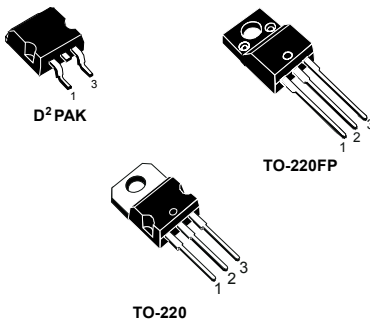


## Negative voltage regulators



### 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 D<sup>2</sup>PAK 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.

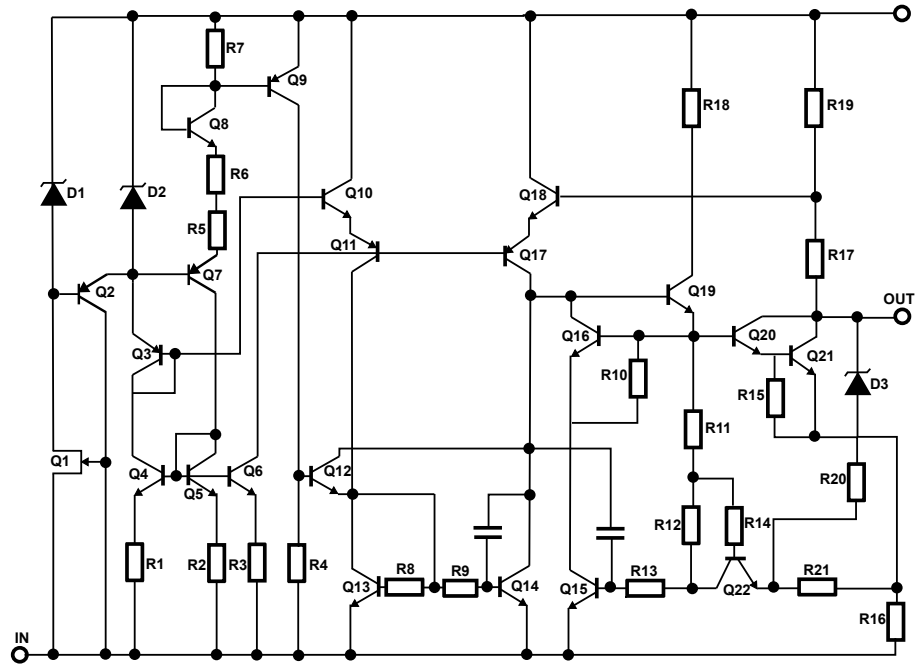
Although designed primarily as fixed voltage regulators, these devices can be used with external components to obtain adjustable voltages and currents.

Maturity status link

L79

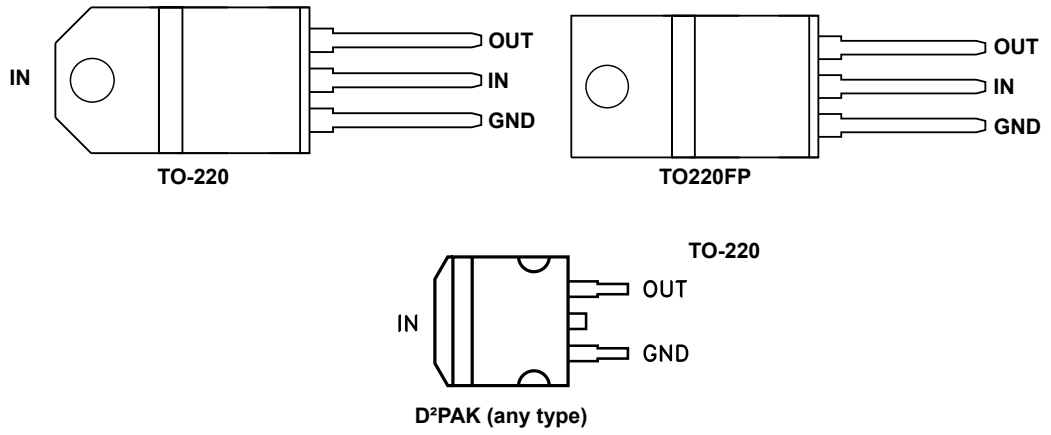
1 Diagram

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
		for L79xxAC	0 to 125

Note:

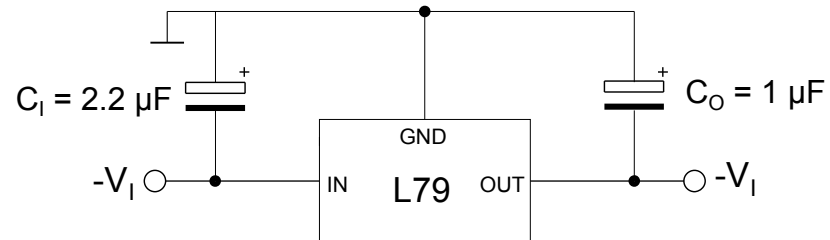
*Note: Absolute maximum ratings are those values beyond which damage to the device may occur. Functional operation under these condition is not implied.*

**Table 2. Thermal data**

Symbol	Parameter	D <sup>2</sup> 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  $125$  °C,  $V_I = -10$  V,  $I_O = 500$  mA,  $C_I = 2.2$   $\mu$ F,  $C_O = 1$   $\mu$ F unless otherwise specified.

**Table 3. Electrical characteristics of L7905AC**

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
$V_O$	Output voltage	$T_J = 25$ °C	-4.9	-5	-5.1	V
$V_O$	Output voltage	$I_O = -5$ mA to $-1$ A, $P_O \leq 15$ W $V_I = -8$ to $-20$ V	-4.8	-5	-5.2	V
$\Delta V_O$ <sup>(1)</sup>	Line regulation	$V_I = -7$ to $-25$ V, $T_J = 25$ °C			100	mV
		$V_I = -8$ to $-12$ V, $T_J = 25$ °C			50	
$\Delta V_O$ <sup>(1)</sup>	Load regulation	$I_O = 5$ mA to $1.5$ A, $T_J = 25$ °C			100	mV
		$I_O = 250$ to $750$ mA, $T_J = 25$ °C			50	
$I_d$	Quiescent current	$T_J = 25$ °C			3	mA
$\Delta I_d$	Quiescent current change	$I_O = 5$ mA to $1$ A			0.5	mA
		$V_I = -8$ to $-25$ V			1.3	
$\Delta V_O/\Delta V_T$	Output voltage drift	$I_O = 5$ mA		-0.4		mV/°C
eN	Output noise voltage	$B = 10$ Hz to $100$ kHz, $T_J = 25$ °C		100		$\mu$ V
SVR	Supply voltage rejection	$\Delta V_I = 10$ V, $f = 120$ Hz	54	60		dB
$V_d$	Dropout voltage	$I_O = 1$ A, $T_J = 25$ °C, $\Delta V_O = 100$ mV		1.4		V
$I_{sc}$	Short circuit current			1.8		A
$I_{scp}$	Short circuit peak current	$T_J = 25$ °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  $125$  °C,  $V_I = -10$  V,  $I_O = 500$  mA,  $C_I = 2.2$   $\mu$ F,  $C_O = 1$   $\mu$ F unless otherwise specified.

**Table 4. Electrical characteristics of L7905C**

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

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
$\Delta I_d$	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
$\Delta I_d$	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  $125$  °C,  $V_I = -19$  V,  $I_O = 500$  mA,  $C_I = 2.2$   $\mu$ F,  $C_O = 1$   $\mu$ F unless otherwise specified.

**Table 6. Electrical characteristics of L7912AC**

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
$V_O$	Output voltage	$T_J = 25$ °C	-11.75	-12	-12.25	V
$V_O$	Output voltage	$I_O = -5$ mA to $-1$ A, $P_O \leq 15$ W $V_I = -15.5$ to $-27$ V	-11.5	-12	-12.5	V
$\Delta V_O$ <sup>(1)</sup>	Line regulation	$V_I = -14.5$ to $-30$ V, $T_J = 25$ °C			240	mV
		$V_I = -16$ to $-22$ V, $T_J = 25$ °C			120	
$\Delta V_O$ <sup>(1)</sup>	Load regulation	$I_O = 5$ mA to $1.5$ A, $T_J = 25$ °C			240	mV
		$I_O = 250$ to $750$ mA, $T_J = 25$ °C			120	
$I_d$	Quiescent current	$T_J = 25$ °C			3	mA
$\Delta I_d$	Quiescent current change	$I_O = 5$ mA to $1$ A			0.5	mA
		$V_I = -15$ to $-30$ V			1	
$\Delta V_O/\Delta T$	Output voltage drift	$I_O = 5$ mA		-0.8		mV/°C
eN	Output noise voltage	$B = 10$ Hz to $100$ kHz, $T_J = 25$ °C		200		$\mu$ V
SVR	Supply voltage rejection	$\Delta V_I = 10$ V, $f = 120$ Hz	54	60		dB
$V_d$	Dropout voltage	$I_O = 1$ A, $T_J = 25$ °C, $\Delta V_O = 100$ mV		1.1		V
$I_{sc}$	Short circuit current			1.0		A
$I_{scp}$	Short circuit peak current	$T_J = 25$ °C, $V_I = -10$ 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  $125$  °C,  $V_I = -19$  V,  $I_O = 500$  mA,  $C_I = 2.2$   $\mu$ F,  $C_O = 1$   $\mu$ F unless otherwise specified.

**Table 7. Electrical characteristics of L7912C**

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



Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
$\Delta I_d$	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
$\Delta I_d$	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.

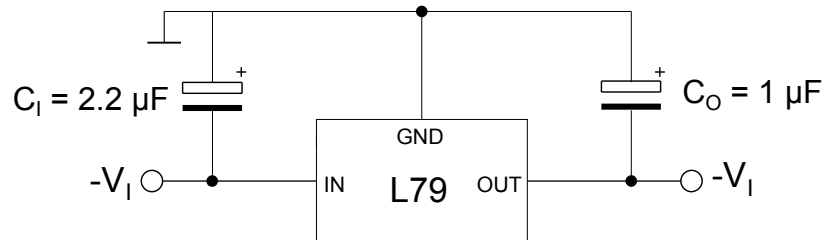
Refer to the test circuits,  $T_J = 0$  to  $125$  °C,  $V_I = -23$  V,  $I_O = 500$  mA,  $C_I = 2.2$   $\mu$ F,  $C_O = 1$   $\mu$ F unless otherwise specified.

**Table 9. Electrical characteristics of L7915C**

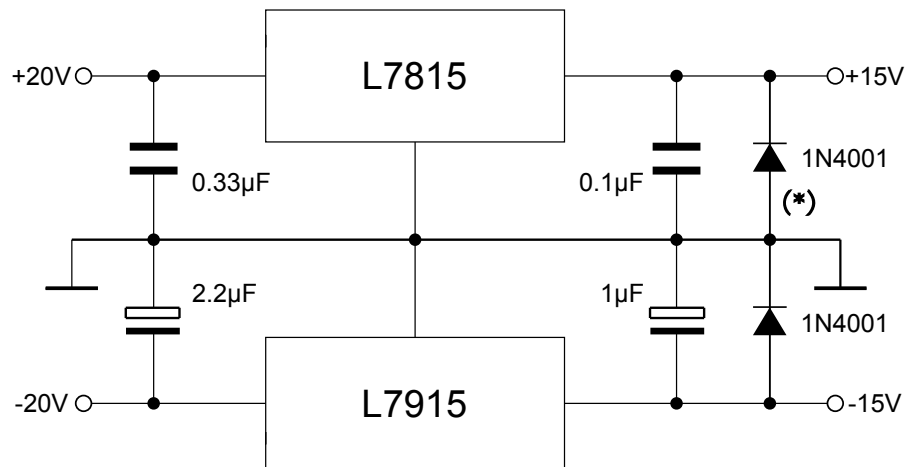
Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
$V_O$	Output voltage	$T_J = 25$ °C	-14.4	-15	-15.6	V
$V_O$	Output voltage	$I_O = -5$ mA to $-1$ A, $P_O \leq 15$ W $V_I = -18.5$ to $-30$ V	-14.3	-15	-15.7	V
$\Delta V_O$ <sup>(1)</sup>	Line regulation	$V_I = -17.5$ to $-30$ V, $T_J = 25$ °C			300	mV
		$V_I = -20$ to $-26$ V, $T_J = 25$ °C			150	
$\Delta V_O$ <sup>(1)</sup>	Load regulation	$I_O = 5$ mA to $1.5$ A, $T_J = 25$ °C			300	mV
		$I_O = 250$ to $750$ mA, $T_J = 25$ °C			150	
$I_d$	Quiescent current	$T_J = 25$ °C			3	mA
$\Delta I_d$	Quiescent current change	$I_O = 5$ mA to $1$ A			0.5	mA
		$V_I = -18.5$ to $-30$ V			1	
$\Delta V_O/\Delta T$	Output voltage drift	$I_O = 5$ mA		-0.9		mV/°C
eN	Output noise voltage	$B = 10$ Hz to $100$ kHz, $T_J = 25$ °C		250		$\mu$ V
SVR	Supply voltage rejection	$\Delta V_I = 10$ V, $f = 120$ Hz	54	60		dB
$V_d$	Dropout voltage	$I_O = 1$ A, $T_J = 25$ °C, $\Delta V_O = 100$ 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.

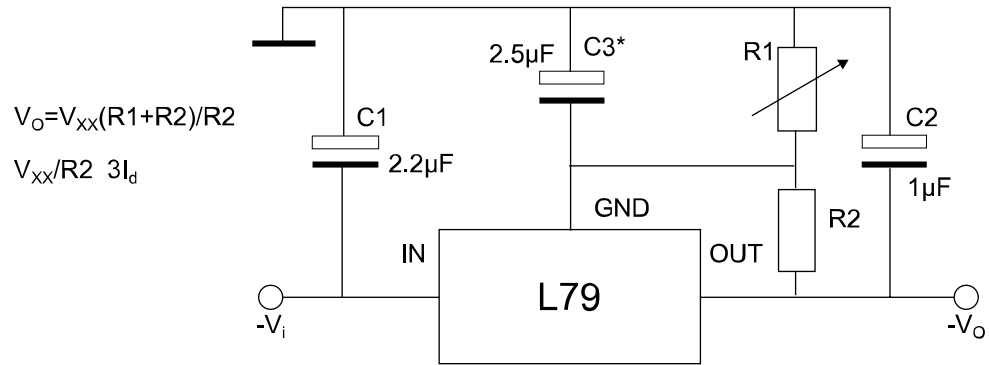
## 6 Application information

**Figure 4. Fixed output regulator**


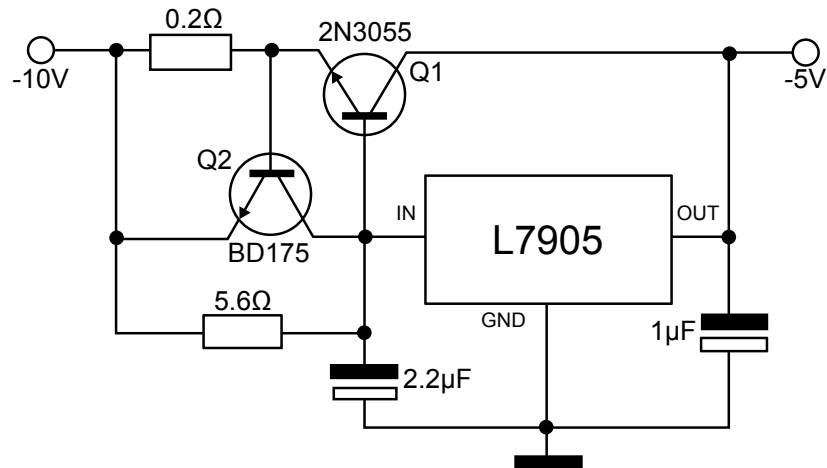
**Note:**  $C_I$  is required for stability. For value given, capacitor must be solid tantalum. If aluminium electrolytic are used, at least ten times value should be selected.  $C_O$  is required if regulator is located an appreciable distance from power supply filter. To improve transient response. 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 ( $\pm 15\text{ V} - 1\text{ A}$ )**


\* 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)**


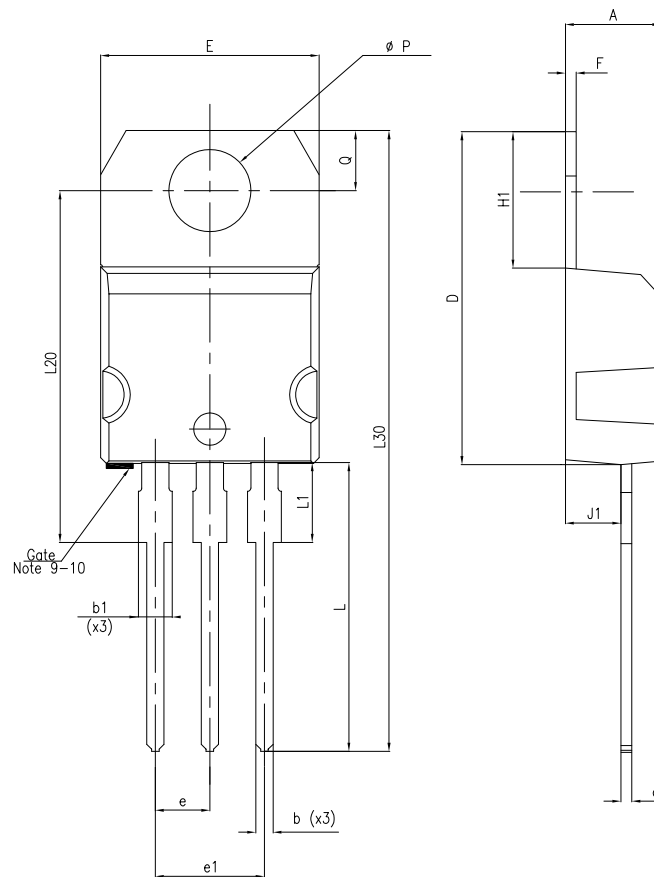
## 7 Package information

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](http://www.st.com).

ECOPACK® is an ST trademark.

### 7.1 TO-220 (single gauge) package information

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



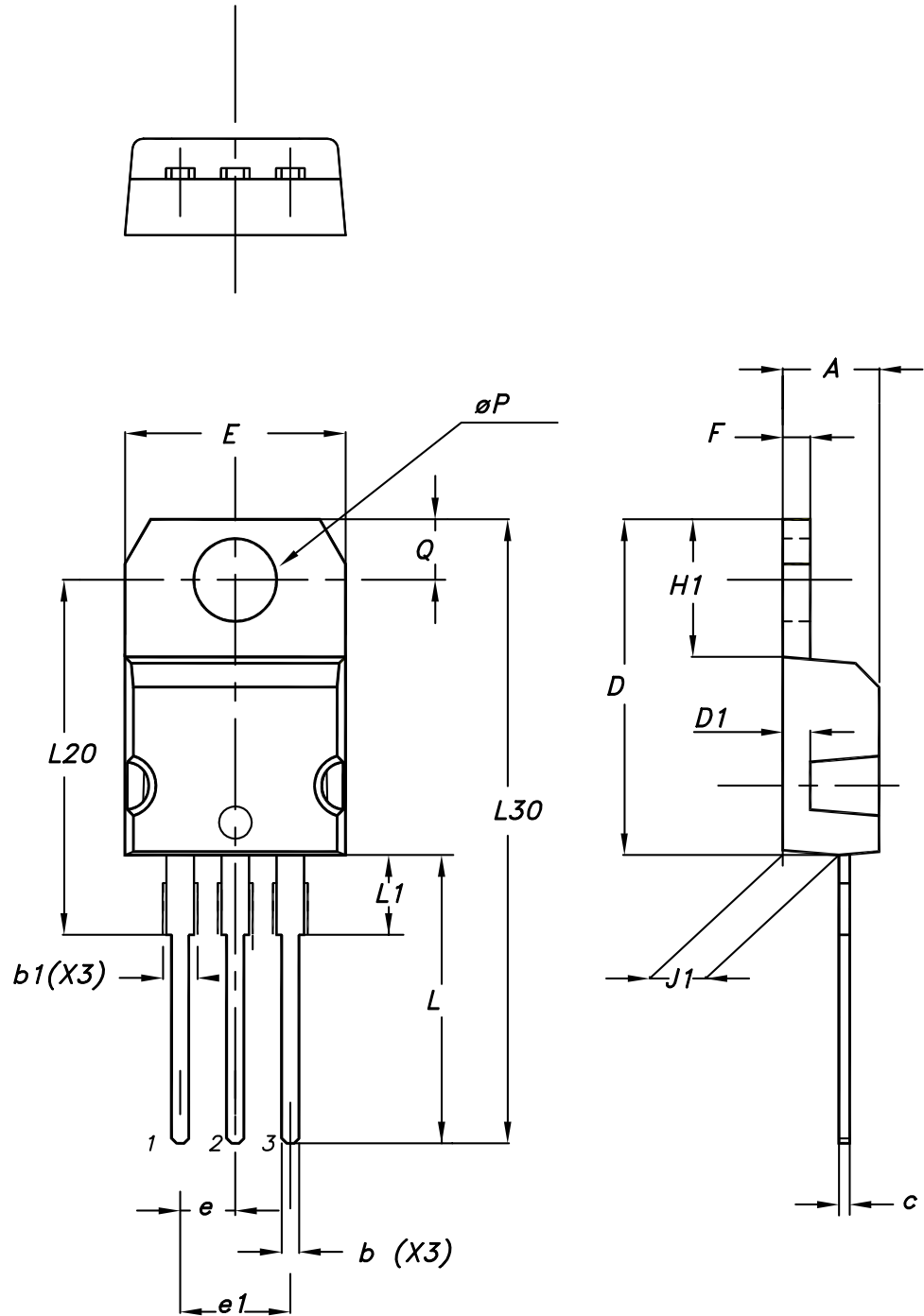
8174627 Rev 6

**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

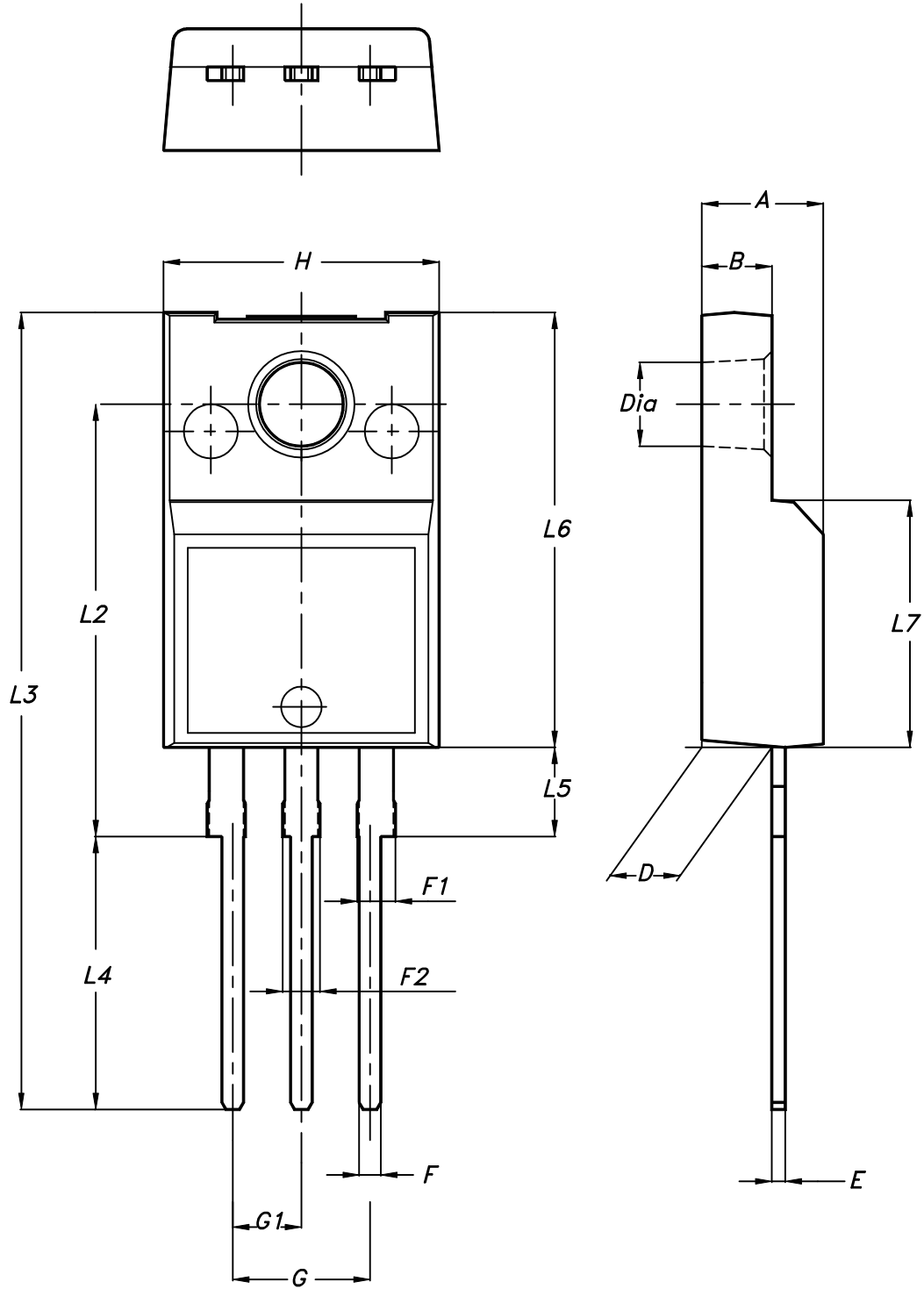
**Table 11. TO-220 type A package mechanical data**

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



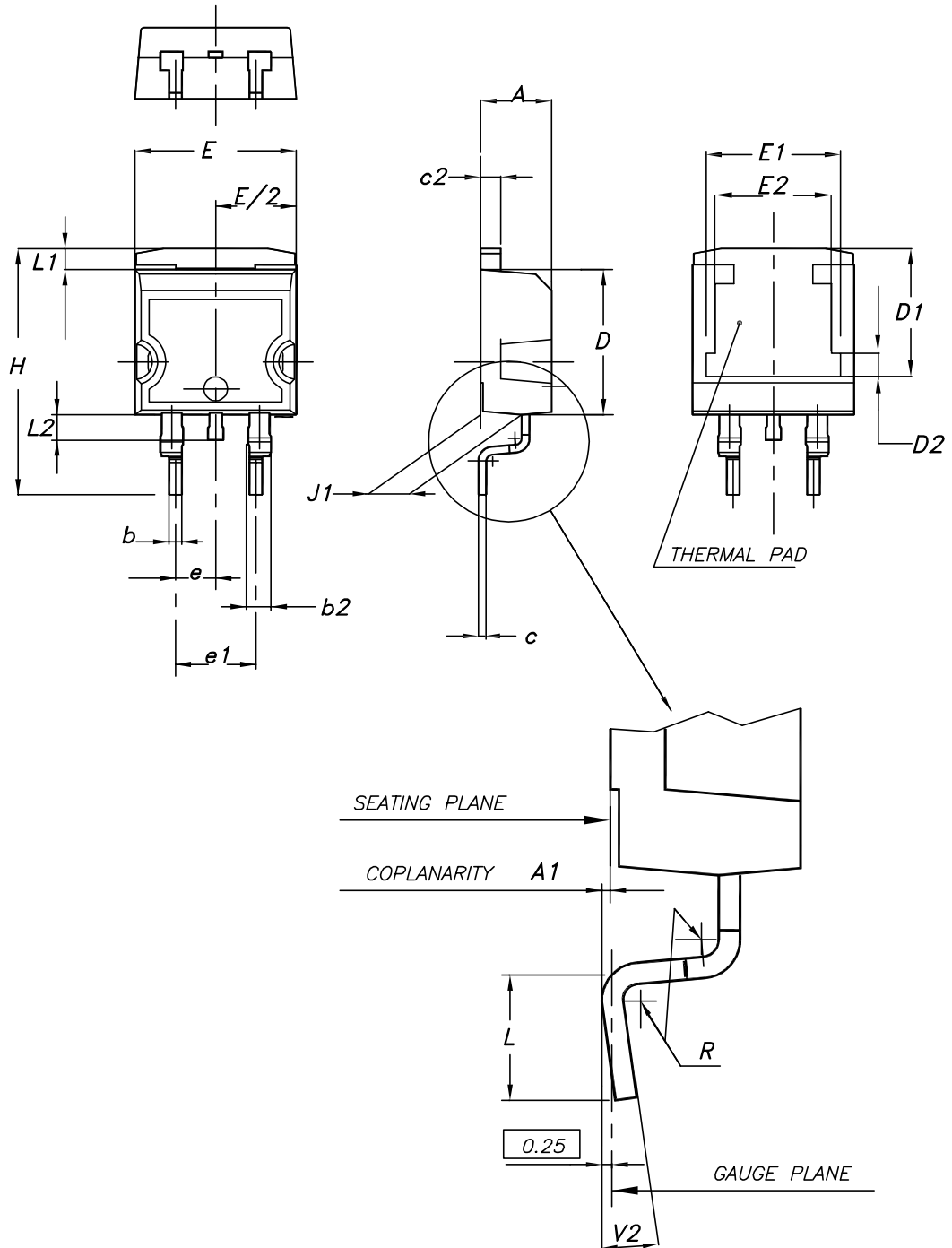
7012510\_Rev\_12\_B

**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 D<sup>2</sup>PAK (TO-263) type A package information

Figure 11. D<sup>2</sup>PAK (TO-263) type A package outline

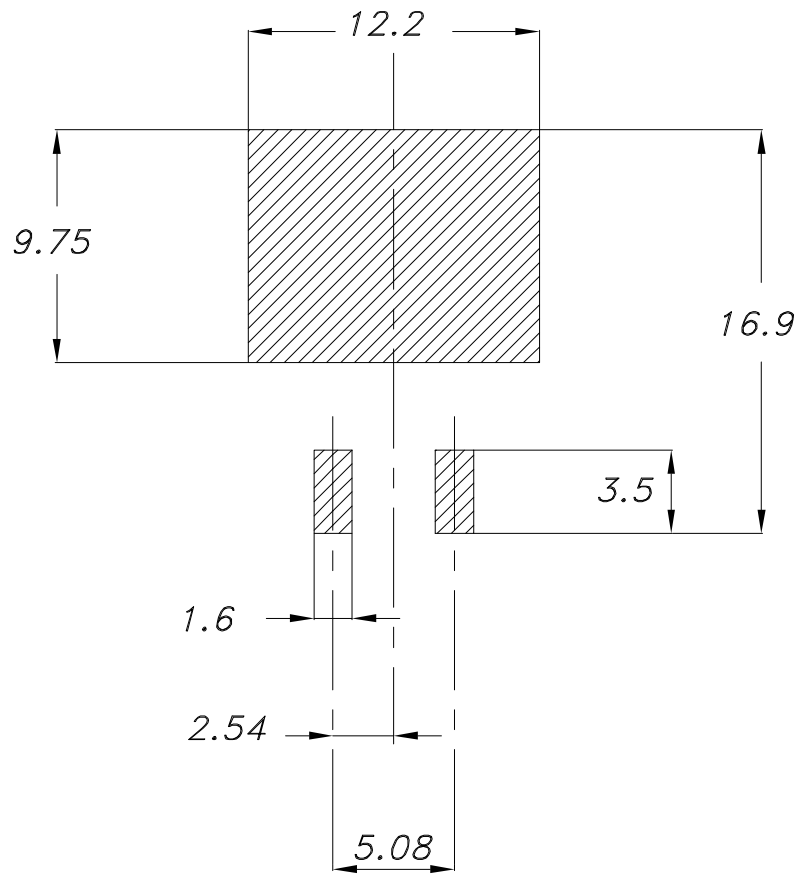


0079457\_25

**Table 13. D<sup>2</sup>PAK (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°

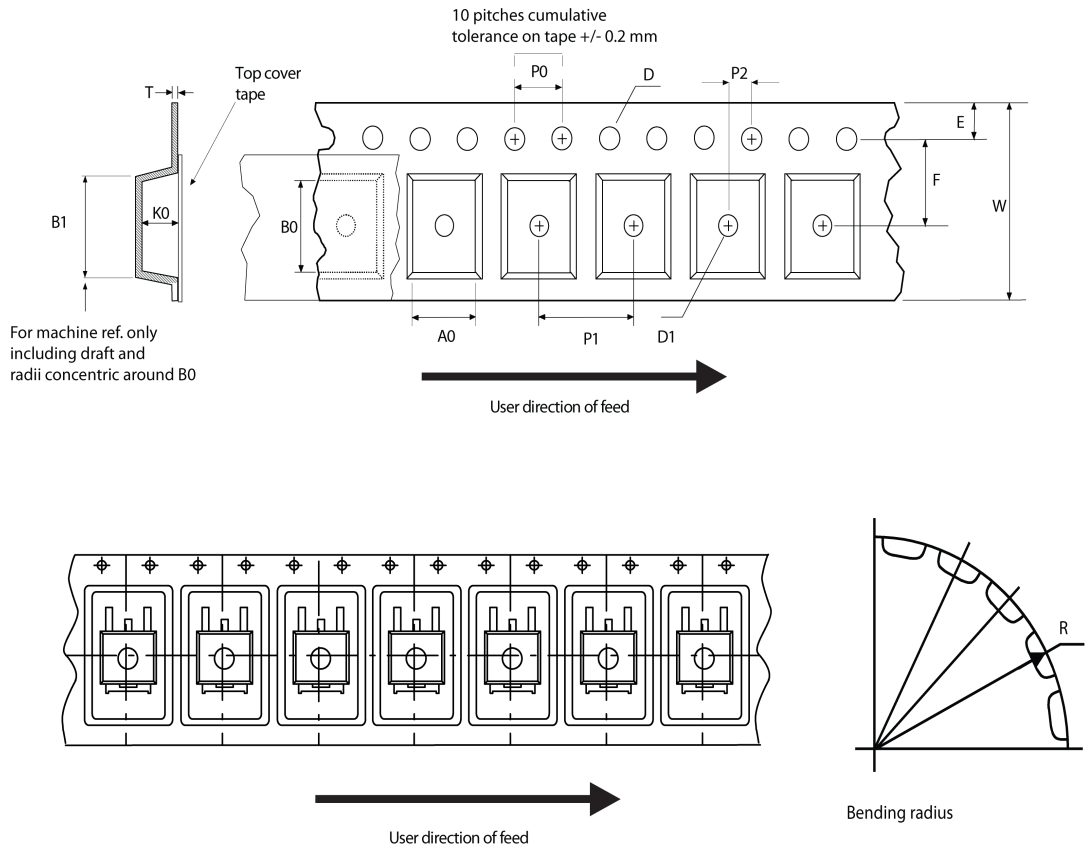
Figure 12. D<sup>2</sup>PAK (TO-263) recommended footprint (dimensions are in mm)



Footprint

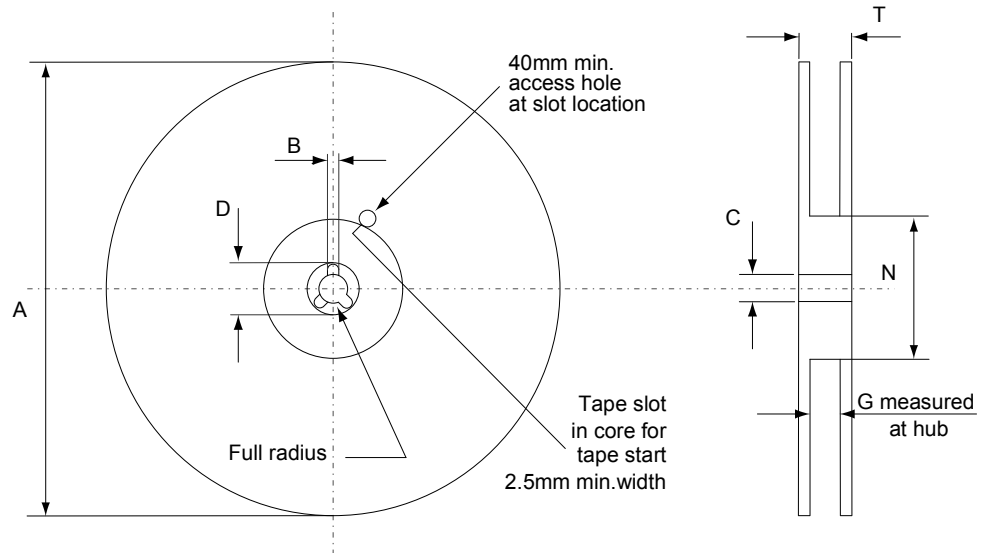
## 7.5 D<sup>2</sup>PAK packing information

Figure 13. D<sup>2</sup>PAK tape outline



AM08852v1

Figure 14. D<sup>2</sup>PAK reel outline



AM06038v1

Table 14. D<sup>2</sup>PAK 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	Base quantity				
P1	11.9	12.1				1000	
P2	1.9	2.1				Bulk quantity	
R	50					1000	
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 <sup>2</sup> 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 <sup>2</sup> 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 <sub>thJC</sub> 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 <sub>sc</sub> and I <sub>scp</sub> Typ. Values In Table 5: "Electrical characteristics of L7905C": - updated I <sub>sc</sub> Typ. Values In Table 7: "Electrical characteristics of L7912AC": - updated I <sub>sc</sub> Typ. Value - updated I <sub>scp</sub> Test conditions and Typ. Value In Table_8_Electrical_characteristics_of_L - updated I <sub>sc</sub> Typ. Value In Table 9: "Electrical characteristics of L7915AC": - updated I <sub>sc</sub> Typ. Value - updated I <sub>scp</sub> Test conditions and Typ. Value In Table 10: "Electrical characteristics of L7915C" - updated I <sub>sc</sub> Typ. Value Updated Section 7: "Package information"
15-Jan-2019	24	Updated: <a href="#">Section 5 Electrical characteristics</a> .

## Contents

<b>1</b>	<b>Diagram</b> .....	<b>2</b>
<b>2</b>	<b>Pin configuration</b> .....	<b>3</b>
<b>3</b>	<b>Maximum ratings</b> .....	<b>4</b>
<b>4</b>	<b>Test circuit</b> .....	<b>5</b>
<b>5</b>	<b>Electrical characteristics</b> .....	<b>6</b>
<b>6</b>	<b>Application information</b> .....	<b>11</b>
<b>7</b>	<b>Package information</b> .....	<b>13</b>
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 <sup>2</sup> PAK (TO-263) type A package information .....	18
7.5	D <sup>2</sup> PAK packing information .....	21
<b>8</b>	<b>Ordering information</b> .....	<b>24</b>
	<b>Revision history</b> .....	<b>25</b>
	<b>Contents</b> .....	<b>26</b>
	<b>List of tables</b> .....	<b>27</b>
	<b>List of figures</b> .....	<b>28</b>

## List of tables

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

## List of figures

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