}$ $\Delta V_O = 100\text{ mV}$		1.1		V
I_{sc}	Short Circuit Current			1.1		A
I_{scp}	Short Circuit Peak Current	$T_J = 25^\circ\text{C}$		2.2		A

(*) Load and line regulation are specified at constant junction temperature. Changes in V_O due to heating effects must be taken into account separately. Pulse testing with low duty cycle is used.

ELECTRICAL CHARACTERISTICS OF L7920A (refer to the test circuits, $T_J = 0$ to 125°C , $V_I = -29\text{V}$, $I_O = 500\text{ mA}$, $C_I = 2.2\text{ }\mu\text{F}$, $C_O = 1\text{ }\mu\text{F}$ unless otherwise specified).

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	$T_J = 25^\circ\text{C}$	-19.6	-20	-20.4	V
V_O	Output Voltage	$I_O = -5\text{ mA to }-1\text{ A}$ $P_O \leq 15\text{W}$ $V_I = -24\text{ to }-35\text{ V}$	-19.2	-20	-20.8	V
$\Delta V_O(^*)$	Line Regulation	$V_I = -23\text{ to }-35\text{ V}$ $T_J = 25^\circ\text{C}$			400	mV
		$V_I = -26\text{ to }-32\text{ V}$ $T_J = 25^\circ\text{C}$			200	
$\Delta V_O(^*)$	Load Regulation	$I_O = 5\text{ mA to }1.5\text{ A}$ $T_J = 25^\circ\text{C}$			400	mV
		$I_O = 250\text{ to }750\text{ mA}$ $T_J = 25^\circ\text{C}$			200	
I_d	Quiescent Current	$T_J = 25^\circ\text{C}$			3	mA
ΔI_d	Quiescent Current Change	$I_O = 5\text{ mA to }1\text{ A}$			0.5	mA
		$V_I = -24\text{ to }-35\text{ V}$			1	
$\Delta V_O/\Delta T$	Output Voltage Drift	$I_O = 5\text{ mA}$		-1.1		mV/ $^\circ\text{C}$
eN	Output Noise Voltage	$B = 10\text{Hz to }100\text{KHz}$ $T_J = 25^\circ\text{C}$		350		μV
SVR	Supply Voltage Rejection	$\Delta V_I = 10\text{ V}$ $f = 120\text{Hz}$	54	60		dB
V_d	Dropout Voltage	$I_O = 1\text{ A}$ $T_J = 25^\circ\text{C}$ $\Delta V_O = 100\text{ mV}$		1.1		V
I_{sc}	Short Circuit Current			0.9		A
I_{scp}	Short Circuit Peak Current	$T_J = 25^\circ\text{C}$		2.2		A

(*) Load and line regulation are specified at constant junction temperature. Changes in V_O due to heating effects must be taken into account separately. Pulse testing with low duty cycle is used.

ELECTRICAL CHARACTERISTICS OF L7922A (refer to the test circuits, $T_J = 0$ to 125°C , $V_I = -31\text{V}$, $I_O = 500\text{ mA}$, $C_I = 2.2\text{ }\mu\text{F}$, $C_O = 1\text{ }\mu\text{F}$ unless otherwise specified).

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	$T_J = 25^\circ\text{C}$	-21.5	-22	-22.4	V
V_O	Output Voltage	$I_O = -5\text{ mA to }-1\text{ A}$ $P_O \leq 15\text{W}$ $V_I = -26\text{ to }-37\text{ V}$	-21.1	-22	-22.8	V
$\Delta V_O(^*)$	Line Regulation	$V_I = -25\text{ to }-37\text{ V}$ $T_J = 25^\circ\text{C}$			440	mV
		$V_I = -28\text{ to }-34\text{ V}$ $T_J = 25^\circ\text{C}$			220	
$\Delta V_O(^*)$	Load Regulation	$I_O = 5\text{ mA to }1.5\text{ A}$ $T_J = 25^\circ\text{C}$			440	mV
		$I_O = 250\text{ to }750\text{ mA}$ $T_J = 25^\circ\text{C}$			220	
I_d	Quiescent Current	$T_J = 25^\circ\text{C}$			3	mA
ΔI_d	Quiescent Current Change	$I_O = 5\text{ mA to }1\text{ A}$			0.5	mA
		$V_I = -26\text{ to }-37\text{ V}$			1	
$\Delta V_O/\Delta T$	Output Voltage Drift	$I_O = 5\text{ mA}$		-1.1		mV/ $^\circ\text{C}$
eN	Output Noise Voltage	$B = 10\text{Hz to }100\text{KHz}$ $T_J = 25^\circ\text{C}$		375		μV
SVR	Supply Voltage Rejection	$\Delta V_I = 10\text{ V}$ $f = 120\text{Hz}$	54	60		dB
V_d	Dropout Voltage	$I_O = 1\text{ A}$ $T_J = 25^\circ\text{C}$ $\Delta V_O = 100\text{ mV}$		1.1		V
I_{sc}	Short Circuit Current			1.1		A
I_{scp}	Short Circuit Peak Current	$T_J = 25^\circ\text{C}$		2.2		A

(*) Load and line regulation are specified at constant junction temperature. Changes in V_O due to heating effects must be taken into account separately. Pulse testing with low duty cycle is used.

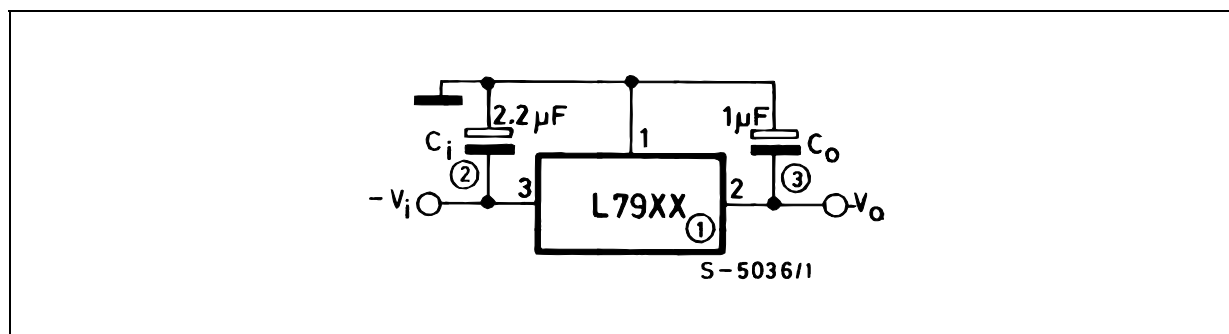
L7900AC SERIES

ELECTRICAL CHARACTERISTICS OF L7924A (refer to the test circuits, $T_J = 0$ to 125°C , $V_I = -33\text{V}$, $I_O = 500\text{ mA}$, $C_I = 2.2\text{ }\mu\text{F}$, $C_O = 1\text{ }\mu\text{F}$ unless otherwise specified).

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_O	Output Voltage	$T_J = 25^\circ\text{C}$	-23.5	-24	-24.5	V
V_O	Output Voltage	$I_O = -5\text{ mA to } -1\text{ A}$ $P_O \leq 15\text{ W}$ $V_I = -27\text{ to } -38\text{ V}$	-23	-24	-25	V
$\Delta V_O(*)$	Line Regulation	$V_I = -27\text{ to } -38\text{ V}$ $T_J = 25^\circ\text{C}$			480	mV
		$V_I = -30\text{ to } -36\text{ V}$ $T_J = 25^\circ\text{C}$			240	
$\Delta V_O(*)$	Load Regulation	$I_O = 5\text{ mA to } 1.5\text{ A}$ $T_J = 25^\circ\text{C}$			480	mV
		$I_O = 250\text{ to } 750\text{ mA}$ $T_J = 25^\circ\text{C}$			240	
I_d	Quiescent Current	$T_J = 25^\circ\text{C}$			3	mA
ΔI_d	Quiescent Current Change	$I_O = 5\text{ mA to } 1\text{ A}$			0.5	mA
		$V_I = -27\text{ to } -38\text{ V}$			1	
$\Delta V_O/\Delta T$	Output Voltage Drift	$I_O = 5\text{ mA}$		-1		mV/ $^\circ\text{C}$
eN	Output Noise Voltage	$B = 10\text{ Hz to } 100\text{ KHz}$ $T_J = 25^\circ\text{C}$		400		μV
SVR	Supply Voltage Rejection	$\Delta V_I = 10\text{ V}$ $f = 120\text{ Hz}$	54	60		dB
V_d	Dropout Voltage	$I_O = 1\text{ A}$ $T_J = 25^\circ\text{C}$ $\Delta V_O = 100\text{ mV}$		1.1		V
I_{sc}	Short Circuit Current			1.1		A
I_{scp}	Short Circuit Peak Current	$T_J = 25^\circ\text{C}$		2.2		A

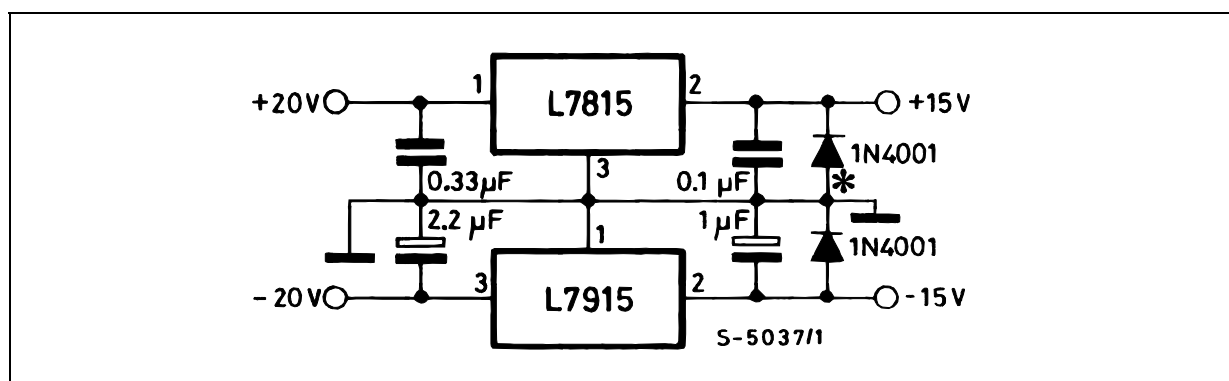
(*) Load and line regulation are specified at constant junction temperature. Changes in V_O due to heating effects must be taken into account separately. Pulse testing with low duty cycle is used.

APPLICATIONS INFORMATION

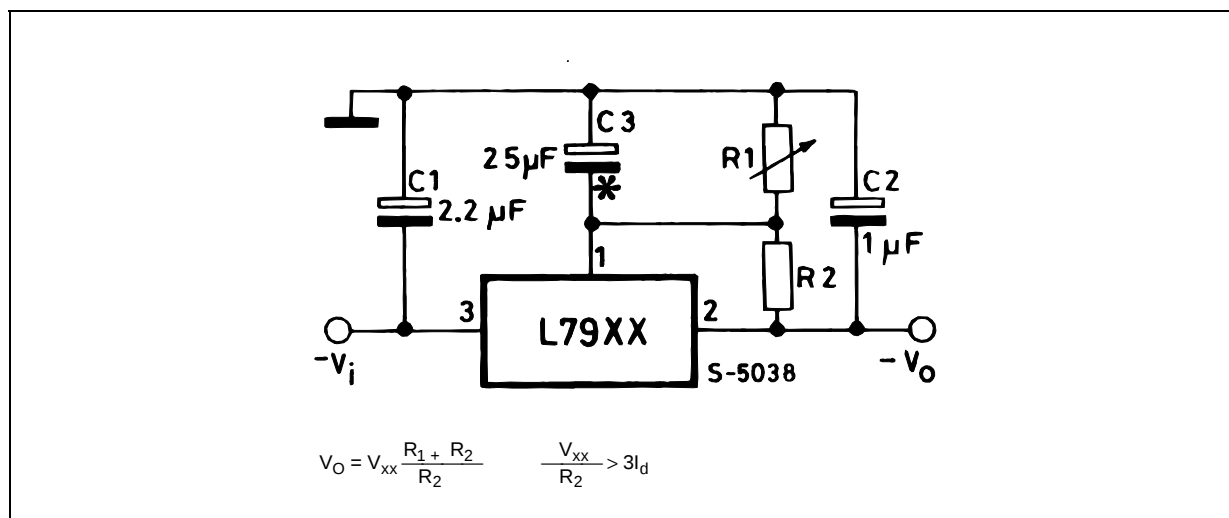
Figure 1 : Fixed Output Regulator

NOTE:

1. To specify an output voltage, substitute voltage value for "XX".
2. Required for stability. For value given, capacitor must be solid tantalum. If aluminium electrolytics are used, at least ten times value should be selected. C1 is required if regulator is located an appreciable distance from power supply filter.
3. To improve transient response. If large capacitors are used, a high current diode from input to output (1N4001 or similar) should be introduced to protect the device from momentary input short circuit.

Figure 2 : Split Power Supply ($\pm 15V/1A$)

Against potential latch-up problems.

Figure 3 : Circuit for Increasing Output Voltage

C3 Optional for improved transient response and ripple rejection.

Figure 4 : High Current Negative Regulator (-5V/4A with 5A current limiting)

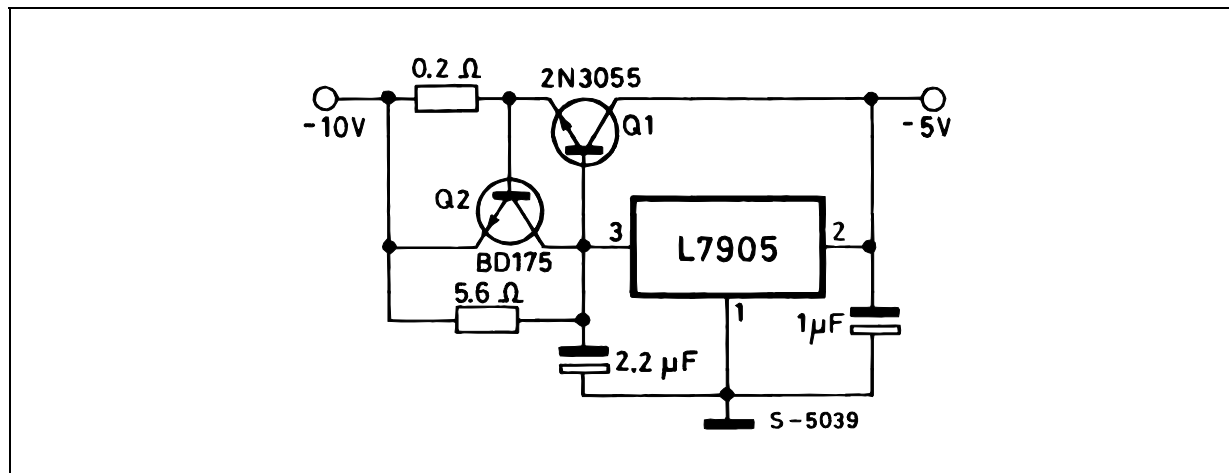
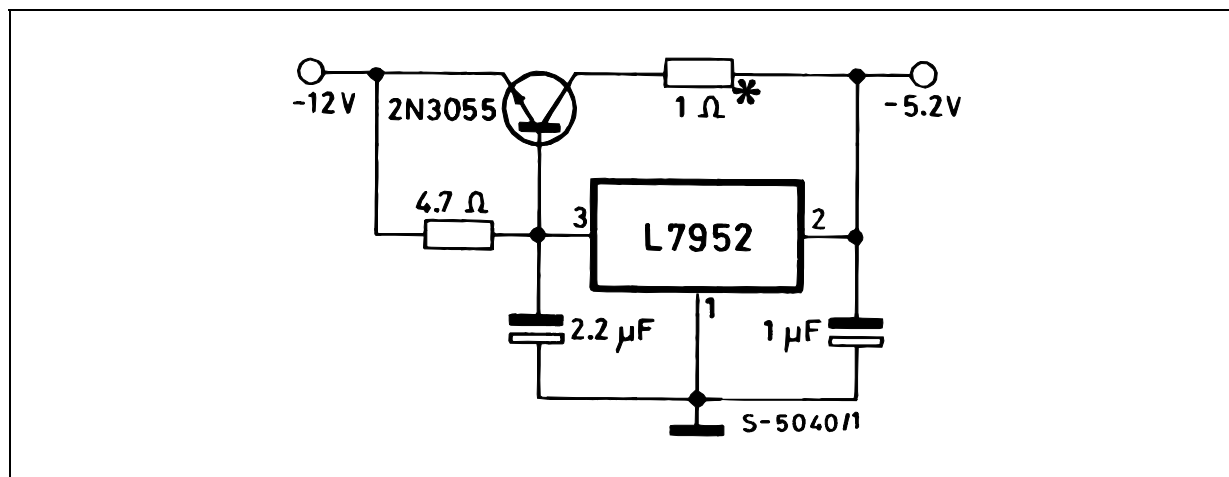


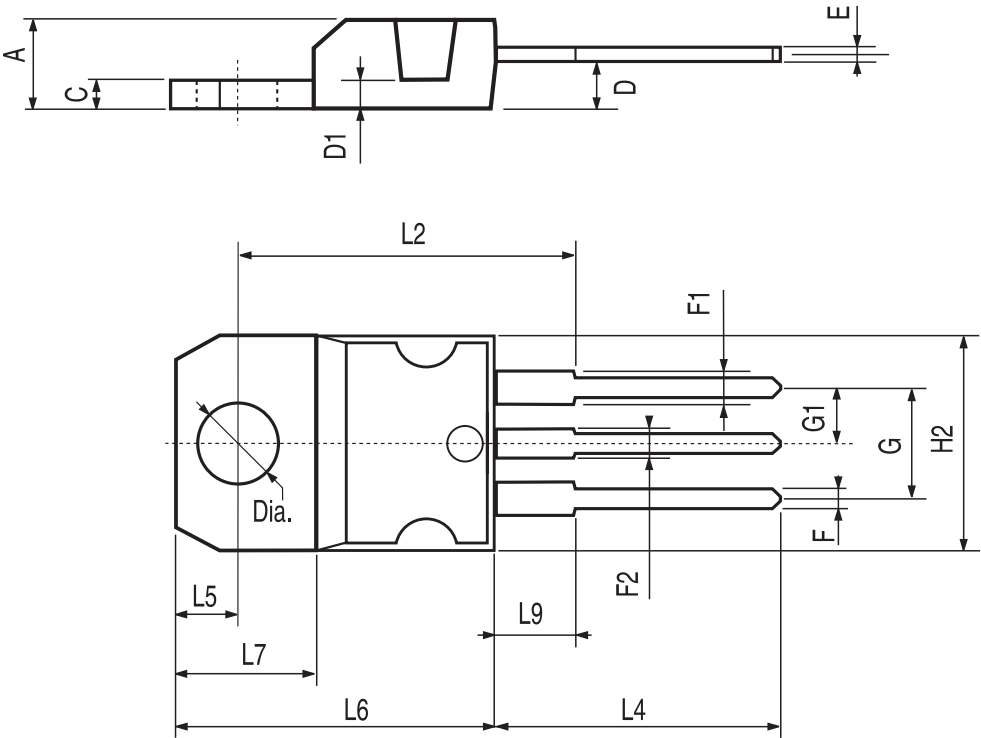
Figure 5 : Typical ECL System Power Supply (-5.2V/4A)



Optional dropping resistor to reduce the power dissipated in the boost transistor.

TO-220 MECHANICAL DATA

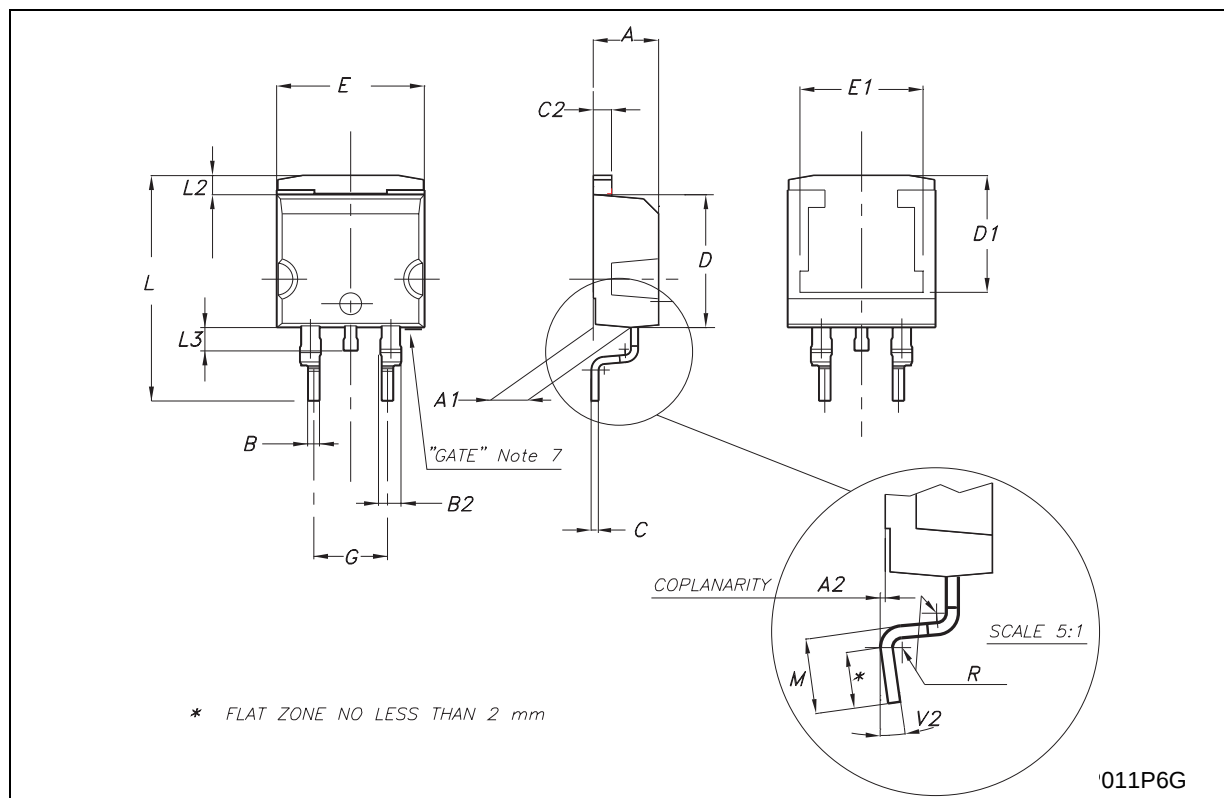
DIM.	mm.			inch		
	MIN.	TYP	MAX.	MIN.	TYP.	MAX.
A	4.40		4.60	0.173		0.181
C	1.23		1.32	0.048		0.051
D	2.40		2.72	0.094		0.107
D1		1.27			0.050	
E	0.49		0.70	0.019		0.027
F	0.61		0.88	0.024		0.034
F1	1.14		1.70	0.044		0.067
F2	1.14		1.70	0.044		0.067
G	4.95		5.15	0.194		0.203
G1	2.4		2.7	0.094		0.106
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

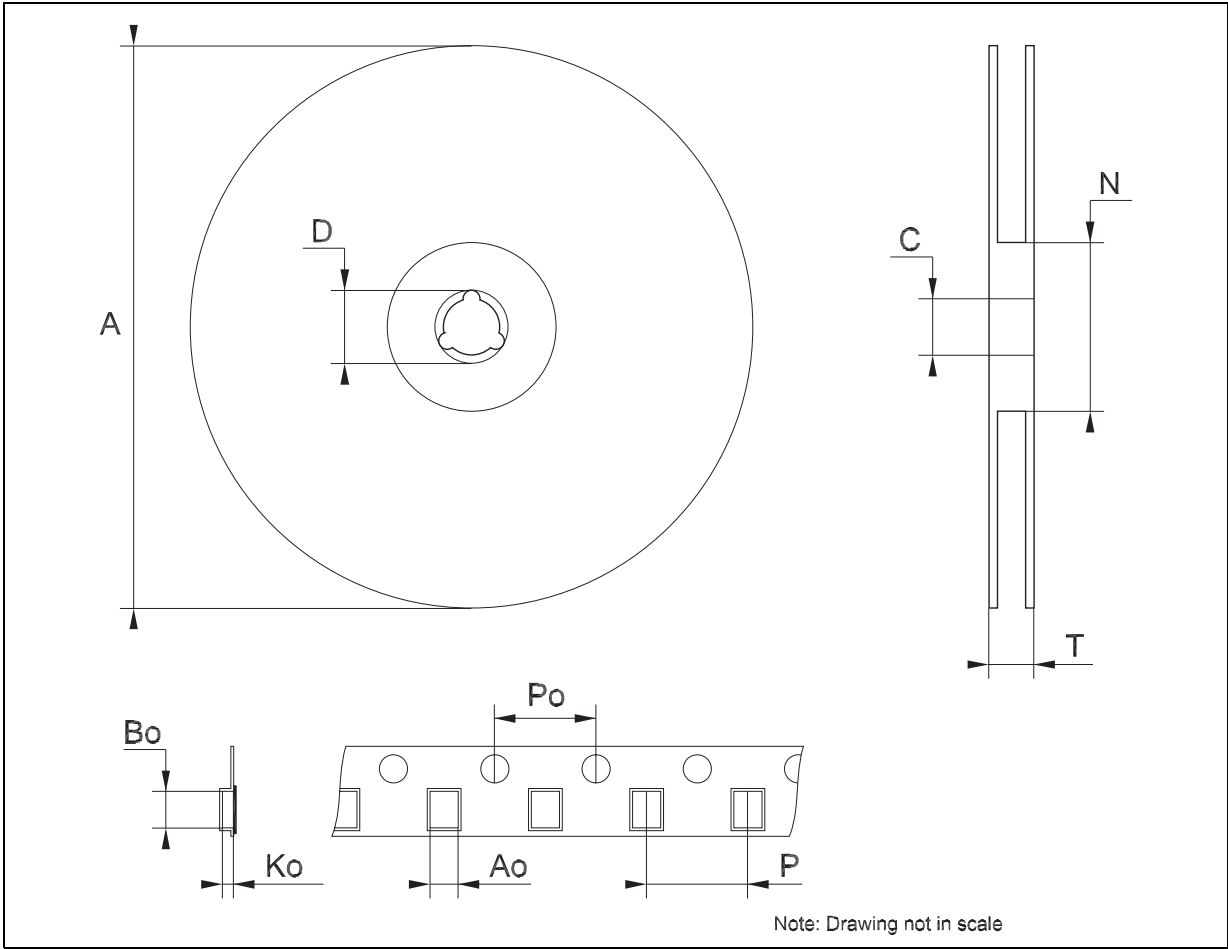
D²PAK MECHANICAL DATA

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°



Tape & Reel D²PAK-P²PAK-D²PAK/A-P²PAK/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



Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

© The ST logo is a registered trademark of STMicroelectronics

© 2003 STMicroelectronics - Printed in Italy - All Rights Reserved
STMicroelectronics GROUP OF COMPANIES

Australia - Brazil - Canada - China - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco
Singapore - Spain - Sweden - Switzerland - United Kingdom - United States.

© <http://www.st.com>

