

FEATURES

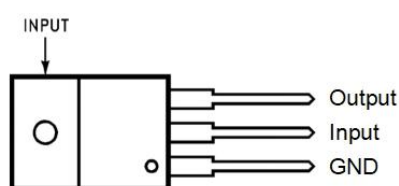
- Output current in excess of 1.0A
- Internal short current circuit limiting
- Internal thermal overload protection
- Output voltage offered of 4% tolerance



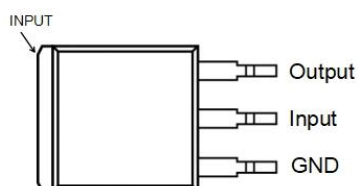
ORDERING INFORMATION

DEVICE	Package Type	MARKING	Packing	Packing Qty
LM7905T	TO-220-3	LM7905	TUBE	1000pcs/box
LM7906T	TO-220-3	LM7906	TUBE	1000pcs/box
LM7908T	TO-220-3	LM7908	TUBE	1000pcs/box
LM7909T	TO-220-3	LM7909	TUBE	1000pcs/box
LM7912T	TO-220-3	LM7912	TUBE	1000pcs/box
LM7915T	TO-220-3	LM7915	TUBE	1000pcs/box
LM7918T	TO-220-3	LM7918	TUBE	1000pcs/box
LM7924T	TO-220-3	LM7924	TUBE	1000pcs/box
LM7905S2/TR	TO-263-2	LM7905	REEL	500 pcs/reel
LM7906S2/TR	TO-263-2	LM7906	REEL	500 pcs/reel
LM7908S2/TR	TO-263-2	LM7908	REEL	500 pcs/reel
LM7909S2/TR	TO-263-2	LM7909	REEL	500 pcs/reel
LM7912S2/TR	TO-263-2	LM7912	REEL	500 pcs/reel
LM7915S2/TR	TO-263-2	LM7915	REEL	500 pcs/reel
LM7918S2/TR	TO-263-2	LM7918	REEL	500 pcs/reel
LM7924S2/TR	TO-263-2	LM7924	REEL	500 pcs/reel
LM7905S/TR	TO-263-3	LM7905	REEL	500 pcs/reel
LM7906S/TR	TO-263-3	LM7906	REEL	500 pcs/reel
LM7908S/TR	TO-263-3	LM7908	REEL	500 pcs/reel
LM7909S/TR	TO-263-3	LM7909	REEL	500 pcs/reel
LM7912S/TR	TO-263-3	LM7912	REEL	500 pcs/reel
LM7915S/TR	TO-263-3	LM7915	REEL	500 pcs/reel
LM7918S/TR	TO-263-3	LM7918	REEL	500 pcs/reel
LM7924S/TR	TO-263-3	LM7924	REEL	500 pcs/reel

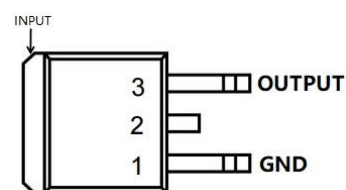
PIN CONFIGURATION



TO-220-3



TO-263-3



TO-263-2

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	ΔU_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	ΔU_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	ΔI_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

($V_{IN} = -11V$, $I_O = 500mA$, $C_{IN} = 2.2\mu F$, $C_O = 1.0\mu F$, $T_J = 25^\circ C$, unless otherwise noted)

CHARACTERISTIC	SYMBOL	TEST CONDITION	NORMS		UNIT
			Min	Max	
Output Voltage	V_O	$-8.0V \geq V_{IN} \geq -21V$ $5.0mA \leq I_O \leq 1.0A$	-5.77	-6.23	V
Line Regulation	ΔU_V	$I_O = 100mA$, $-8.0V \geq V_{IN} \geq -25V$ $I_O = 100mA$, $-9.0V \geq V_{IN} \geq -13V$ $I_O = 500mA$, $-8.0V \geq V_{IN} \geq -25V$ $I_O = 500mA$, $-9.0V \geq V_{IN} \geq -13V$		57 28.5 114 57	mV
Load Regulation	ΔU_I	$5.0mA \leq I_O \leq 1.5A$ $250mA \leq I_O \leq 750mA$		114 57	mV
Quiescent Current	I_B			7.8	mA
Quiescent Current Change	ΔI_B	$-8.0V \geq V_{IN} \geq -25V$ $5.0mA \leq I_O \leq 1.5A$		1.25 0.48	mA

ELECTRICAL CHARACTERISTICS LM7908

($V_{IN} = -14V$, $I_O = 500mA$, $C_{IN} = 2.2\mu F$, $C_O = 1.0\mu F$, $T_J = 25^\circ C$, unless otherwise noted)

CHARACTERISTIC	SYMBOL	TEST CONDITION	NORMS		UNIT
			Min	Max	
Output Voltage	V_O	$-10.5V \geq V_{IN} \geq -23V$ $5.0mA \leq I_O \leq 1.0A$	-7.68	-8.32	V
Line Regulation	ΔU_V	$I_O = 100mA$, $-10.5V \geq V_{IN} \geq -25V$ $I_O = 100mA$, $-11V \geq V_{IN} \geq -17V$ $I_O = 500mA$, $-10.5V \geq V_{IN} \geq -25V$ $I_O = 500mA$, $-11V \geq V_{IN} \geq -17V$		76 38 152 76	mV
Load Regulation	ΔU_I	$5.0mA \leq I_O \leq 1.5A$ $250mA \leq I_O \leq 750mA$		152 76	mV
Quiescent Current	I_B			7.8	mA
Quiescent Current Change	ΔI_B	$-10.5V \geq V_{IN} \geq -25V$ $5.0mA \leq I_O \leq 1.5A$		0.98 0.48	mA

ELECTRICAL CHARACTERISTICS LM7909

($V_{IN} = -16V$, $I_O = 500mA$, $C_{IN} = 2.2\mu F$, $C_O = 1.0\mu F$, $T_J = 25^\circ C$, unless otherwise noted)

CHARACTERISTIC	SYMBOL	TEST CONDITION	NORMS		UNIT
			Min	Max	
Output Voltage	V_O	$-10.5V \geq V_{IN} \geq -25V$ $5.0mA \leq I_O \leq 1.0 A$	-8.60	-9.40	V
Line Regulation	ΔU_V	$I_O = 100mA$, $-11.8V \geq V_{IN} \geq -25V$ $I_O = 100mA$, $-12V \geq V_{IN} \geq -20V$ $I_O = 500mA$, $-11.8V \geq V_{IN} \geq -25V$ $I_O = 500mA$, $-12V \geq V_{IN} \geq -20V$		86 43 172 86	mV
Load Regulation	ΔU_I	$5.0mA \leq I_O \leq 1.5 A$ $250mA \leq I_O \leq 750mA$		171 86	mV
Quiescent Current	I_B			7.8	mA
Quiescent Current Change	ΔI_B	$-10.5V \geq V_{IN} \geq -25V$ $5.0mA \leq I_O \leq 1.5 A$		1.02 0.48	mA

ELECTRICAL CHARACTERISTICS LM7912

($V_{IN} = -19V$, $I_O = 500mA$, $C_{IN} = 2.2\mu F$, $C_O = 1.0\mu F$, $T_J = 25^\circ C$, unless otherwise noted)

CHARACTERISTIC	SYMBOL	TEST CONDITION	NORMS		UNIT
			Min	Max	
Output Voltage	V_O	$-14.5V \geq V_{IN} \geq -21V$ $5.0mA \leq I_O \leq 1.0 A$	-11.52	-12.48	V
Line Regulation	ΔU_V	$I_O = 100mA$, $-14.5V \geq V_{IN} \geq -30V$ $I_O = 100mA$, $-16V \geq V_{IN} \geq -22V$ $I_O = 500mA$, $-14.5V \geq V_{IN} \geq -30V$ $I_O = 500mA$, $-16V \geq V_{IN} \geq -22V$		114 58.5 228 114	mV
Load Regulation	ΔU_I	$5.0mA \leq I_O \leq 1.5 A$ $250mA \leq I_O \leq 750mA$		228 114	mV
Quiescent Current	I_B			7.8	mA
Quiescent Current Change	ΔI_B	$-14.5V \geq V_{IN} \geq -30V$ $5.0mA \leq I_O \leq 1.5 A$		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	ΔU_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	ΔU_I	$5.0mA \leq I_O \leq 1.5 A$ $250mA \leq I_O \leq 750mA$		285 142	mV
Quiescent Current	I_B			7.8	mA
Quiescent Current Change	ΔI_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	ΔU_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	ΔU_I	$5.0mA \leq I_O \leq 1.5 A$ $250mA \leq I_O \leq 750mA$		342 171	mV
Quiescent Current	I_B			7.8	mA
Quiescent Current Change	ΔI_B	$-21V \geq V_{IN} \geq -33V$ $5.0mA \leq I_O \leq 1.5 A$		0.98 0.48	mA

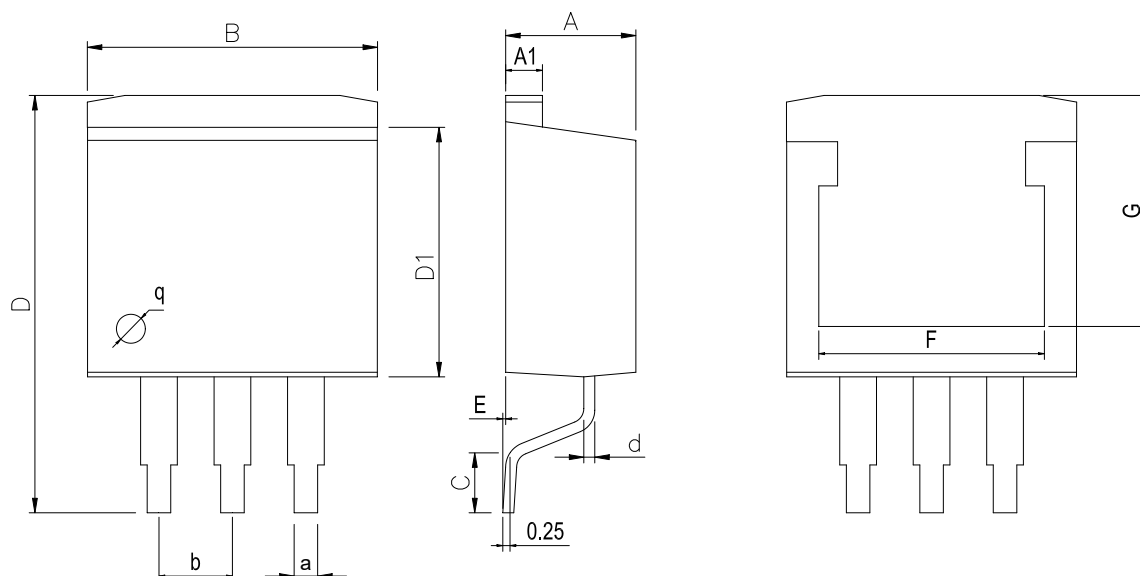
ELECTRICAL CHARACTERISTICS LM7924

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	NORMS		UNIT
			Min	Max	
Output Voltage	V_O	$-27V \geq V_{IN} \geq -38V$ $5.0mA \leq I_O \leq 1.0 A$	-23.05	-24.95	V
Line Regulation	ΔU_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	ΔU_I	$5.0mA \leq I_O \leq 1.5 A$ $250mA \leq I_O \leq 750mA$		446 228	mV
Quiescent Current	I_B			7.8	mA
Quiescent Current Change	ΔI_B	$-27V \geq V_{IN} \geq -33V$ $5.0mA \leq I_O \leq 1.5 A$		0.98 0.48	mA

PHYSICAL DIMENSIONS

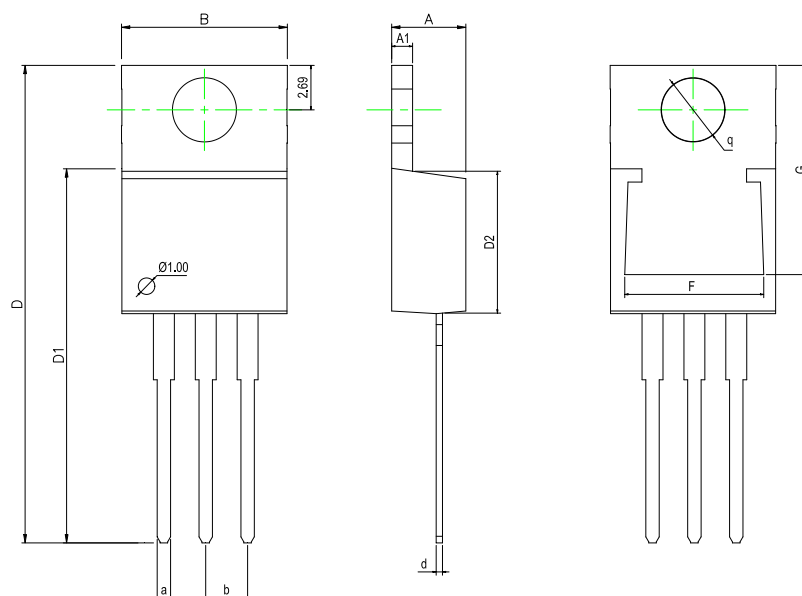
TO-263-3



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

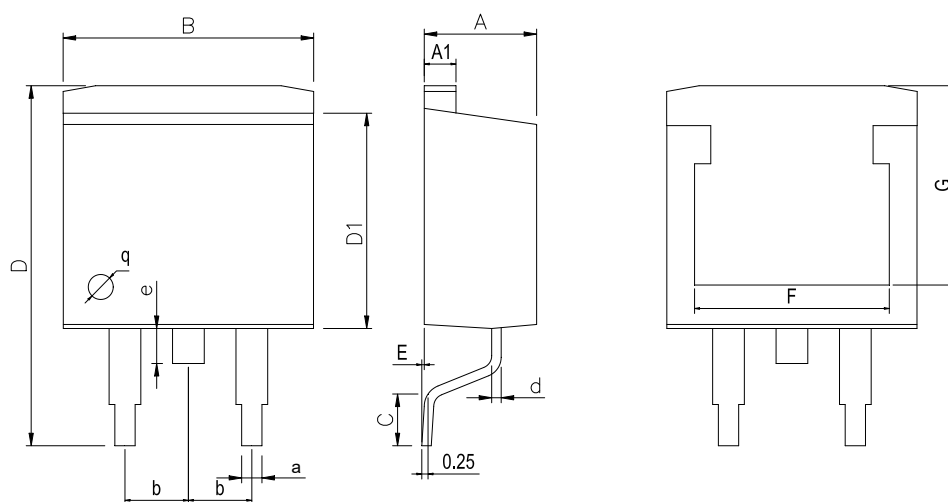


Dimensions In Millimeters(TO-220-3)

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(TO-263-2)												
Symbol:	A	A1	B	C	D	D1	E	F	G	a	e	b
Min:	4.45	1.22	10	2.25	14.5	8.45	0	8.30	7.70	0.71	1.10	2.54BSC
Max:	4.62	1.32	10.4	2.85	15.4	9.10	0.305	8.55	8.10	0.97	1.70	

REVISION HISTORY

DATE	REVISION	PAGE
2018-1-5	New	1-10
2023-9-13	Update Lead Temperature、Update Package Type、Add annotation for Maximum Ratings.	1、 2
2024-5-30	Newly added TO-263-2 packaging	1

IMPORTANT STATEMENT:

Huaguan Semiconductor reserves the right to change its products and services without notice. Before ordering, the customer shall obtain the latest relevant information and verify whether the information is up to date and complete. Huaguan Semiconductor does not assume any responsibility or obligation for the altered documents.

Customers are responsible for complying with safety standards and taking safety measures when using Huaguan Semiconductor products for system design and machine manufacturing. You will bear all the following responsibilities: Select the appropriate Huaguan Semiconductor products for your application; Design, validate and test your application; Ensure that your application meets the appropriate standards and any other safety, security or other requirements. To avoid the occurrence of potential risks that may lead to personal injury or property loss.

Huaguan Semiconductor products have not been approved for applications in life support, military, aerospace and other fields, and Huaguan Semiconductor will not bear the consequences caused by the application of products in these fields. All problems, responsibilities and losses arising from the user's use beyond the applicable area of the product shall be borne by the user and have nothing to do with Huaguan Semiconductor, and the user shall not claim any compensation liability against Huaguan Semiconductor by the terms of this Agreement.

The technical and reliability data (including data sheets), design resources (including reference designs), application or other design suggestions, network tools, safety information and other resources provided for the performance of semiconductor products produced by Huaguan Semiconductor are not guaranteed to be free from defects and no warranty, express or implied, is made. The use of testing and other quality control technologies is limited to the quality assurance scope of Huaguan Semiconductor. Not all parameters of each device need to be tested.

The documentation of Huaguan Semiconductor authorizes you to use these resources only for developing the application of the product described in this document. You have no right to use any other Huaguan Semiconductor intellectual property rights or any third party intellectual property rights. It is strictly forbidden to make other copies or displays of these resources. You should fully compensate Huaguan Semiconductor and its agents for any claims, damages, costs, losses and debts caused by the use of these resources. Huaguan Semiconductor accepts no liability for any loss or damage caused by infringement.