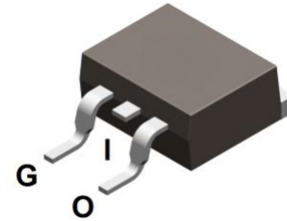
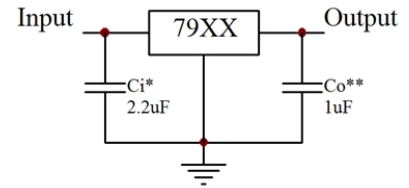




Features

- 3-Terminal Regulators
- Output Current Up to 1.5 A
- No External Components
- Internal Thermal Overload Protection
- High Power Dissipation Capability
- Internal Short-Circuit Current Limiting
- Output Transistor Safe Area Compensation



TO-263

Typical Applications

- Three-terminal Negative Fixed Voltage Regulators

Mechanical Data

- Case: TO-263
- Molding compound, UL flammability classification rating 94V-0
- Terminals: Tin plated leads, solderable per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping	Marking Code
79XXB	TO-263	50 pcs / Tube & 800 pcs / Tape & Reel	79XXB

Maximum Ratings (@ $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Characteristic	Symbol	Value	Units
Input Voltage	V_I	-35	V
Power Dissipation	P_D	2	W

Thermal Characteristics

Parameter	Symbol	Value	Units
Operating Ambient Temperature	T_{opr}	0 to 125	$^{\circ}\text{C}$
Junction Temperature	T_J	-40 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-65 to +150	$^{\circ}\text{C}$



Electrical Characteristics ($V_I = -10V$, $I_O = 500mA$, unless otherwise specified)

Parameter	Symbol	Test conditions ^(Note 1)	7905B			Units
Output Voltage ^(Note 2)	V_O	$T_j = 25^\circ C$	-4.8	-5.0	-5.2	V
		$I_O = 5mA$ to $1A$, $0^\circ C$ to $125^\circ C$ $V_I = -7V$ to $-20V$, $P \leq 15W$	-4.75	-5.0	-5.25	V
Input Regulation	V_I	$T_j = 25^\circ C$, $V_I = -7V$ to $-25V$		12.5	50	mV
Ripple Rejection	R_R	$0^\circ C$ to $125^\circ C$ $V_I = -8V$ to $-18V$, $f = 120Hz$	54	60		dB
Output Regulation	Regload	$T_j = 25^\circ C$ $I_O = 5mA$ to $1.5A$		15	100 50	mV
Temperature Coefficient of output voltage	$\Delta V_O / \Delta T$	$I_O = 5mA$, $0^\circ C$ to $125^\circ C$		-0.4		mV/ $^\circ C$
Output Noise Voltage	V_N	$f = 10Hz$ to $100 KHz$, $T_j = 25^\circ C$		125		μV
Dropout Voltage	V_{drop}	$I_O = 1A$, $T_j = 25^\circ C$		1.1		V
Bias Current	I_d	$T_j = 25^\circ C$		1.5	2	mA
Bias Current Change	ΔI_d	$V_I = -7V$ to $-25V$, $0^\circ C$ to $125^\circ C$ $I_O = 5mA$ to $1A$, $0^\circ C$ to $125^\circ C$		0.15	0.5 0.5	
Peak Output Current	I_{pk}	$T_j = 25^\circ C$		2.1		A

Electrical Characteristics ($V_I = -11V$, $I_O = 500mA$, unless otherwise specified)

Parameter	Symbol	Test conditions ^(Note 1)	7906B			Units
			Min.	Typ.	Max.	
Output Voltage ^(Note 2)	V_O	$T_j = 25^\circ C$	-5.75	-6.0	-6.25	V
		$I_O = 5mA$ to $1A$, $0^\circ C$ to $125^\circ C$ $V_I = -8V$ to $-21V$, $P \leq 15W$	-5.7	-6.0	-6.3	V
Input Regulation	V_I	$T_j = 25^\circ C$, $V_I = -8V$ to $-25V$ $T_j = 25^\circ C$, $V_I = -9V$ to $-13V$		12.5 4	120 60	mV
Ripple Rejection	R_R	$0^\circ C$ to $125^\circ C$ $V_I = -9V$ to $-19V$, $f = 120Hz$	54	60		dB
Output Regulation	Regload	$T_j = 25^\circ C$ $I_O = 5mA$ to $1.5A$ $I_O = 250mA$ to $750mA$		15	120	mV
Temperature Coefficient of output voltage	$\Delta V_O / \Delta T$	$I_O = 5mA$, $0^\circ C$ to $125^\circ C$		-0.4		mV/ $^\circ C$



Output Noise Voltage	V_N	$f=10\text{Hz to } 100\text{ KHz, } T_j=25^\circ\text{C}$		150		μV
Dropout Voltage	V_{drop}	$I_o= 1\text{A, } T_j=25^\circ\text{C}$		1.1		V
Bias Current	I_d	$T_j=25^\circ\text{C}$		1.5	2	mA
Bias Current Change	ΔI_d	$V_i=-8\text{V to } -25\text{V, } 0^\circ\text{C to } 125^\circ\text{C}$ $I_o= 5\text{mA to } 1\text{A, } 0^\circ\text{C to } 125^\circ\text{C}$		0.15	1.3	
Peak Output Current	I_{pk}	$T_j=25^\circ\text{C}$		2.1		A

Electrical Characteristics ($V_i = -14\text{V, } I_o = 500\text{mA}$, unless otherwise specified)

Parameter	Symbol	Test conditions ^(Note 1)	7908B			Units
			Min.	Typ.	Max.	
Output Voltage ^(Note 2)	V_o	$T_j=25^\circ\text{C}$	-7.7	-8	-8.3	V
		$I_o=5\text{mA to } 1\text{A, } 0^\circ\text{C to } 125^\circ\text{C}$ $V_i= -10.5\text{V to } -23\text{V, } P \leq 15\text{W}$	-7.6	-8	-8.4	V
Input Regulation	V_i	$T_j=25^\circ\text{C, } V_i= -10.5\text{V to } -25\text{V}$		12.5	160 80	mV
Ripple Rejection	R_R	$0^\circ\text{C to } 125^\circ\text{C}$ $V_i=-11.5\text{V to } -21.5\text{V, } f= 120\text{Hz}$	54	60		dB
Output Regulation	Regload	$T_j=25^\circ\text{C}$ $I_o= 5\text{mA to } 1.5\text{A}$		15	160	mV
		$I_o= 250\text{mA to } 750\text{mA}$		5	80	
Temperature Coefficient of output voltage	$\Delta V_o/\Delta T$	$I_o= 5\text{mA, } 0^\circ\text{C to } 125^\circ\text{C}$		-0.6		$\text{mV}/^\circ\text{C}$
Output Noise Voltage	V_N	$f=10\text{Hz to } 100\text{ KHz, } T_j=25^\circ\text{C}$		200		μV
Dropout Voltage	V_{drop}	$I_o= 1\text{A, } T_j=25^\circ\text{C}$		1.1		V
Bias Current	I_d	$T_j=25^\circ\text{C}$		1.5	2	mA
Bias Current Change	ΔI_d	$V_i=-10.5\text{V to } -25\text{V, } 0^\circ\text{C to } 125^\circ\text{C}$ $I_o= 5\text{mA to } 1\text{A, } 0^\circ\text{C to } 125^\circ\text{C}$		0.15	1 0.5	
Peak Output Current	I_{pk}	$T_j=25^\circ\text{C}$		2.1		A

Electrical Characteristics ($V_i = -19\text{V, } I_o = 500\text{mA}$, unless otherwise specified)

Parameter	Symbol	Test conditions ^(Note 1)	7912B			Units
			Min.	Typ.	Max.	
Output Voltage ^(Note 2)	V_o	$T_j=25^\circ\text{C}$	-11.5	-12	-12.5	V
		$I_o=5\text{mA to } 1\text{A, } 0^\circ\text{C to } 125^\circ\text{C}$ $V_i= -14.5\text{V to } -27\text{V, } P \leq 15\text{W}$	-11.4	-12	-12.6	V
Input Regulation	V_i	$T_j=25^\circ\text{C, } V_i= -14.5\text{V to } -30\text{V}$		5	80	mV
Ripple Rejection	R_R	$0^\circ\text{C to } 125^\circ\text{C}$	54	60		dB



		$V_I = -15V \text{ to } -25V, f = 120\text{Hz}$				
Output Regulation	Regload	$T_j = 25^\circ\text{C}$ $I_o = 5\text{mA to } 1.5\text{A}$ $I_o = 250\text{mA to } 750\text{mA}$		15 5	200 75	mV
Temperature Coefficient of output voltage	$\Delta V_o / \Delta T$	$I_o = 5\text{mA}, 0^\circ\text{C to } 125^\circ\text{C}$		-0.8		mV/°C
Output Noise Voltage	V_N	$f = 10\text{Hz to } 100\text{KHz}, T_j = 25^\circ\text{C}$		300		uV
Dropout Voltage	V_{drop}	$I_o = 1\text{A}, T_j = 25^\circ\text{C}$		1.1		V
Bias Current	I_d	$T_j = 25^\circ\text{C}$		2	3	mA
Bias Current Change	ΔI_d	$V_I = -14.5\text{V to } -30\text{V}, 0^\circ\text{C to } 125^\circ\text{C}$ $I_o = 5\text{mA to } 1\text{A}, 0^\circ\text{C to } 125^\circ\text{C}$			0.5 0.5	
Peak Output Current	I_{pk}	$T_j = 25^\circ\text{C}$		2.1		A

Electrical Characteristics ($V_I = -23V, I_o = 500\text{mA}$, unless otherwise specified)

Parameter	Symbol	Test conditions ^(Note 1)	7915B			Units
			Min.	Typ.	Max.	
Output Voltage ^(Note 2)	V_o	$T_j = 25^\circ\text{C}$	-14.4	-15	-15.6	V
		$I_o = 5\text{mA to } 1\text{A}, 0^\circ\text{C to } 125^\circ\text{C}$	-14.25	-15	-15.75	V
		$V_I = -17.5\text{V to } -30\text{V}, P \leq 15\text{W}$				
Input Regulation	V_I	$T_j = 25^\circ\text{C}, V_I = -17.5\text{V to } -30\text{V}$		5 3	100 50	mV
Ripple Rejection	R_R	$0^\circ\text{C to } 125^\circ\text{C}$ $V_I = -18.5\text{V to } -28.5\text{V}, f = 120\text{Hz}$	54	60		dB
Output Regulation	Regload	$T_j = 25^\circ\text{C}$ $I_o = 5\text{mA to } 1.5\text{A}$ $I_o = 250\text{mA to } 750\text{mA}$		15 5	200 75	mV
Temperature Coefficient of output voltage	$\Delta V_o / \Delta T$	$I_o = 5\text{mA}, 0^\circ\text{C to } 125^\circ\text{C}$		-1		mV/°C
Output Noise Voltage	V_N	$f = 10\text{Hz to } 100\text{KHz}, T_j = 25^\circ\text{C}$		375		uV
Dropout Voltage	V_{drop}	$I_o = 1\text{A}, T_j = 25^\circ\text{C}$		1.1		V
Bias Current	I_d	$T_j = 25^\circ\text{C}$		2	3	mA
Bias Current Change	ΔI_d	$V_I = -17.5\text{V to } -30\text{V}, 0^\circ\text{C to } 125^\circ\text{C}$ $I_o = 5\text{mA to } 1\text{A}, 0^\circ\text{C to } 125^\circ\text{C}$			0.5 0.5	
Peak Output Current	I_{pk}	$T_j = 25^\circ\text{C}$		2.1		A



Electrical Characteristics ($V_I = -27V$, $I_O = 500mA$, unless otherwise specified)

Parameter	Symbol	Test conditions ^(Note 1)	7918B			Units
			Min.	Typ.	Max.	
Output Voltage ^(Note 2)	V_O	$T_j = 25^\circ C$	-17.3	-18	-18.7	V
		$I_O = 5mA$ to 1A, $0^\circ C$ to $125^\circ C$ $V_I = -21V$ to $-33V$, $P \leq 15W$	-17.1	-18	-18.9	V
Input Regulation	V_I	$T_j = 25^\circ C$, $V_I = -21V$ to $-33V$		5	360	mV
Ripple Rejection	R_R	$0^\circ C$ to $125^\circ C$ $V_I = -22V$ to $-32V$, $f = 120Hz$	54	60		dB
Output Regulation	Regload	$T_j = 25^\circ C$ $I_O = 5mA$ to 1.5A		30	360	mV
		$I_O = 250mA$ to 750mA			180	
Temperature Coefficient of output voltage	$\Delta V_O / \Delta T$	$I_O = 5mA$, $0^\circ C$ to $125^\circ C$		-1		mV/ $^\circ C$
Output Noise Voltage	V_N	$f = 10Hz$ to 100 KHz, $T_j = 25^\circ C$		450		μV
Dropout Voltage	V_{drop}	$I_O = 1A$, $T_j = 25^\circ C$		1.1		V
Bias Current	I_d	$T_j = 25^\circ C$		2	3	mA
Bias Current Change	ΔI_d	$V_I = -21V$ to $-33V$, $0^\circ C$ to $125^\circ C$ $I_O = 5mA$ to 1A, $0^\circ C$ to $125^\circ C$		0.04	1 0.5	
Peak Output Current	I_{pk}	$T_j = 25^\circ C$		2.1		A

Electrical Characteristics ($V_I = -33V$, $I_O = 500mA$, unless otherwise specified)

Parameter	Symbol	Test conditions ^(Note 1)	7924B			Units
Output Voltage ^(Note 2)	V_O	$T_j = 25^\circ C$	-23	-24	-25	V
		$I_O = 5mA$ to 1A, $0^\circ C$ to $125^\circ C$ $V_I = -27V$ to $-38V$, $P \leq 15W$	-22.8	-24	-25.2	V
Input Regulation	V_I	$T_j = 25^\circ C$, $V_I = -27V$ to $-38V$		5	480	mV
		$T_j = 25^\circ C$, $V_I = -30V$ to $-36V$				
Ripple Rejection	R_R	$0^\circ C$ to $125^\circ C$ $V_I = -28V$ to $-38V$, $f = 120Hz$	54	60		dB
Output Regulation	Regload	$T_j = 25^\circ C$ $I_O = 5mA$ to 1.5A		85	480	mV
		$I_O = 250mA$ to 750mA				
Temperature Coefficient of output voltage	$\Delta V_O / \Delta T$	$I_O = 5mA$, $0^\circ C$ to $125^\circ C$		-1		mV/ $^\circ C$



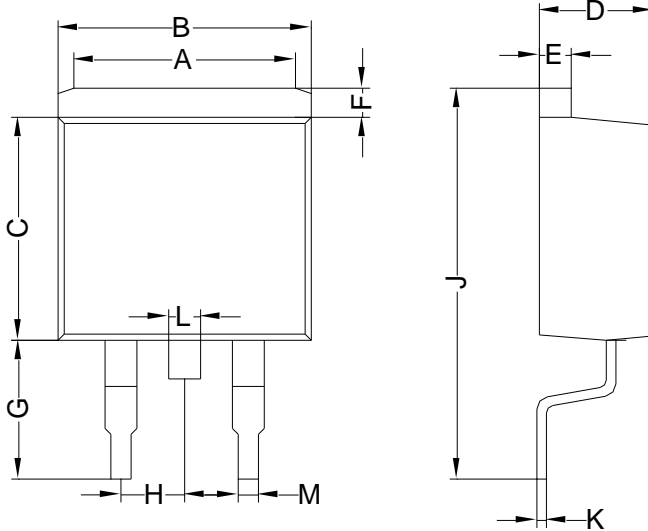
Output Noise Voltage	V_N	$f=10\text{Hz to } 100\text{ KHz, } T_j=25^\circ\text{C}$		600		μV
Dropout Voltage	V_{drop}	$I_o= 1\text{A, } T_j=25^\circ\text{C}$		1.1		V
Bias Current	I_d	$T_j=25^\circ\text{C}$		2	3	mA
Bias Current Change	ΔI_d	$V_i=-27\text{V to } -38\text{V, } 0^\circ\text{C to } 125^\circ\text{C}$ $I_o= 5\text{mA to } 1\text{A, } 0^\circ\text{C to } 125^\circ\text{C}$			1 0.5	
Peak Output Current	I_{pk}	$T_j=25^\circ\text{C}$		2.1		A

Notes:

1. Pulse testing techniques are used to maintain the junction temperature as close to the ambient temperature as possible. Thermal effects must be taken into account separately.
2. This specification applies only for dc power dissipation permitted by absolute maximum ratings.



Package Outline Dimensions (Unit: mm)



TO-263		
Dimension	Min.	Max.
A	6.00	8.00
B	9.90	10.30
C	8.50	9.10
D	4.37	4.77
E	1.07	1.47
F	1.07	1.47
G	5.34	5.74
H	2.44	2.64
J	15.30	15.90
K	0.28	0.48
L	1.17	1.37
M	0.71	0.91

Mounting Pad Layout (Unit: mm)

TO-263

