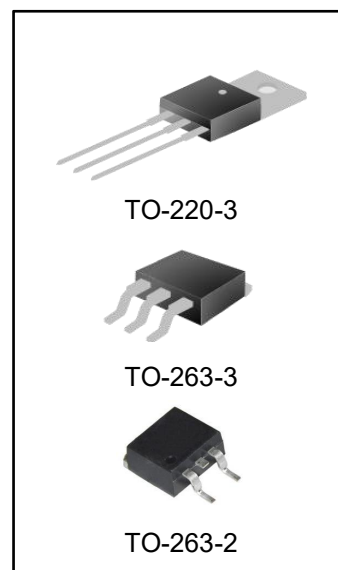


## FEATURES

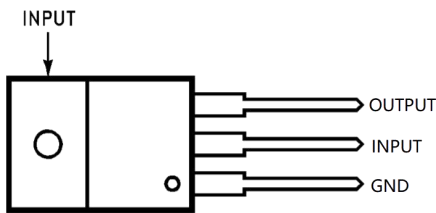
- Output current in excess of 1.0A
- Internal short current circuit limiting
- Internal thermal overload protection
- Output voltage offered of 4% tolerance



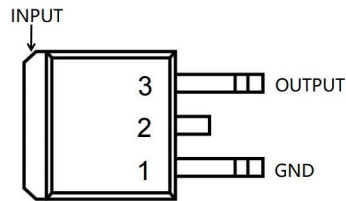
## ORDERING INFORMATION

DEVICE	Package Type	MARKING	Packing	Packing Qty
LM7905TG	TO-220-3	LM7905	TUBE	1000pcs/box
LM7906TG	TO-220-3	LM7906	TUBE	1000pcs/box
LM7908TG	TO-220-3	LM7908	TUBE	1000pcs/box
LM7909TG	TO-220-3	LM7909	TUBE	1000pcs/box
LM7912TG	TO-220-3	LM7912	TUBE	1000pcs/box
LM7915TG	TO-220-3	LM7915	TUBE	1000pcs/box
LM7918TG	TO-220-3	LM7918	TUBE	1000pcs/box
LM7924TG	TO-220-3	LM7924	TUBE	1000pcs/box
LM7905SRG	TO-263-3	LM7905	REEL	500 pcs/reel
LM7906SRG	TO-263-3	LM7906	REEL	500 pcs/reel
LM7908SRG	TO-263-3	LM7908	REEL	500 pcs/reel
LM7909SRG	TO-263-3	LM7909	REEL	500 pcs/reel
LM7912SRG	TO-263-3	LM7912	REEL	500 pcs/reel
LM7915SRG	TO-263-3	LM7915	REEL	500 pcs/reel
LM7918SRG	TO-263-3	LM7918	REEL	500 pcs/reel
LM7924SRG	TO-263-3	LM7924	REEL	500 pcs/reel
LM7905D2TRG	TO-263-2	LM7905	REEL	500 pcs/reel
LM7906D2TRG	TO-263-2	LM7906	REEL	500 pcs/reel
LM7908D2TRG	TO-263-2	LM7908	REEL	500 pcs/reel
LM7909D2TRG	TO-263-2	LM7909	REEL	500 pcs/reel
LM7912D2TRG	TO-263-2	LM7912	REEL	500 pcs/reel
LM7915D2TRG	TO-263-2	LM7915	REEL	500 pcs/reel
LM7918D2TRG	TO-263-2	LM7918	REEL	500 pcs/reel
LM7924D2TRG	TO-263-2	LM7924	REEL	500 pcs/reel

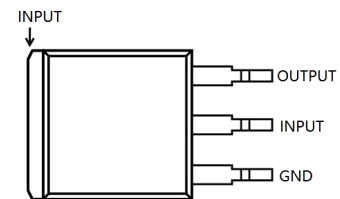
## PIN CONFIGURATION



TO-220-3



TO-263-2



TO-263-3

## ABSOLUTE MAXIMUM RATINGS

Condition	VALUE	UNIT
Maximum input voltage at $T_J=25^\circ\text{C}$	-35	V
Maximum operating junction temperature	+125	$^\circ\text{C}$
Lead Temperature (TL) (Soldering, 10 seconds)	+245	$^\circ\text{C}$

**Note:** Absolute Maximum Ratings indicate limits beyond which damage to the device may occur. Operating Ratings indicate conditions for which the device is intended to be functional, but specific performance is not ensured.

## ELECTRICAL CHARACTERISTICS LM7905

( $V_{IN} = -10\text{V}$ ,  $I_O = 500\text{mA}$ ,  $C_{IN} = 2.2\mu\text{F}$ ,  $C_O = 1.0\mu\text{F}$ ,  $T_J = 25^\circ\text{C}$ , unless otherwise noted)

CHARACTERISTIC	SYMBOL	TEST CONDITION	NORMS		UNIT
			Min	Max	
Output Voltage	$V_O$	$-7.0\text{V} \geq V_{IN} \geq -20\text{V}$ $5.0\text{mA} \leq I_O \leq 1.0\text{A}$	-4.82	-5.18	V
Line Regulation	$\Delta U_V$	$I_O = 100\text{mA}$ , $-7.0\text{V} \geq V_{IN} \geq -25\text{V}$ $I_O = 100\text{mA}$ , $-8.0\text{V} \geq V_{IN} \geq -12\text{V}$ $I_O = 500\text{mA}$ , $-7.0\text{V} \geq V_{IN} \geq -25\text{V}$ $I_O = 500\text{mA}$ , $-8.0\text{V} \geq V_{IN} \geq -12\text{V}$		47.5 23.5 95 47.5	mV
Load Regulation	$\Delta U_I$	$5.0\text{mA} \leq I_O \leq 1.5\text{A}$ $250\text{mA} \leq I_O \leq 750\text{mA}$		95 47.5	mV
Quiescent Current	$I_B$			7.8	mA
Quiescent Current Change	$\Delta I_B$	$-7.0\text{V} \geq V_{IN} \geq -25\text{V}$ $5.0\text{mA} \leq I_O \leq 1.5\text{A}$		1.25 0.48	mA

**ELECTRICAL CHARACTERISTICS LM7906**

(VIN= -11V, Io = 500mA, CIN=2.2μF, Co=1.0μF, TJ=25°C, unless otherwise noted)

CHARACTERISTIC	SYMBOL	TEST CONDITION	NORMS		UNIT
			Min	Max	
Output Voltage	V <sub>o</sub>	-8.0V ≥ V <sub>IN</sub> ≥ -21V 5.0mA ≤ I <sub>o</sub> ≤ 1.0 A	-5.77	-6.23	V
Line Regulation	ΔU <sub>v</sub>	I <sub>o</sub> = 100mA, -8.0V ≥ V <sub>IN</sub> ≥ -25V I <sub>o</sub> = 100mA, -9.0V ≥ V <sub>IN</sub> ≥ -13V I <sub>o</sub> = 500mA, -8.0V ≥ V <sub>IN</sub> ≥ -25V I <sub>o</sub> = 500mA, -9.0V ≥ V <sub>IN</sub> ≥ -13V		57 28.5 114 57	mV
Load Regulation	ΔU <sub>I</sub>	5.0mA ≤ I <sub>o</sub> ≤ 1.5 A 250mA ≤ I <sub>o</sub> ≤ 750mA		114 57	mV
Quiescent Current	I <sub>B</sub>			7.8	mA
Quiescent Current Change	ΔI <sub>B</sub>	-8.0V ≥ V <sub>IN</sub> ≥ -25V 5.0mA ≤ I <sub>o</sub> ≤ 1.5 A		1.25 0.48	mA

**ELECTRICAL CHARACTERISTICS LM7908**

(VIN= -14V, Io = 500mA, CIN=2.2μF, Co=1.0μF, TJ=25°C, unless otherwise noted)

CHARACTERISTIC	SYMBOL	TEST CONDITION	NORMS		UNIT
			Min	Max	
Output Voltage	V <sub>o</sub>	-10.5V ≥ V <sub>IN</sub> ≥ -23V 5.0mA ≤ I <sub>o</sub> ≤ 1.0 A	-7.68	-8.32	V
Line Regulation	ΔU <sub>v</sub>	I <sub>o</sub> = 100mA, -10.5V ≥ V <sub>IN</sub> ≥ -25V I <sub>o</sub> = 100mA, -11V ≥ V <sub>IN</sub> ≥ -17V I <sub>o</sub> = 500mA, -10.5V ≥ V <sub>IN</sub> ≥ -25V I <sub>o</sub> = 500mA, -11V ≥ V <sub>IN</sub> ≥ -17V		76 38 152 76	mV
Load Regulation	ΔU <sub>I</sub>	5.0mA ≤ I <sub>o</sub> ≤ 1.5 A 250mA ≤ I <sub>o</sub> ≤ 750mA		152 76	mV
Quiescent Current	I <sub>B</sub>			7.8	mA
Quiescent Current Change	ΔI <sub>B</sub>	-10.5V ≥ V <sub>IN</sub> ≥ -25V 5.0mA ≤ I <sub>o</sub> ≤ 1.5 A		0.98 0.48	mA

**ELECTRICAL CHARACTERISTICS LM7909**

 (VIN = -16V, I<sub>o</sub> = 500mA, C<sub>IN</sub> = 2.2μF, C<sub>O</sub> = 1.0μF, T<sub>J</sub> = 25°C, unless otherwise noted)

CHARACTERISTIC	SYMBOL	TEST CONDITION	NORMS		UNIT
			Min	Max	
Output Voltage	V <sub>o</sub>	-10.5V ≥ V <sub>IN</sub> ≥ -25V 5.0mA ≤ I <sub>o</sub> ≤ 1.0 A	-8.60	-9.40	V
Line Regulation	ΔU <sub>v</sub>	I <sub>o</sub> = 100mA, -11.8V ≥ V <sub>IN</sub> ≥ -25V I <sub>o</sub> = 100mA, -12V ≥ V <sub>IN</sub> ≥ -20V I <sub>o</sub> = 500mA, -11.8V ≥ V <sub>IN</sub> ≥ -25V I <sub>o</sub> = 500mA, -12V ≥ V <sub>IN</sub> ≥ -20V		86 43 172 86	mV
Load Regulation	ΔU <sub>I</sub>	5.0mA ≤ I <sub>o</sub> ≤ 1.5 A 250mA ≤ I <sub>o</sub> ≤ 750mA		171 86	mV
Quiescent Current	I <sub>B</sub>			7.8	mA
Quiescent Current Change	ΔI <sub>B</sub>	-10.5V ≥ V <sub>IN</sub> ≥ -25V 5.0mA ≤ I <sub>o</sub> ≤ 1.5 A		1.02 0.48	mA

**ELECTRICAL CHARACTERISTICS LM7912**

 (VIN = -19V, I<sub>o</sub> = 500mA, C<sub>IN</sub> = 2.2μF, C<sub>O</sub> = 1.0μF, T<sub>J</sub> = 25°C, unless otherwise noted)

CHARACTERISTIC	SYMBOL	TEST CONDITION	NORMS		UNIT
			Min	Max	
Output Voltage	V <sub>o</sub>	-14.5V ≥ V <sub>IN</sub> ≥ -21V 5.0mA ≤ I <sub>o</sub> ≤ 1.0 A	-11.52	-12.48	V
Line Regulation	ΔU <sub>v</sub>	I <sub>o</sub> = 100mA, -14.5V ≥ V <sub>IN</sub> ≥ -30V I <sub>o</sub> = 100mA, -16V ≥ V <sub>IN</sub> ≥ -22V I <sub>o</sub> = 500mA, -14.5V ≥ V <sub>IN</sub> ≥ -30V I <sub>o</sub> = 500mA, -16V ≥ V <sub>IN</sub> ≥ -22V		114 58.5 228 114	mV
Load Regulation	ΔU <sub>I</sub>	5.0mA ≤ I <sub>o</sub> ≤ 1.5 A 250mA ≤ I <sub>o</sub> ≤ 750mA		228 114	mV
Quiescent Current	I <sub>B</sub>			7.8	mA
Quiescent Current Change	ΔI <sub>B</sub>	-14.5V ≥ V <sub>IN</sub> ≥ -30V 5.0mA ≤ I <sub>o</sub> ≤ 1.5 A		1.25 0.48	mA

**ELECTRICAL CHARACTERISTICS LM7915**

( $V_{IN} = -23V$ ,  $I_o = 500mA$ ,  $C_{IN} = 2.2\mu F$ ,  $C_o = 1.0\mu F$ ,  $T_J = 25^\circ C$ , unless otherwise noted)

CHARACTERISTIC	SYMBOL	TEST CONDITION	NORMS		UNIT
			Min	Max	
Output Voltage	$V_o$	$-17.5V \geq V_{IN} \geq -30V$ $5.0mA \leq I_o \leq 1.0 A$	-14.44	-15.56	V
Line Regulation	$\Delta U_v$	$I_o = 100mA$ , $-17.5V \geq V_{IN} \geq -30V$ $I_o = 100mA$ , $-20V \geq V_{IN} \geq -26V$ $I_o = 500mA$ , $-17.5V \geq V_{IN} \geq -30V$ $I_o = 500mA$ , $-20V \geq V_{IN} \geq -26V$		142 71 285 142	mV
Load Regulation	$\Delta U_l$	$5.0mA \leq I_o \leq 1.5 A$ $250mA \leq I_o \leq 750mA$		285 142	mV
Quiescent Current	$I_B$			7.8	mA
Quiescent Current Change	$\Delta I_B$	$-17.5V \geq V_{IN} \geq -30V$ $5.0mA \leq I_o \leq 1.5 A$		0.98 0.48	mA

**ELECTRICAL CHARACTERISTICS LM7918**

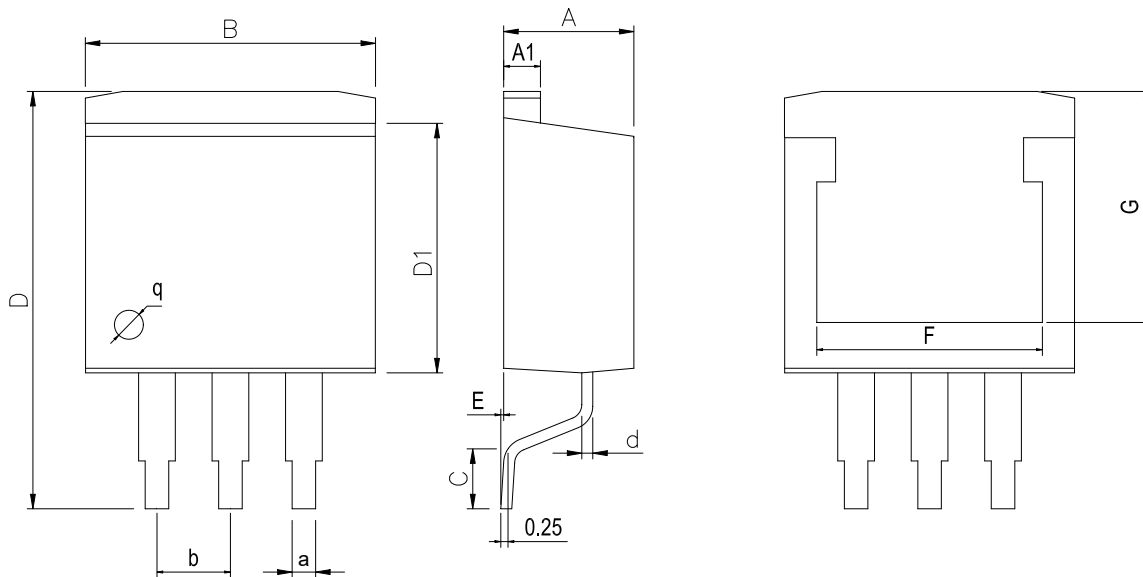
( $V_{IN} = -27V$ ,  $I_o = 500mA$ ,  $C_{IN} = 2.2\mu F$ ,  $C_o = 1.0\mu F$ ,  $T_J = 25^\circ C$ , unless otherwise noted)

CHARACTERISTIC	SYMBOL	TEST CONDITION	NORMS		UNIT
			Min	Max	
Output Voltage	$V_o$	$-21V \geq V_{IN} \geq -33V$ $5.0mA \leq I_o \leq 1.0 A$	-17.34	-18.66	V
Line Regulation	$\Delta U_v$	$I_o = 100mA$ , $-21V \geq V_{IN} \geq -33V$ $I_o = 100mA$ , $-24V \geq V_{IN} \geq -30V$ $I_o = 500mA$ , $-21V \geq V_{IN} \geq -33V$ $I_o = 500mA$ , $-24V \geq V_{IN} \geq -30V$		171 85.5 342 171	mV
Load Regulation	$\Delta U_l$	$5.0mA \leq I_o \leq 1.5 A$ $250mA \leq I_o \leq 750mA$		342 171	mV
Quiescent Current	$I_B$			7.8	mA
Quiescent Current Change	$\Delta I_B$	$-21V \geq V_{IN} \geq -33V$ $5.0mA \leq I_o \leq 1.5 A$		0.98 0.48	mA

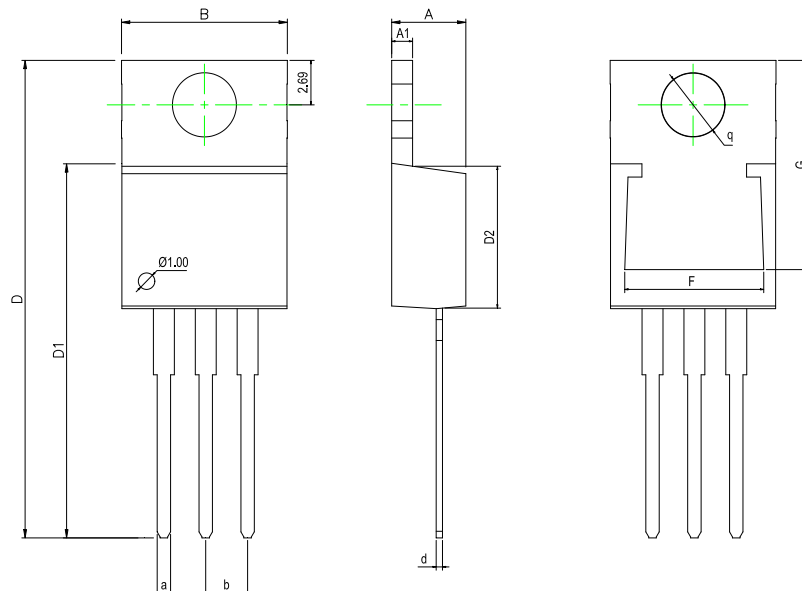
**ELECTRICAL CHARACTERISTICS LM7924**

( $V_{IN} = -33V$ ,  $I_o = 500mA$ ,  $C_{IN} = 2.2\mu F$ ,  $C_o = 1.0\mu F$ ,  $T_J = 25^\circ C$ , unless otherwise noted)

CHARACTERISTIC	SYMBOL	TEST CONDITION	NORMS		UNIT
			Min	Max	
Output Voltage	$V_o$	$-27V \geq V_{IN} \geq -38V$ $5.0mA \leq I_o \leq 1.0A$	-23.05	-24.95	V
Line Regulation	$\Delta U_v$	$I_o = 100mA$ , $-27V \geq V_{IN} \geq -38V$ $I_o = 100mA$ , $-30V \geq V_{IN} \geq -36V$ $I_o = 500mA$ , $-27V \geq V_{IN} \geq -38V$ $I_o = 500mA$ , $-30V \geq V_{IN} \geq -36V$		228 114 446 228	mV
Load Regulation	$\Delta U_l$	$5.0mA \leq I_o \leq 1.5A$ $250mA \leq I_o \leq 750mA$		446 228	mV
Quiescent Current	$I_B$			7.8	mA
Quiescent Current Change	$\Delta I_B$	$-27V \geq V_{IN} \geq -33V$ $5.0mA \leq I_o \leq 1.5A$		0.98 0.48	mA

**PHYSICAL DIMENSIONS**
**TO-263-3**

**Dimensions In Millimeters(TO-263-3)**

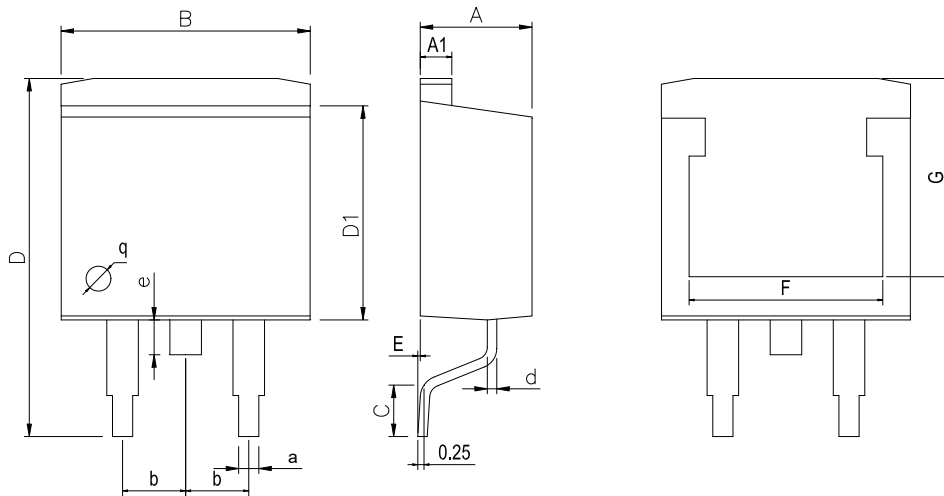
Symbol:	A	A1	B	C	D	D1	E	F	G	a	b
Min:	4.45	1.22	10	1.89	13.7	8.38	0	8.332	7.70	0.71	2.54BSC
Max:	4.62	1.32	10.4	2.19	14.6	8.89	0.305	8.552	8.10	0.97	

**TO-220-3**

**Dimensions In Millimeters(TO-220-3)**

Symbol:	A	A1	B	D	D1	D2	F	G	a	d	b	q
Min:	4.45	1.22	10	28.2	22.22	8.50	8.30	12.55	0.71	0.33	2.54BS	3.80TYP
Max:	4.62	1.32	10.4	28.9	22.62	9.10	8.55	12.75	0.97	0.42	C	

**PHYSICAL DIMENSIONS**

TO-263-2


**Dimensions In Millimeters(TO263-2)**

Symbol:	A	A1	B	C	D	D1	E	F	G	a	e	b
<b>Min:</b>	4.45	1.22	10	1.89	13.7	8.38	0	8.30	7.70	0.71	1.10	2.54BSC
<b>Max:</b>	4.62	1.32	10.4	2.19	14.6	8.89	0.305	8.55	8.10	0.97	1.70	



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**REVISION HISTORY**

DATE	REVISION	PAGE
2018-1-5	New	1-9
2023-11-22	Update Lead Temperature、 Update Package Type、 Add annotation for Maximum Ratings、 Added Model TO-263-2	1、 2

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