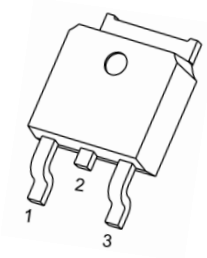
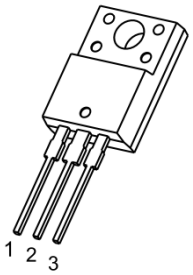
GP7912X

Three-terminal Negative Voltage Regulator

GP7912X

1. GND
2. IN
3. OUT





TO-252 **GP7912D**

TO-220F **GP7912F**

Feature

- Output Voltage: -12V
- Maximum Output Current: 1.5A
- Internal Thermal Overload Protection
- Internal Short Circuit Current
- Output Transition Safe-Area Compensation

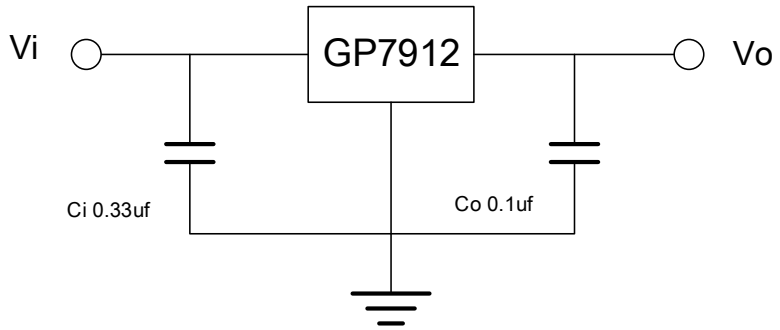
Absolute Maximum Ratings (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Input voltage	V_i	-35	V
Thermal Resistance from Junction to Air(TO-252)	$R_{\theta JA}$	80	℃/W
Thermal Resistance from Junction to Air(TO-220F)	$R_{\theta JA}$	66.7	℃/W
Operating Junction Temperature Range	T_{OPR}	-25~+125	℃
Storage Temperature Range	T_{STG}	-65~+150	℃

Electrical Characteristics(T_a=25℃,Vi=-19V,Io=500mA,Ci=0.33uF,Co=0.1uF,unless otherwise specified)

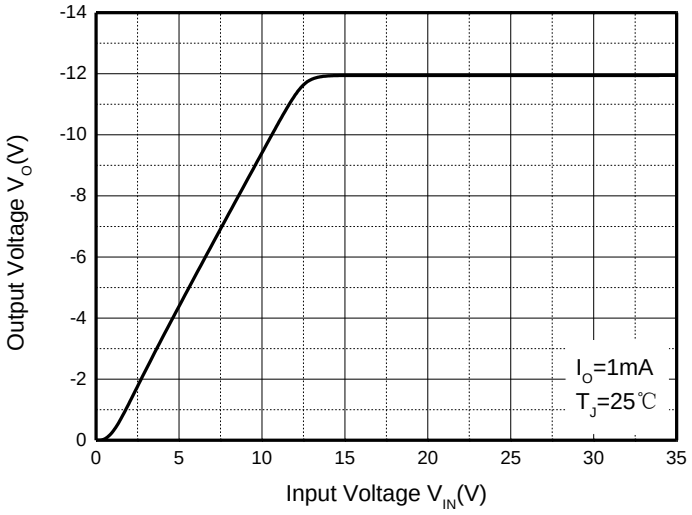
Parameter	Symbol	Test Condition		Min	Type	Max	Unit
Output Voltage	V_O	I_O=500mA	25℃	-11.5	-12	-12.5	V
		V_I=-14.5~-27V, I_O=5mA~1A	-40℃~125℃	-11.4	-12	-12.6	
Load Regulation	ΔVo	I_O=5mA~1A	25℃		40	240	mV
		I_O=250mA~750mA	25℃		10	120	mV
Line Regulation	ΔVo	V_I=-14.5~-30V, I_O=100mA	25℃		10	120	mV
		V_I=-16~-22V, I_O=100mA	25℃		3	60	mV
		V_I=-14.5~-30V, I_O=500mA	25℃		14	240	mV
		V_I=-16~-22V, I_O=500mA	25℃		5	120	mV
Quiescent Current	I_Q	V_I=-19V, I_O=500mA	25℃		3.2	8	mA
Quiescent Current Change	ΔI_Q	V_I=-14.5V~-30V, I_O=500mA	25℃			1.3	mA
		V_I=-19V, I_O=5mA~1A	25℃			0.5	mA
Output Voltage Drift	$\Delta V_O/\Delta T$	Io=5mA	-40℃~125℃		-0.2		mV/℃
Ripple Rejection	RR	I_O = 20 mA, f = 120KHz	25℃		70		dB
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25℃		40		uV/Vo
Dropout Voltage	Vd	Io=1A	25℃		2		V
Short Circuit Current	Isc	V_I=-35V	25℃		200		mA
Peak Current	Ipk		25℃		2.2		A

Typical Application

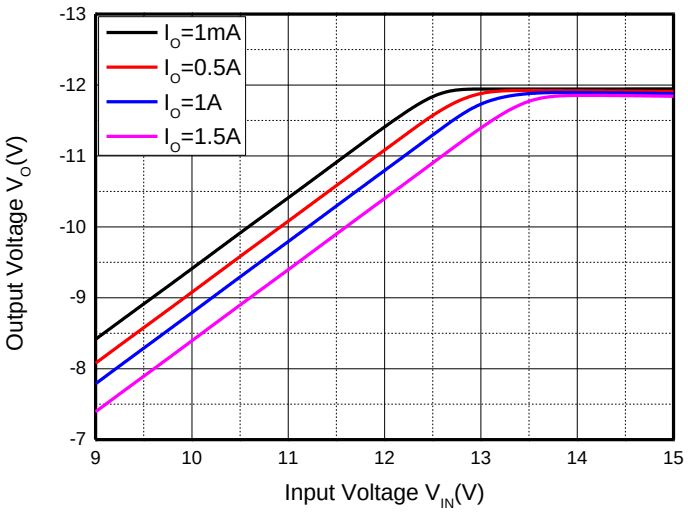


Typical Characteristics

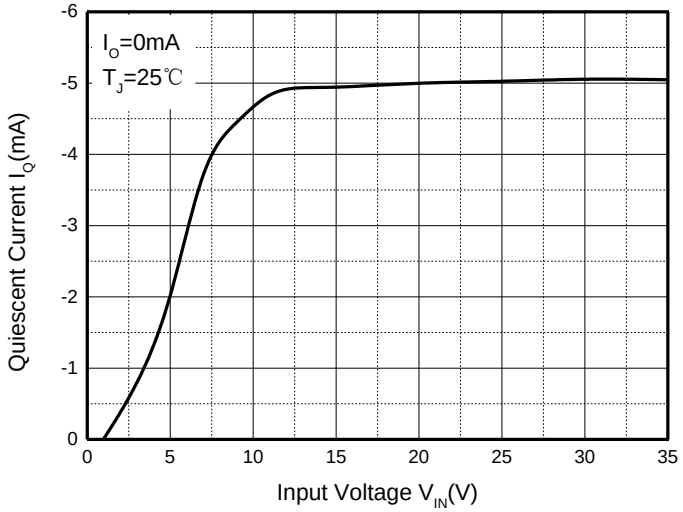
Output Characteristics



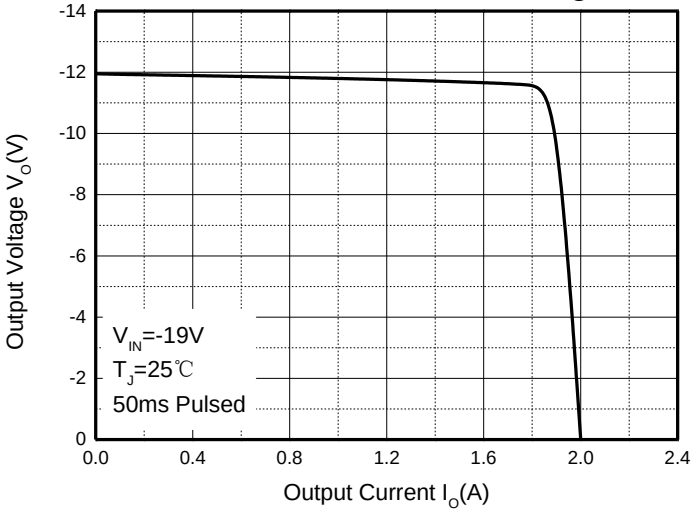
Output Characteristics



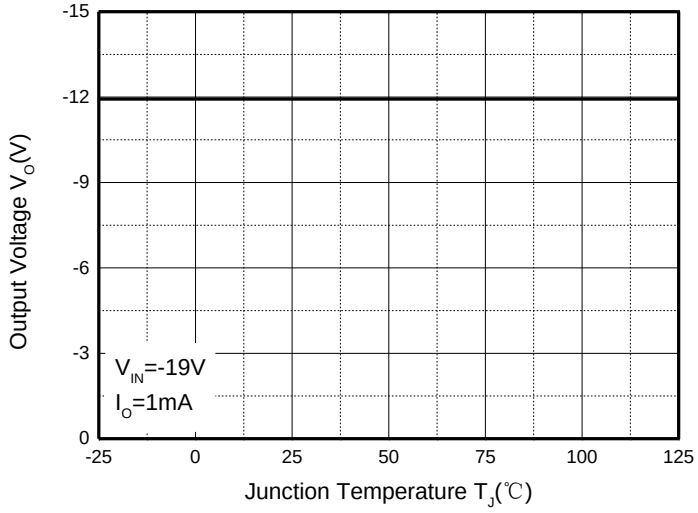
Quiescent Current



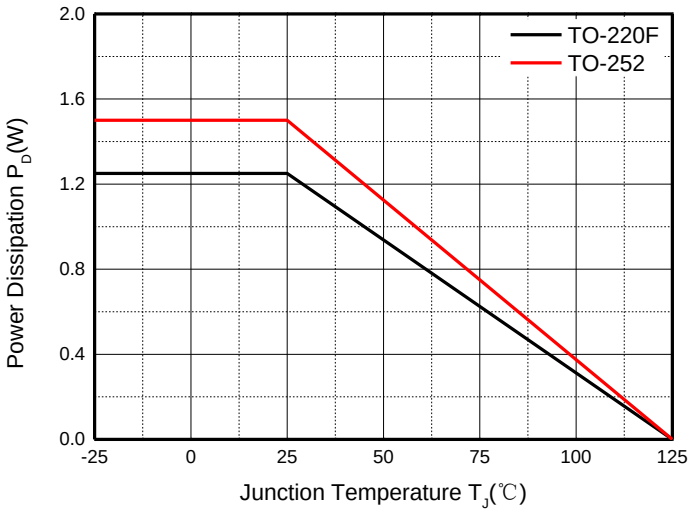
Current Cut-off Grid Voltage



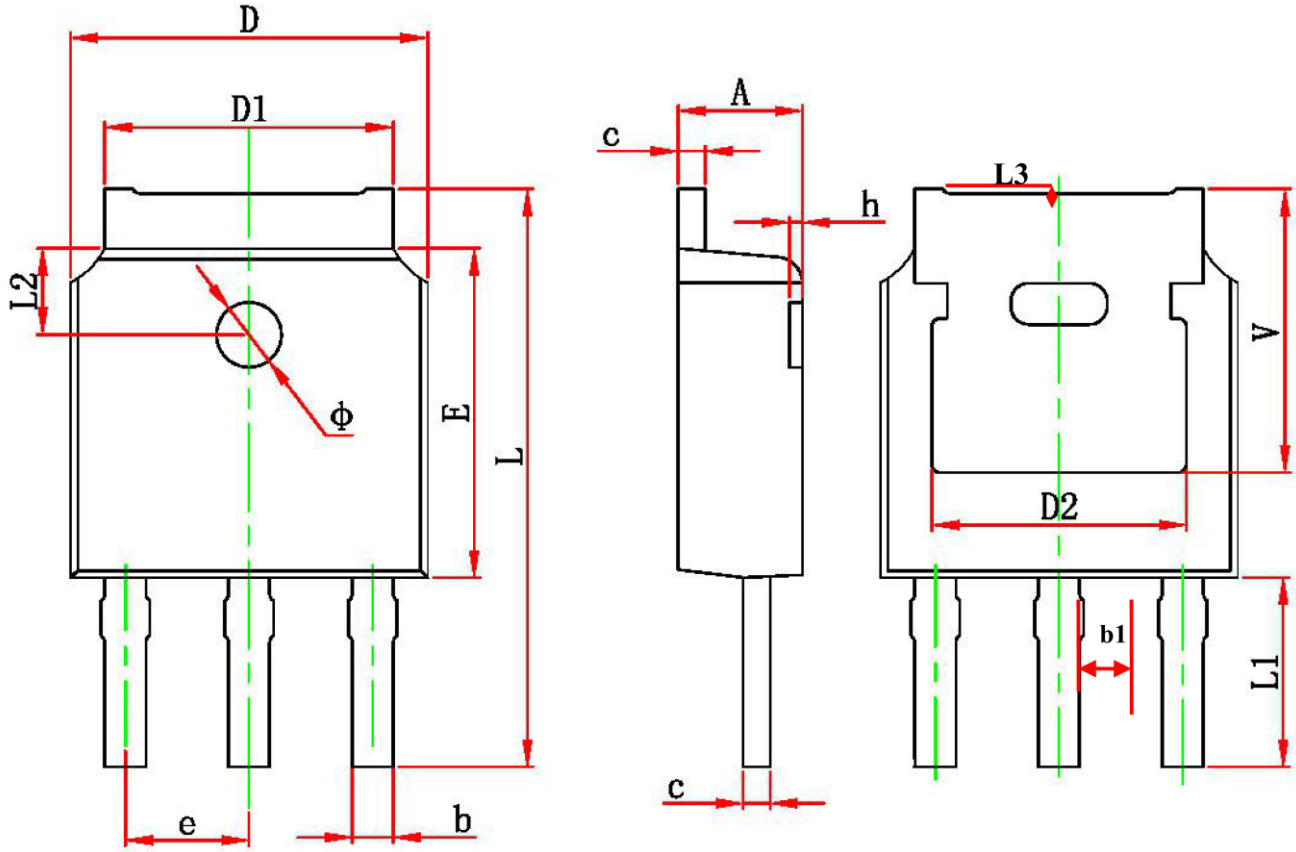
Output Voltage vs Junction Temperature



Power Derating Curve



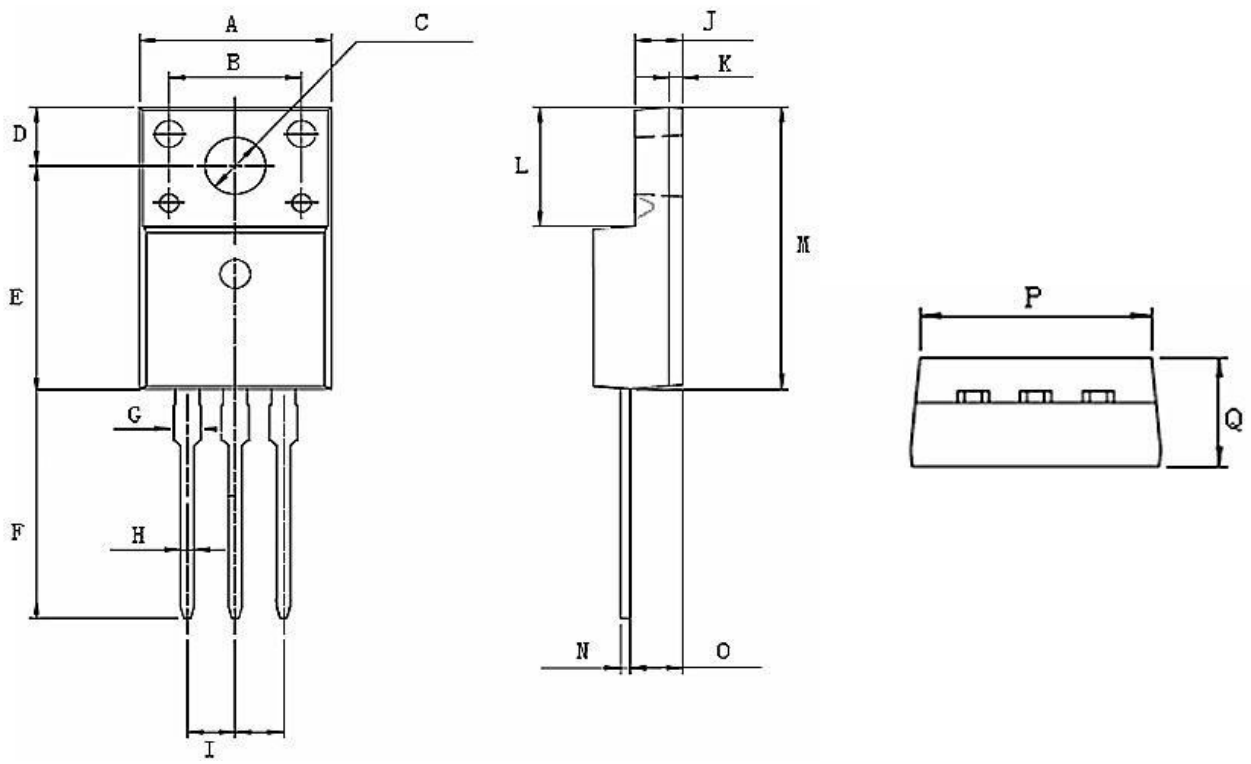
TO-252 Package Outline Dimensions



SYMBOL	MIN	MAX	SYMBOL	MIN	MAX
A	2.2	2.4	L1	2.90 REF	
A1	0	0.125	L2	1.4	1.7
b	0.66	0.86	L3	1.60 REF	
c	0.46	0.58	L4	0.6	1
D	6.5	6.7	Φ	1.1	1.3
D1	5.1	5.46	θ	0°	8°
D2	4.830 REF		h	0	0.3
E	6	6.2	V	5.35 REF	
e	2.186	2.386			
L	9.8	10.4			
共面度	0	0.09			

单位：mm

TO-220F Package Outline Dimensions



SYMBOL	MIN	MAX	SYMBOL	MIN	MAX
A	9.92	10.32	K	0.55	0.75
B	6.9	7.1	L	6.57	6.77
C	3.35	3.55	M	15.8	16
D	3.25	3.35	N	0.4	0.6
E	12.35	12.75	O	2.62	2.92
F	12.8	13.2	P	9.2	9.4
G	1.22	1.42	Q	4.6	4.8
H	0.7	0.9			
I	2.54 Typ				
J	2.45	2.65			

单位：mm