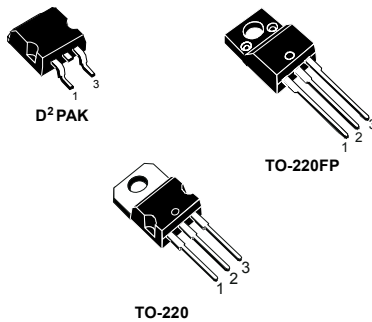


Negative voltage regulators



Features

- Output current up to 1.5 A
- Output voltages: -5, -8, -12, and -5 V
- Thermal overload protection
- Short-circuit protection
- Output SOA protection
- Output tolerance 2% (AC version) or 4% (C version) at 25 °C

Description

The **L79** series of three-terminal negative regulators is available in TO-220, TO-220FP and D²PAK packages and several fixed output voltages, making it useful in a wide range of applications.

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 L78 positive standard series, they are particularly suited for split power supplies. If adequate heat sinking is provided, they can deliver over 1.5 A output current.

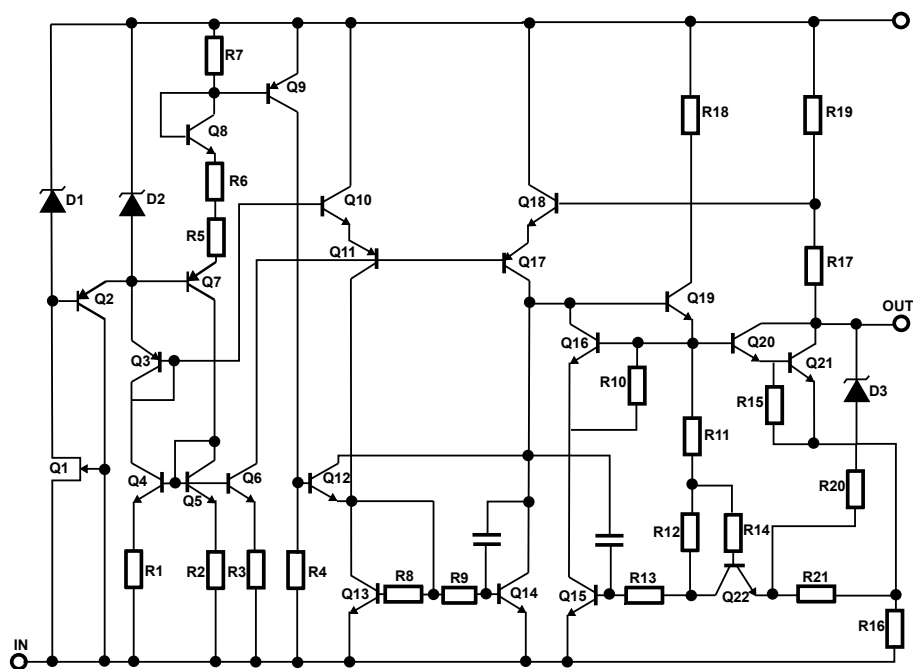
Although designed primarily as fixed voltage regulators, these devices can be used with external components to obtain adjustable voltages and currents.

Maternity status link

[L79](#)

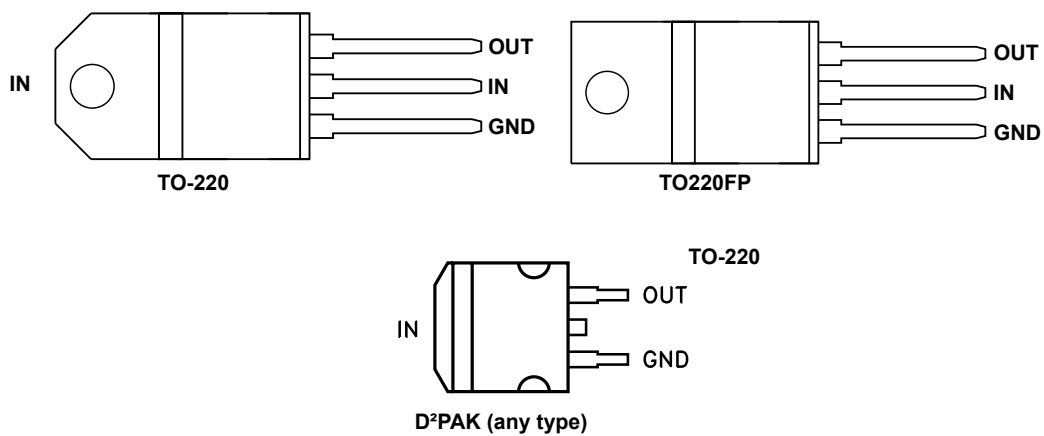
1 Diagram

Figure 1. Schematic diagram



2 Pin configuration

Figure 2. Pin connections (top view)



3 Maximum ratings

Table 1. Absolute maximum ratings

Symbol	Parameter		Value	Unit
V_I	DC input voltage		-35	V
I_O	Output current		Internally limited	
P_D	Power dissipation		Internally limited	
T_{STG}	Storage temperature range		-65 to 150	°C
T_{OP}	Operating junction temperature range	for L79xxC	0 to 150	°C
		for L79xxAC	0 to 125	

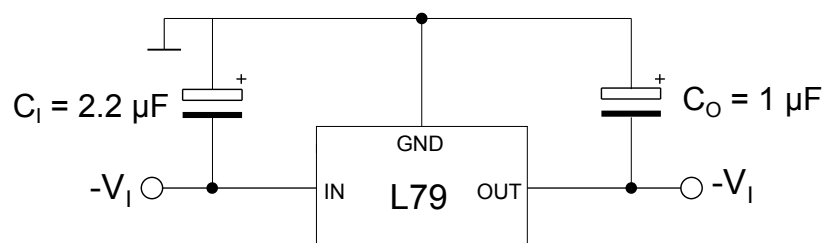
Note: *Note: Absolute maximum ratings are those values beyond which damage to the device may occur. Functional operation under these condition is not implied.*

Table 2. Thermal data

Symbol	Parameter	D ² PAK	TO-220	TO-220FP	Unit
R_{thJC}	Thermal resistance junction-case	3	5	5	°C/W
R_{thJA}	Thermal resistance junction-ambient	62.5	50	60	°C/W

4 Test circuit

Figure 3. Test circuit



5 Electrical characteristics

Refer to the test circuits, $T_J = 0$ to $125\text{ }^{\circ}\text{C}$, $V_I = -10\text{ V}$, $I_O = 500\text{ mA}$, $C_I = 2.2\text{ }\mu\text{F}$, $C_O = 1\text{ }\mu\text{F}$ unless otherwise specified.

Table 3. Electrical characteristics of L7905AC

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
V_O	Output voltage	$T_J = 25\text{ }^{\circ}\text{C}$	-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
$\Delta V_O^{(1)}$	Line regulation	$V_I = -7\text{ to } -25\text{ V}$, $T_J = 25\text{ }^{\circ}\text{C}$			100	mV
		$V_I = -8\text{ to } -12\text{ V}$, $T_J = 25\text{ }^{\circ}\text{C}$			50	
$\Delta V_O^{(1)}$	Load regulation	$I_O = 5\text{ mA to } 1.5\text{ A}$, $T_J = 25\text{ }^{\circ}\text{C}$			100	mV
		$I_O = 250\text{ to } 750\text{ mA}$, $T_J = 25\text{ }^{\circ}\text{C}$			50	
I_d	Quiescent current	$T_J = 25\text{ }^{\circ}\text{C}$			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	
$\Delta V_O/\Delta V_T$	Output voltage drift	$I_O = 5\text{ mA}$		-0.4		mV/ $^{\circ}\text{C}$
eN	Output noise voltage	$B = 10\text{ Hz to } 100\text{ kHz}$, $T_J = 25\text{ }^{\circ}\text{C}$		100		μV
SVR	Supply voltage rejection	$\Delta V_I = 10\text{ V}$, $f = 120\text{ Hz}$	54	60		dB
V_d	Dropout voltage	$I_O = 1\text{ A}$, $T_J = 25\text{ }^{\circ}\text{C}$, $\Delta V_O = 100\text{ mV}$		1.4		V
I_{sc}	Short circuit current			1.8		A
I_{scp}	Short circuit peak current	$T_J = 25\text{ }^{\circ}\text{C}$		1.8		A

1. 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.

Refer to the test circuits, $T_J = 0$ to $125\text{ }^{\circ}\text{C}$, $V_I = -10\text{ V}$, $I_O = 500\text{ mA}$, $C_I = 2.2\text{ }\mu\text{F}$, $C_O = 1\text{ }\mu\text{F}$ unless otherwise specified.

Table 4. Electrical characteristics of L7905C

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
V_O	Output voltage	$T_J = 25\text{ }^{\circ}\text{C}$	-4.8	-5	-5.2	V
V_O	Output voltage	$I_O = -5\text{ mA to } -1\text{ A}$, $P_O \leq 15\text{ W}$ $V_I = -8\text{ to } -20\text{ V}$	-4.75	-5	-5.25	V
$\Delta V_O^{(1)}$	Line regulation	$V_I = -7\text{ to } -25\text{ V}$, $T_J = 25\text{ }^{\circ}\text{C}$			100	mV
		$V_I = -8\text{ to } -12\text{ V}$, $T_J = 25\text{ }^{\circ}\text{C}$			50	
$\Delta V_O^{(1)}$	Load regulation	$I_O = 5\text{ mA to } 1.5\text{ A}$, $T_J = 25\text{ }^{\circ}\text{C}$			100	mV
		$I_O = 250\text{ to } 750\text{ mA}$, $T_J = 25\text{ }^{\circ}\text{C}$			50	
I_d	Quiescent current	$T_J = 25\text{ }^{\circ}\text{C}$			3	mA

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
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/°C
eN	Output noise voltage	$B = 10 \text{ Hz to } 100 \text{ kHz}, T_J = 25 \text{ °C}$		100		μV
SVR	Supply voltage rejection	$\Delta V_I = 10 \text{ V}, f = 120 \text{ Hz}$	54	60		dB
V_d	Dropout voltage	$I_O = 1 \text{ A}, T_J = 25 \text{ °C}, \Delta V_O = 100 \text{ mV}$		1.4		V
I_{sc}	Short circuit current			1.8		A

1. 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.

Refer to the test circuits, $T_J = 0 \text{ to } 125 \text{ °C}$, $V_I = -14 \text{ V}$, $I_O = 500 \text{ mA}$, $C_I = 2.2 \text{ μF}$, $C_O = 1 \text{ μF}$ unless otherwise specified.

Table 5. Electrical characteristics of L7908C

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
V_O	Output voltage	$T_J = 25 \text{ °C}$	-7.7	-8	-8.3	V
V_O	Output voltage	$I_O = -5 \text{ mA to } -1 \text{ A}, P_O \leq 15 \text{ W}$ $V_I = -11.5 \text{ to } -23 \text{ V}$	-7.6	-8	-8.4	V
$\Delta V_O^{(1)}$	Line regulation	$V_I = -10.5 \text{ to } -25 \text{ V}, T_J = 25 \text{ °C}$			160	mV
		$V_I = -11 \text{ to } -17 \text{ V}, T_J = 25 \text{ °C}$			80	
$\Delta V_O^{(1)}$	Load regulation	$I_O = 5 \text{ mA to } 1.5 \text{ A}, T_J = 25 \text{ °C}$			160	mV
		$I_O = 250 \text{ to } 750 \text{ mA}, T_J = 25 \text{ °C}$			80	
I_d	Quiescent current	$T_J = 25 \text{ °C}$			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/°C
eN	Output noise voltage	$B = 10 \text{ Hz to } 100 \text{ kHz}, T_J = 25 \text{ °C}$		175		μV
SVR	Supply voltage rejection	$\Delta V_I = 10 \text{ V}, f = 120 \text{ Hz}$	54	60		dB
V_d	Dropout voltage	$I_O = 1 \text{ A}, T_J = 25 \text{ °C}, \Delta V_O = 100 \text{ mV}$		1.1		V
I_{sc}	Short circuit current			1.5		A

1. 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.

Refer to the test circuits, $T_J = 0$ to $125\text{ }^{\circ}\text{C}$, $V_I = -19\text{ V}$, $I_O = 500\text{ mA}$, $C_I = 2.2\text{ }\mu\text{F}$, $C_O = 1\text{ }\mu\text{F}$ unless otherwise specified.

Table 6. Electrical characteristics of L7912AC

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
V_O	Output voltage	$T_J = 25\text{ }^{\circ}\text{C}$	-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
$\Delta V_O^{(1)}$	Line regulation	$V_I = -14.5\text{ to } -30\text{ V}$, $T_J = 25\text{ }^{\circ}\text{C}$			240	mV
		$V_I = -16\text{ to } -22\text{ V}$, $T_J = 25\text{ }^{\circ}\text{C}$			120	
$\Delta V_O^{(1)}$	Load regulation	$I_O = 5\text{ mA to } 1.5\text{ A}$, $T_J = 25\text{ }^{\circ}\text{C}$			240	mV
		$I_O = 250\text{ to } 750\text{ mA}$, $T_J = 25\text{ }^{\circ}\text{C}$			120	
I_d	Quiescent current	$T_J = 25\text{ }^{\circ}\text{C}$			3	mA
ΔI_d	Quiescent current change	$I_O = 5\text{ mA to } 1\text{ A}$			0.5	mA
		$V_I = -15\text{ to } -30\text{ V}$			1	
$\Delta V_O/\Delta T$	Output voltage drift	$I_O = 5\text{ mA}$		-0.8		mV/ $^{\circ}\text{C}$
eN	Output noise voltage	$B = 10\text{ Hz to } 100\text{ kHz}$, $T_J = 25\text{ }^{\circ}\text{C}$		200		μV
SVR	Supply voltage rejection	$\Delta V_I = 10\text{ V}$, $f = 120\text{ Hz}$	54	60		dB
V_d	Dropout voltage	$I_O = 1\text{ A}$, $T_J = 25\text{ }^{\circ}\text{C}$, $\Delta V_O = 100\text{ mV}$		1.1		V
I_{sc}	Short circuit current			1.0		A
I_{scp}	Short circuit peak current	$T_J = 25\text{ }^{\circ}\text{C}$, $V_I = -10\text{ V}$		1.8		A

1. 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.

Refer to the test circuits, $T_J = 0$ to $125\text{ }^{\circ}\text{C}$, $V_I = -19\text{ V}$, $I_O = 500\text{ mA}$, $C_I = 2.2\text{ }\mu\text{F}$, $C_O = 1\text{ }\mu\text{F}$ unless otherwise specified.

Table 7. Electrical characteristics of L7912C

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
V_O	Output voltage	$T_J = 25\text{ }^{\circ}\text{C}$	-11.5	-12	-12.5	V
V_O	Output voltage	$I_O = -5\text{ mA to } -1\text{ A}$, $P_O \leq 15\text{ W}$ $V_I = -15.5\text{ to } -27\text{ V}$	-11.4	-12	-12.6	V
$\Delta V_O^{(1)}$	Line regulation	$V_I = -14.5\text{ to } -30\text{ V}$, $T_J = 25\text{ }^{\circ}\text{C}$			240	mV
		$V_I = -16\text{ to } -22\text{ V}$, $T_J = 25\text{ }^{\circ}\text{C}$			120	
$\Delta V_O^{(1)}$	Load regulation	$I_O = 5\text{ mA to } 1.5\text{ A}$, $T_J = 25\text{ }^{\circ}\text{C}$			240	mV
		$I_O = 250\text{ to } 750\text{ mA}$, $T_J = 25\text{ }^{\circ}\text{C}$			120	
I_d	Quiescent current	$T_J = 25\text{ }^{\circ}\text{C}$			3	mA

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
ΔI_d	Quiescent current change	$I_O = 5 \text{ mA to } 1 \text{ A}$			0.5	mA
		$V_I = -15 \text{ to } -30 \text{ V}$			1	
$\Delta V_O/\Delta T$	Output voltage drift	$I_O = 5 \text{ mA}$		-0.8		mV/°C
eN	Output noise voltage	$B = 10 \text{ Hz to } 100 \text{ kHz}, T_J = 25 \text{ °C}$		200		μV
SVR	Supply voltage rejection	$\Delta V_I = 10 \text{ V}, f = 120 \text{ Hz}$	54	60		dB
V_d	Dropout voltage	$I_O = 1 \text{ A}, T_J = 25 \text{ °C}, \Delta V_O = 100 \text{ mV}$		1.1		V
I_{sc}	Short circuit current			1.0		A

1. 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.

Refer to the test circuits, $T_J = 0 \text{ to } 125 \text{ °C}$, $V_I = -23 \text{ V}$, $I_O = 500 \text{ mA}$, $C_I = 2.2 \text{ μF}$, $C_O = 1 \text{ μF}$ unless otherwise specified.

Table 8. Electrical characteristics of L7915AC

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
V_O	Output voltage	$T_J = 25 \text{ °C}$	-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
$\Delta V_O^{(1)}$	Line regulation	$V_I = -17.5 \text{ to } -30 \text{ V}, T_J = 25 \text{ °C}$			300	mV
		$V_I = -20 \text{ to } -26 \text{ V}, T_J = 25 \text{ °C}$			150	
$\Delta V_O^{(1)}$	Load regulation	$I_O = 5 \text{ mA to } 1.5 \text{ A}, T_J = 25 \text{ °C}$			300	mV
		$I_O = 250 \text{ to } 750 \text{ mA}, T_J = 25 \text{ °C}$			150	
I_d	Quiescent current	$T_J = 25 \text{ °C}$			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/°C
eN	Output noise voltage	$B = 10 \text{ Hz to } 100 \text{ kHz}, T_J = 25 \text{ °C}$		250		μV
SVR	Supply voltage rejection	$\Delta V_I = 10 \text{ V}, f = 120 \text{ Hz}$	54	60		dB
V_d	Dropout voltage	$I_O = 1 \text{ A}, T_J = 25 \text{ °C},$ $\Delta V_O = 100 \text{ mV}$		1.1		V
I_{sc}	Short circuit current			0.7		A
I_{scp}	Short circuit peak current	$T_J = 25 \text{ °C}, V_I = -10 \text{ V}$		1.8		A

1. 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.

Refer to the test circuits, $T_J = 0$ to $125\text{ }^{\circ}\text{C}$, $V_I = -23\text{ V}$, $I_O = 500\text{ mA}$, $C_I = 2.2\text{ }\mu\text{F}$, $C_O = 1\text{ }\mu\text{F}$ unless otherwise specified.

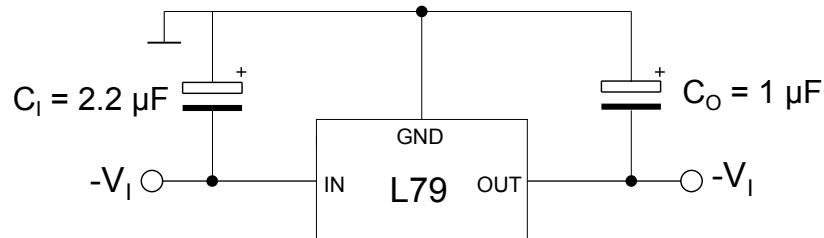
Table 9. Electrical characteristics of L7915C

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
V_O	Output voltage	$T_J = 25\text{ }^{\circ}\text{C}$	-14.4	-15	-15.6	V
V_O	Output voltage	$I_O = -5\text{ mA to }-1\text{ A}$, $P_O \leq 15\text{ W}$ $V_I = -18.5\text{ to }-30\text{ V}$	-14.3	-15	-15.7	V
$\Delta V_O^{(1)}$	Line regulation	$V_I = -17.5\text{ to }-30\text{ V}$, $T_J = 25\text{ }^{\circ}\text{C}$			300	mV
		$V_I = -20\text{ to }-26\text{ V}$, $T_J = 25\text{ }^{\circ}\text{C}$			150	
$\Delta V_O^{(1)}$	Load regulation	$I_O = 5\text{ mA to }1.5\text{ A}$, $T_J = 25\text{ }^{\circ}\text{C}$			300	mV
		$I_O = 250\text{ to }750\text{ mA}$, $T_J = 25\text{ }^{\circ}\text{C}$			150	
I_d	Quiescent current	$T_J = 25\text{ }^{\circ}\text{C}$			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	$B = 10\text{ Hz to }100\text{ kHz}$, $T_J = 25\text{ }^{\circ}\text{C}$		250		μV
SVR	Supply voltage rejection	$\Delta V_I = 10\text{ V}$, $f = 120\text{ Hz}$	54	60		dB
V_d	Dropout voltage	$I_O = 1\text{ A}$, $T_J = 25\text{ }^{\circ}\text{C}$, $\Delta V_O = 100\text{ mV}$		1.1		V
I_{sc}	Short circuit current			0.7		A

1. 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.

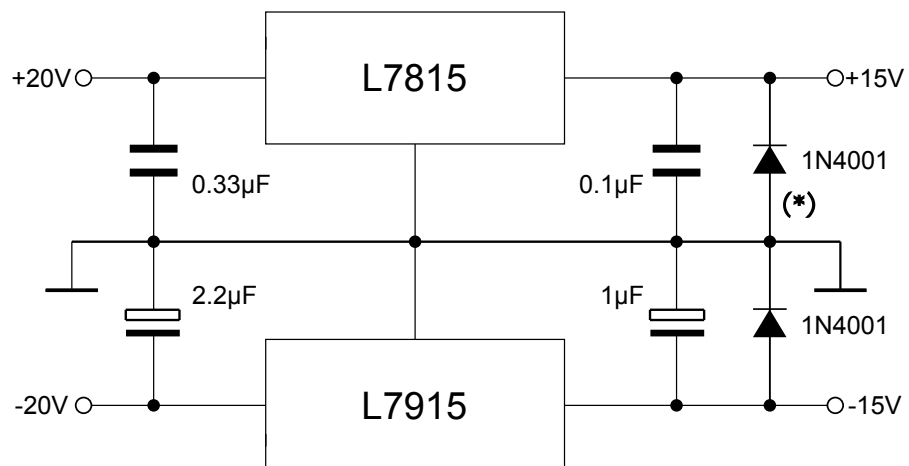
6 Application information

Figure 4. Fixed output regulator

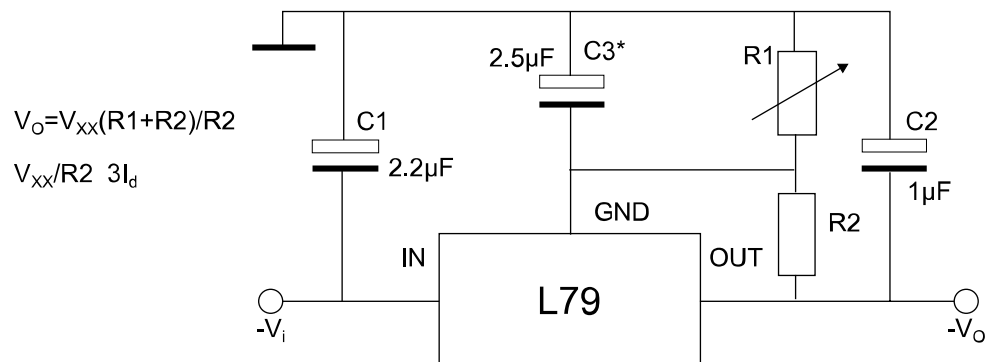


Note: C_I is required for stability. For value given, capacitor must be solid tantalum. If aluminium electrolytic are used, at least ten times value should be selected. C_O is required if regulator is located an appreciable distance from power supply filter. To improve transient response. If large capacitors 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.

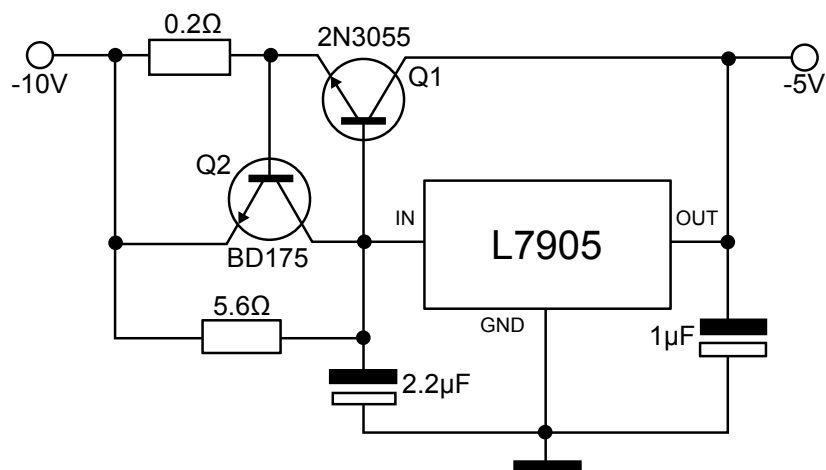
Figure 5. Split power supply (± 15 V - 1 A)



* Against potential latch-up problems

Figure 6. Circuit for increasing output voltage


* C3 Optional for improved transient response and ripple rejection.

Figure 7. High current negative regulator (-5 V / 4 A with 5 A current limiting)


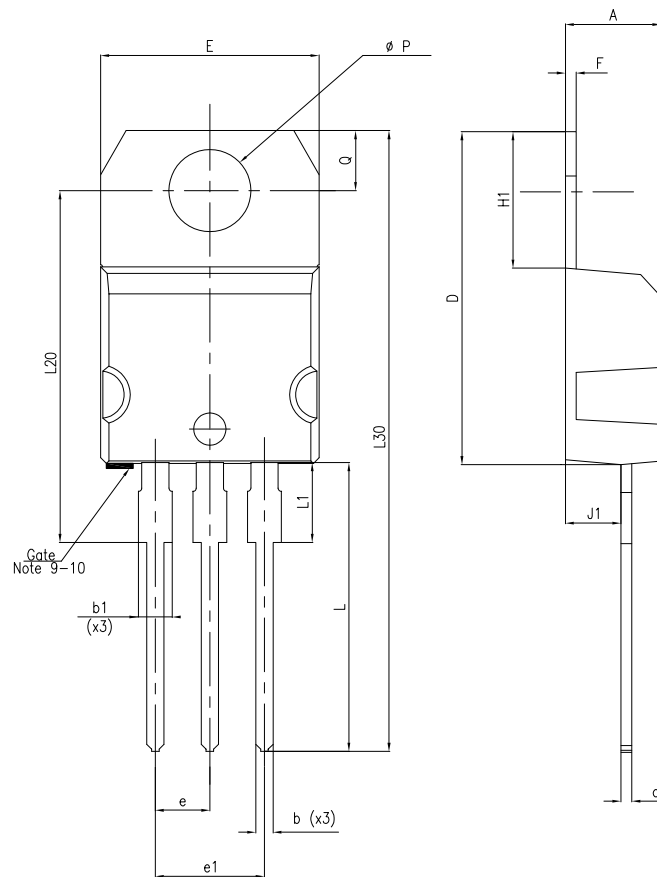
7 Package information

In order to meet environmental requirements, ST offers these devices in different grades of ECOPACK® packages, depending on their level of environmental compliance. ECOPACK® specifications, grade definitions and product status are available at: www.st.com.

ECOPACK® is an ST trademark.

7.1 TO-220 (single gauge) package information

Figure 8. TO-220 (single gauge) package outline



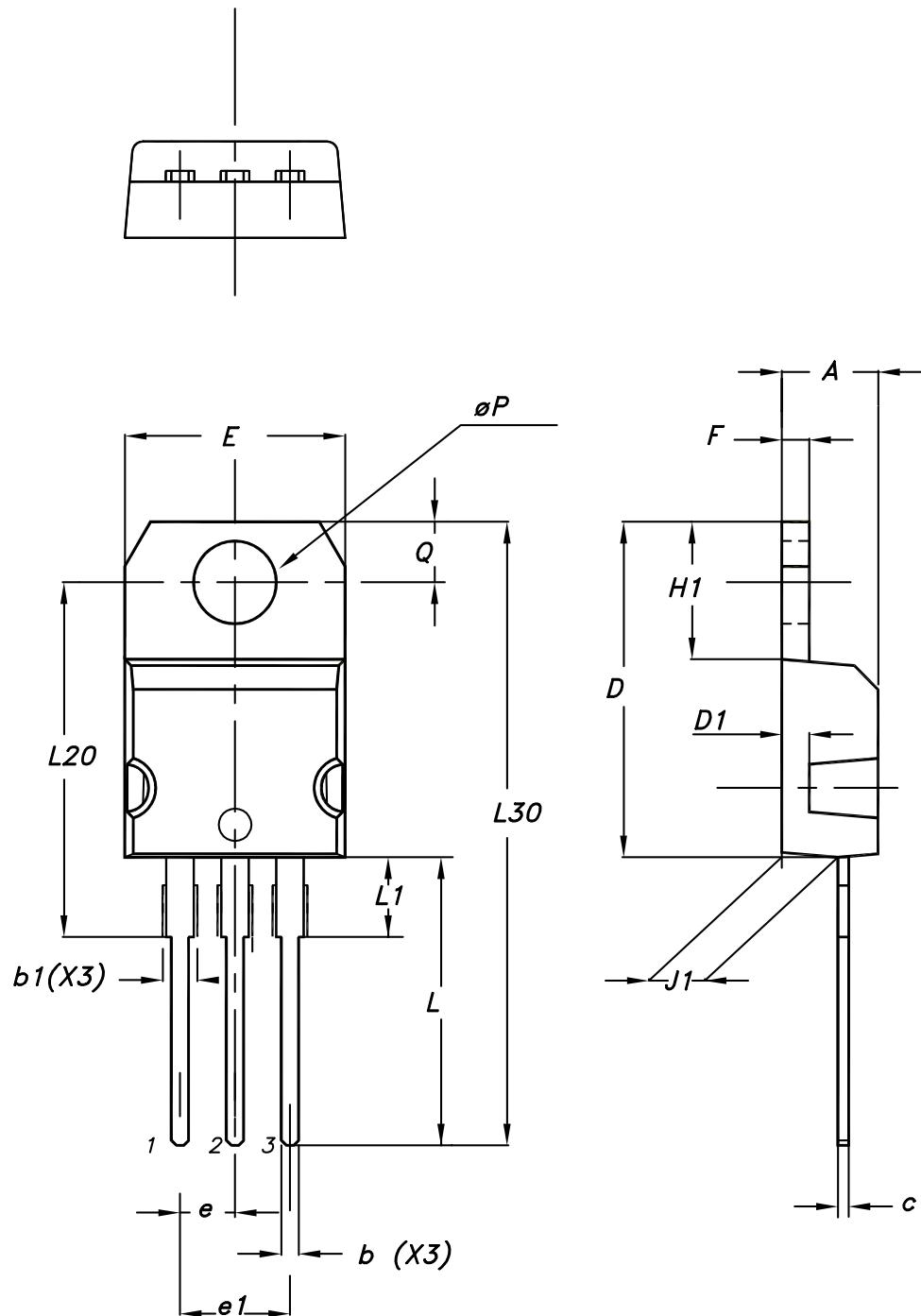
8174627 Rev 6

Table 10. TO-220 (single gauge) package mechanical data

Dim.	mm		
	Min.	Typ.	Max.
A	4.40		4.60
b	0.61		0.88
b1	1.14		1.70
c	0.48		0.70
D	15.25		15.75
E	10.00		10.40
e	2.40		2.70
e1	4.95		5.15
F	0.51		0.60
H1	6.20		6.60
J1	2.40		2.72
L	13.00		14.00
L1	3.50		3.93
L20		16.40	
L30		28.90	
ΦP	3.75		3.85
Q	2.65		2.95

7.2 TO-220 (dual gauge) package information

Figure 9. TO-220 type A package outline



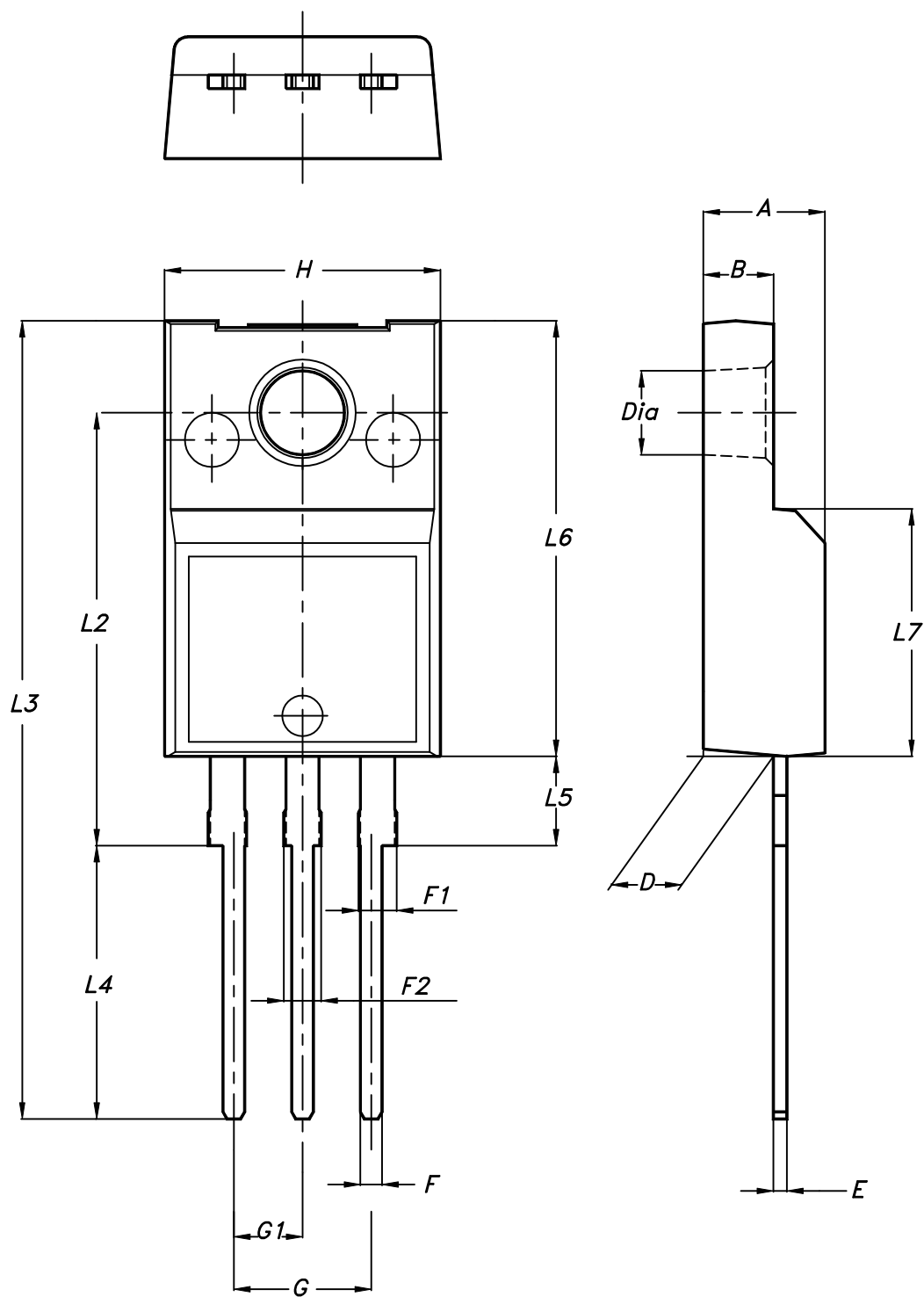
0015988_typeA_Rev_22

Table 11. TO-220 type A package mechanical data

Dim.	mm		
	Min.	Typ.	Max.
A	4.40		4.60
b	0.61		0.88
b1	1.14		1.55
c	0.48		0.70
D	15.25		15.75
D1		1.27	
E	10.00		10.40
e	2.40		2.70
e1	4.95		5.15
F	1.23		1.32
H1	6.20		6.60
J1	2.40		2.72
L	13.00		14.00
L1	3.50		3.93
L20		16.40	
L30		28.90	
øP	3.75		3.85
Q	2.65		2.95

7.3 TO-220FP package information

Figure 10. TO-220FP package outline



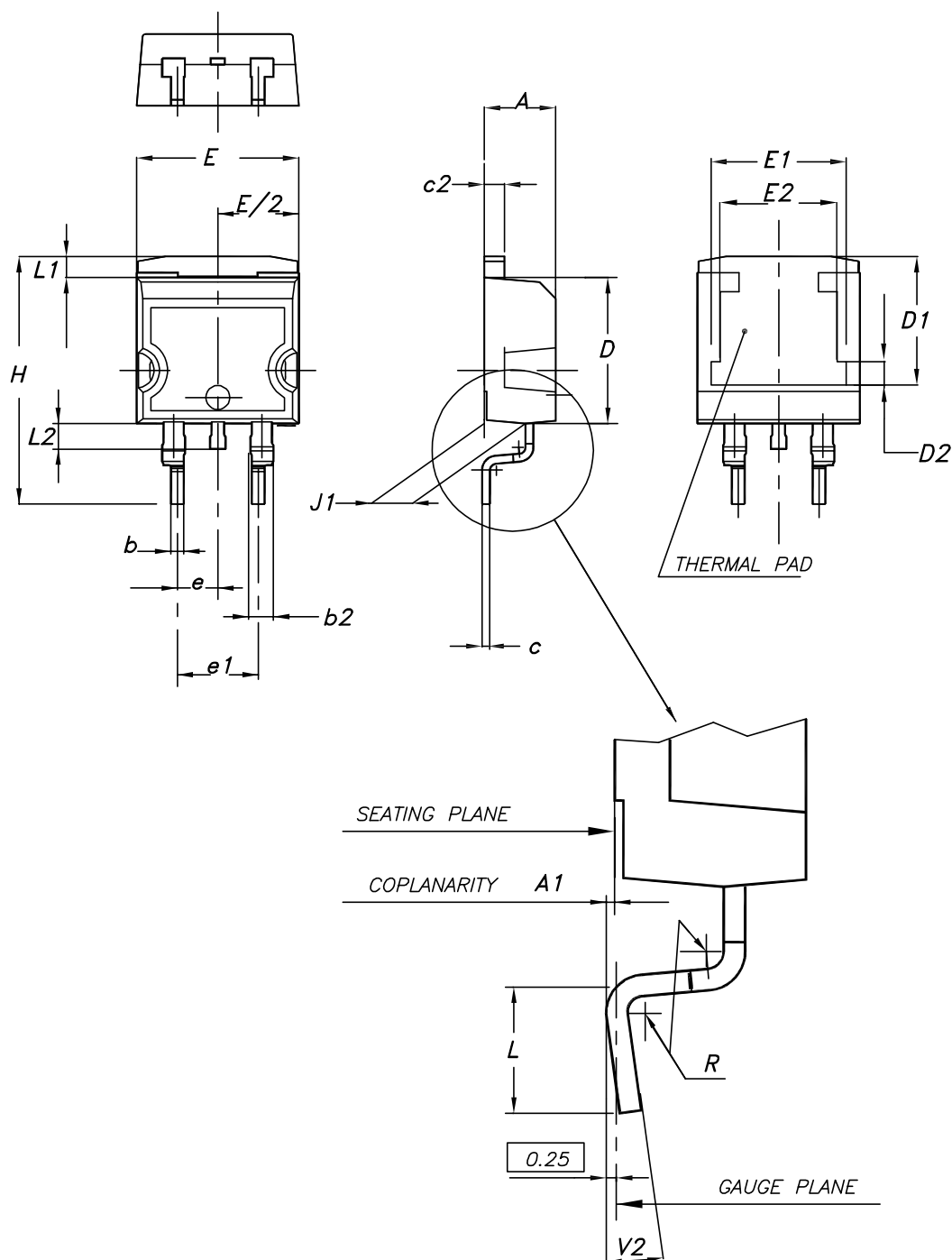
7012510_Rev_12_B

Table 12. TO-220FP package mechanical data

Dim.	mm		
	Min.	Typ.	Max.
A	4.4		4.6
B	2.5		2.7
D	2.5		2.75
E	0.45		0.7
F	0.75		1
F1	1.15		1.70
F2	1.15		1.70
G	4.95		5.2
G1	2.4		2.7
H	10		10.4
L2		16	
L3	28.6		30.6
L4	9.8		10.6
L5	2.9		3.6
L6	15.9		16.4
L7	9		9.3
Dia	3		3.2

7.4 D²PAK (TO-263) type A package information

Figure 11. D²PAK (TO-263) type A package outline

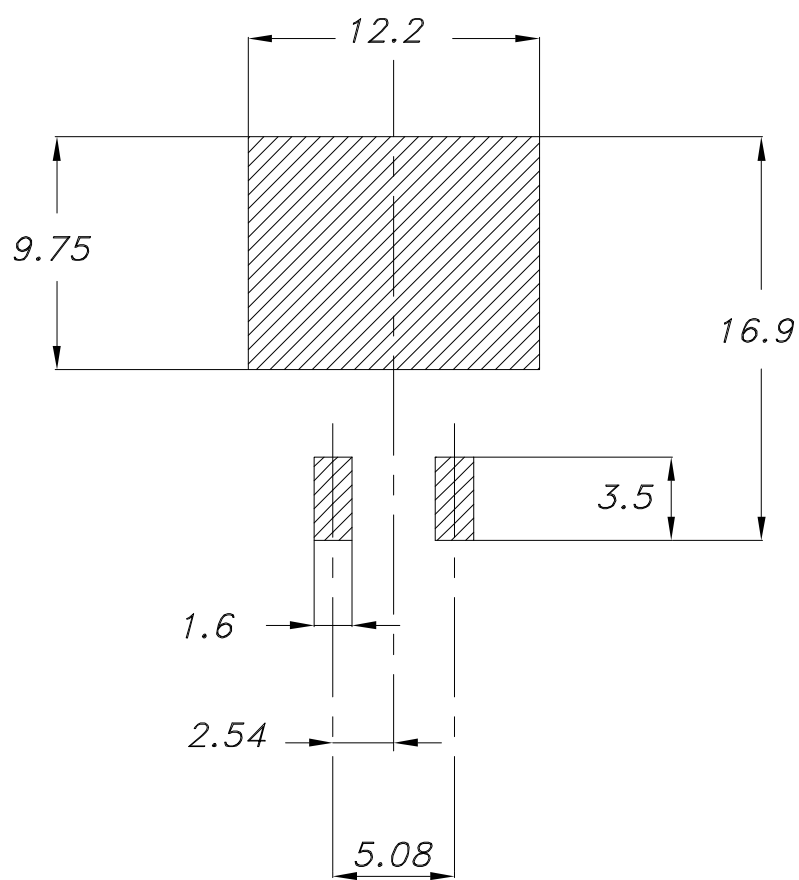


0079457_25

Table 13. D²PAK (TO-263) type A package mechanical data

Dim.	mm		
	Min.	Typ.	Max.
A	4.40		4.60
A1	0.03		0.23
b	0.70		0.93
b2	1.14		1.70
c	0.45		0.60
c2	1.23		1.36
D	8.95		9.35
D1	7.50	7.75	8.00
D2	1.10	1.30	1.50
E	10.00		10.40
E1	8.30	8.50	8.70
E2	6.85	7.05	7.25
e		2.54	
e1	4.88		5.28
H	15.00		15.85
J1	2.49		2.69
L	2.29		2.79
L1	1.27		1.40
L2	1.30		1.75
R		0.40	
V2	0°		8°

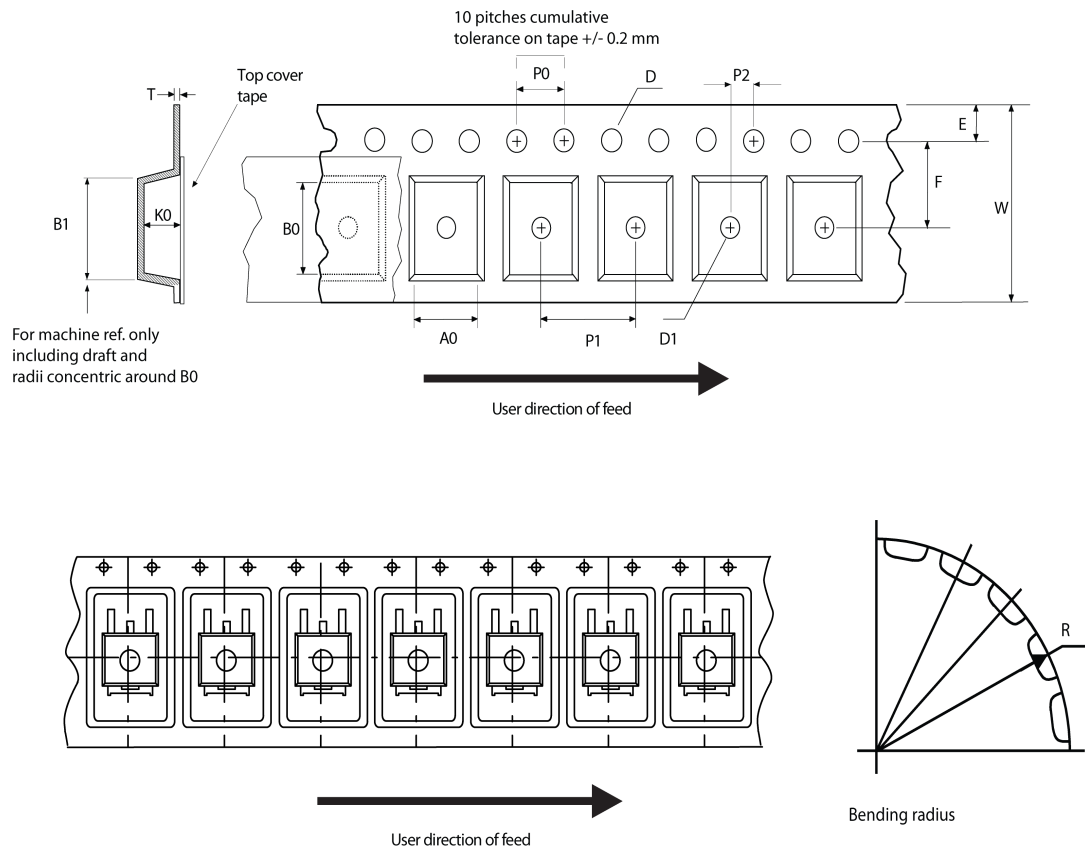
Figure 12. D²PAK (TO-263) recommended footprint (dimensions are in mm)



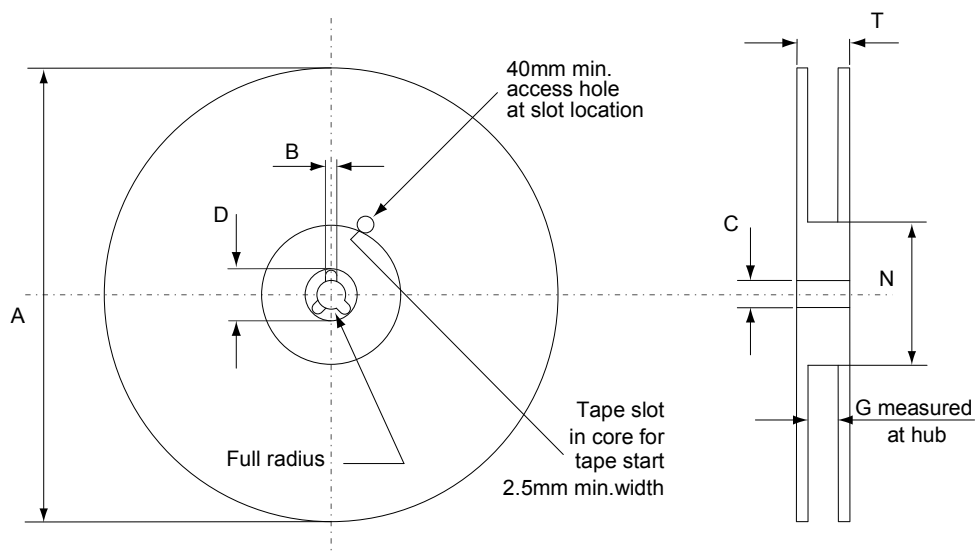
Footprint

7.5 D²PAK packing information

Figure 13. D²PAK tape outline



AM08852v1

Figure 14. D²PAK reel outline


AM06038v1

Table 14. D²PAK tape and reel mechanical data

Tape			Reel		
Dim.	mm		Dim.	mm	
	Min.	Max.		Min.	Max.
A0	10.5	10.7	A		330
B0	15.7	15.9	B	1.5	
D	1.5	1.6	C	12.8	13.2
D1	1.59	1.61	D	20.2	
E	1.65	1.85	G	24.4	26.4
F	11.4	11.6	N	100	
K0	4.8	5.0	T		30.4
P0	3.9	4.1			
P1	11.9	12.1	Base quantity		1000
P2	1.9	2.1	Bulk quantity		1000
R	50				
T	0.25	0.35			
W	23.7	24.3			

8 Device summary

Table 15. Order codes

TO-220 (single gauge)	TO-220 (dual gauge)	D ² PAK	TO-220FP	Output voltages
L7905ACV	L7905ACV-DG	L7905ACD2T-TR		-5 V
L7905CV	L7905CV-DG	L7905CD2T-TR	L7905CP	-5 V
L7908CV	L7908CV-DG			-8 V
L7912ACV	L7912ACV-DG			-12 V
L7912CV	L7912CV-DG	L7912CD2T-TR	L7912CP	-12 V
L7915ACV	L7915ACV-DG			-15 V
L7915CV	L7915CV-DG		L7915CP	-15 V

Revision history

Table 16. Document revision history

Date	Revision	Changes
22-Jun-2004	9	Order codes updated Table 3.
31-Aug-2005	10	Add new order codes (TO-220 E Type) on Table 3.
19-Jan-2007	11	D ² PAK mechanical data updated and add footprint data.
06-Jun-2007	12	Order codes updated.
25-Oct-2007	13	Modified: Figure 3, Figure 4, Figure 6 and Figure 7.
05-Dec-2007	14	Modified: Table 1.
18-Feb-2008	15	Modified: Table 1 on page 1.
15-Jul-2008	16	Modified: Table 1 on page 1.
19-Jan-2010	17	Modified: Table 11 on page 14, added: Figure 8 on page 16, Figure 9 on page 17, Figure 10 and Figure 11 on page 18.
26-May-2010	18	Modified: VI parameter Table 2 on page 5.
12-Nov-2010	19	Modified: R _{thJC} value for TO-220 Table 3 on page 5.
18-Nov-2011	20	Added: order codes L7905CV-DG, L7912CV-DG and L7915CV-DG Table 1 on page 1.
15-May-2012	21	Added: order codes L7908CV-DG Table 1 on page 1.
04-Jun-2014	22	Part numbers L79xxC and L79xxAC changed to L79. Updated the features and the description in cover page. Updated Table 1: Device summary, Section 3: Maximum ratings, Section 4: Test circuit, Section 5: Electrical characteristics, Section 6: Application information, Section 7: Package mechanical data. Added Section 8: Packaging mechanical data. Minor text changes.
27-Sep-2017	23	In Table 4: "Electrical characteristics of L7905AC": - updated I _{sc} and I _{scp} Typ. Values In Table 5: "Electrical characteristics of L7905C": - updated I _{sc} Typ. Values In Table 7: "Electrical characteristics of L7912AC": - updated I _{sc} Typ. Value - updated I _{scp} Test conditions and Typ. Value In Table_8_Electrical_characteristics_of_L - updated I _{sc} Typ. Value In Table 9: "Electrical characteristics of L7915AC": - updated I _{sc} Typ. Value - updated I _{scp} Test conditions and Typ. Value In Table 10: "Electrical characteristics of L7915C" - updated I _{sc} Typ. Value Updated Section 7: "Package information"
15-Jan-2019	24	Updated: Section 5 Electrical characteristics .

Contents

1	Diagram	2
2	Pin configuration	3
3	Maximum ratings	4
4	Test circuit	5
5	Electrical characteristics.....	6
6	Application information.....	11
7	Package information.....	13
7.1	TO-220 (single gauge) package information	13
7.2	TO-220 (dual gauge) package information.....	14
7.3	TO-220FP package information	16
7.4	D ² PAK (TO-263) type A package information	18
7.5	D ² PAK packing information	21
8	Ordering information	24
	Revision history	25
	Contents	26
	List of tables	27
	List of figures.....	28

List of tables

Table 1.	Absolute maximum ratings	4
Table 2.	Thermal data	4
Table 3.	Electrical characteristics of L7905AC	6
Table 4.	Electrical characteristics of L7905C	6
Table 5.	Electrical characteristics of L7908C	7
Table 6.	Electrical characteristics of L7912AC	8
Table 7.	Electrical characteristics of L7912C	8
Table 8.	Electrical characteristics of L7915AC	9
Table 9.	Electrical characteristics of L7915C	10
Table 10.	TO-220 (single gauge) package mechanical data	14
Table 11.	TO-220 type A package mechanical data	16
Table 12.	TO-220FP package mechanical data	18
Table 13.	D ² PAK (TO-263) type A package mechanical data	20
Table 14.	D ² PAK tape and reel mechanical data	23
Table 15.	Order codes	24
Table 16.	Document revision history	25

List of figures

Figure 1.	Schematic diagram	2
Figure 2.	Pin connections (top view)	3
Figure 3.	Test circuit	5
Figure 4.	Fixed output regulator	11
Figure 5.	Split power supply ($\pm 15\text{ V} - 1\text{ A}$)	11
Figure 6.	Circuit for increasing output voltage.	12
Figure 7.	High current negative regulator ($-5\text{ V} / 4\text{ A}$ with 5 A current limiting).	12
Figure 8.	TO-220 (single gauge) package outline	13
Figure 9.	TO-220 type A package outline.	15
Figure 10.	TO-220FP package outline.	17
Figure 11.	D ² PAK (TO-263) type A package outline	19
Figure 12.	D ² PAK (TO-263) recommended footprint (dimensions are in mm)	21
Figure 13.	D ² PAK tape outline	22
Figure 14.	D ² PAK reel outline.	23

IMPORTANT NOTICE – PLEASE READ CAREFULLY

STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST's terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers' products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2019 STMicroelectronics – All rights reserved