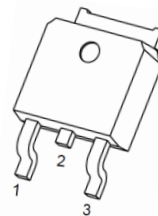


GP7812X

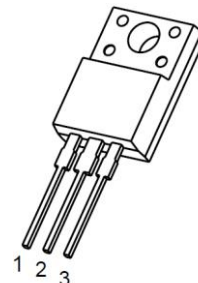
Feature

- Output Voltage: 12V
- Maximum Output Current: 1.5A
- Output Transition Safe-Area Compensation

1. IN
2. GND
3. OUT



TO-252
GP7812D



TO-220F
GP7812F

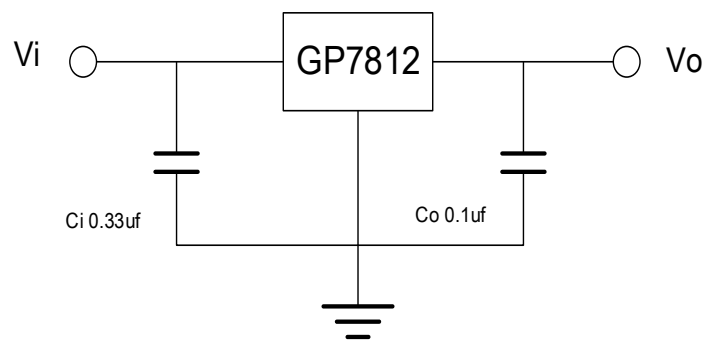
Absolute Maximum Ratings ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

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

Electrical Characteristics($T_a=25^{\circ}\text{C}$, $V_i=10\text{V}$, $I_o=500\text{mA}$, $C_i=0.33\mu\text{F}$, $C_o=0.1\mu\text{F}$, unless otherwise specified)

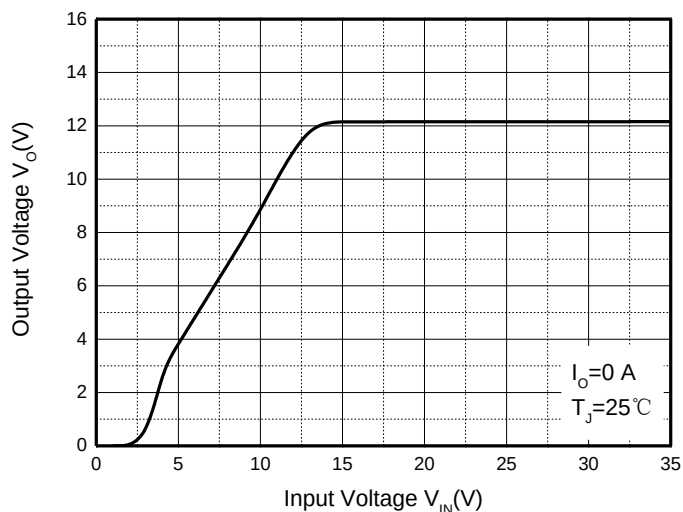
Parameter	Symbol	Test Condition		Min	Type	Max	Unit
Output voltage	V_o		25 $^{\circ}\text{C}$	11.5	12.0	12.5	V
		14.5V $\leq V_i \leq 27\text{V}$, $I_o=5\text{mA}-1\text{A}$	0~125 $^{\circ}\text{C}$	11.4	12.0	12.6	V
Load Regulation	ΔV_o	$I_o=5\text{mA}-1.5\text{A}$	25 $^{\circ}\text{C}$		10	240	mV
		$I_o=250\text{mA}-750\text{mA}$	25 $^{\circ}\text{C}$		3	120	mV
Line regulation	ΔV_o	14.5V $\leq V_i \leq 30\text{V}$	25 $^{\circ}\text{C}$		12	240	mV
		16V $\leq V_i \leq 22\text{V}$	25 $^{\circ}\text{C}$		4	120	mV
Quiescent Current	I_Q		25 $^{\circ}\text{C}$		3.5	8	mA
Quiescent Current Change	ΔI_Q	14.5V $\leq V_i \leq 30\text{V}$	-25-125 $^{\circ}\text{C}$			1	mA
		5mA $\leq I_o \leq 1\text{A}$	-25-125 $^{\circ}\text{C}$			0.5	mA
Output Voltage Drift	$\Delta V_o/\Delta T$	$I_o=5\text{mA}$	-25-125 $^{\circ}\text{C}$		-1		mV/ $^{\circ}\text{C}$
Ripple Rejection	RR	15V $\leq V_i \leq 25\text{V}$, $f=120\text{KHz}$	-25-125 $^{\circ}\text{C}$	55	71		dB
Output Noise Voltage	V_N	10Hz $\leq f \leq 100\text{KHz}$	25 $^{\circ}\text{C}$		75		$\mu\text{V}/V_o$
Dropout Voltage	V_d	$I_o=1\text{A}$	25 $^{\circ}\text{C}$		2		V
Output Resistance	R_o	$f=1\text{KHz}$	25 $^{\circ}\text{C}$		18		m Ω
Short Circuit Current	I_{sc}		25 $^{\circ}\text{C}$		350		mA
Peak Current	I_{pk}		25 $^{\circ}\text{C}$		2.2		A

Typical Application

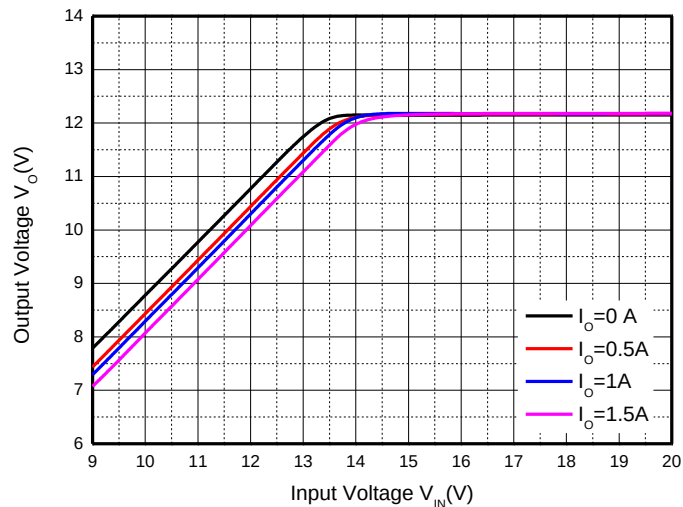


Typical Characteristics

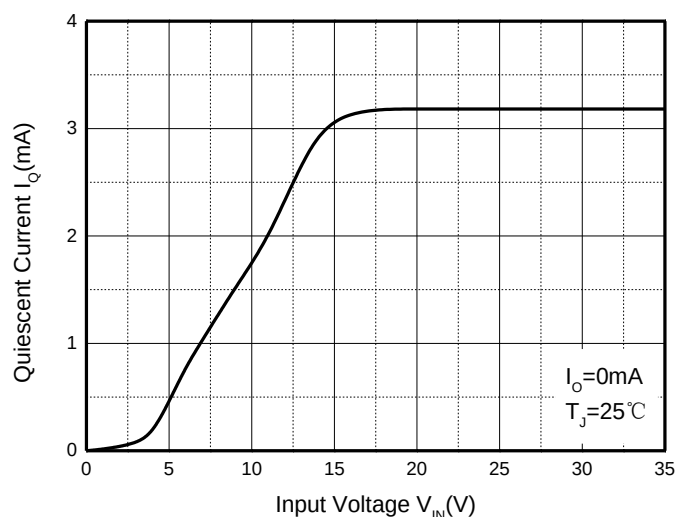
Output Characteristics



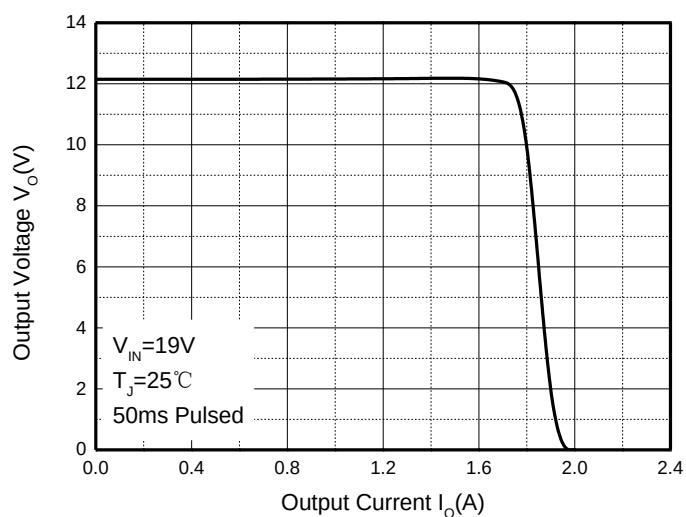
Output Characteristics



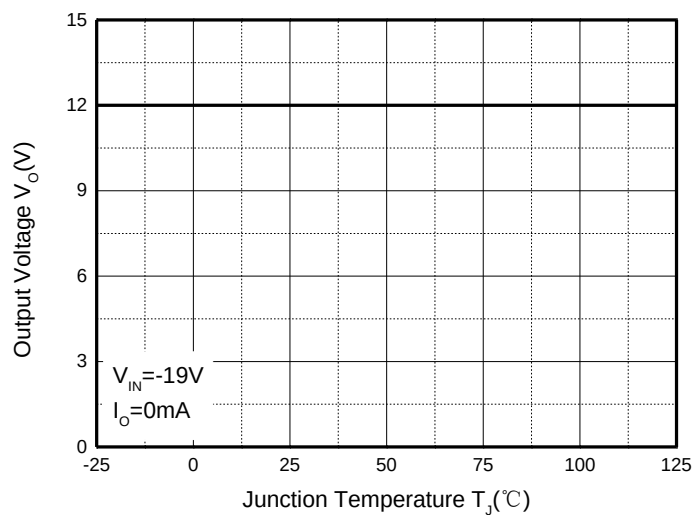
Quiescent Current



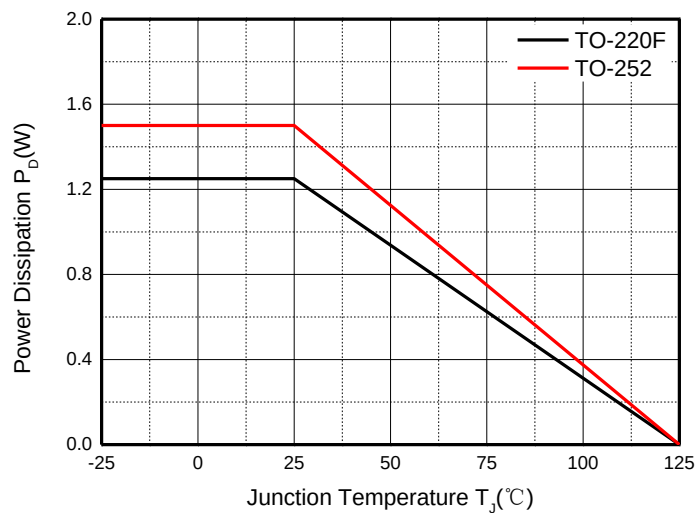
Current Cut-off Grid Voltage

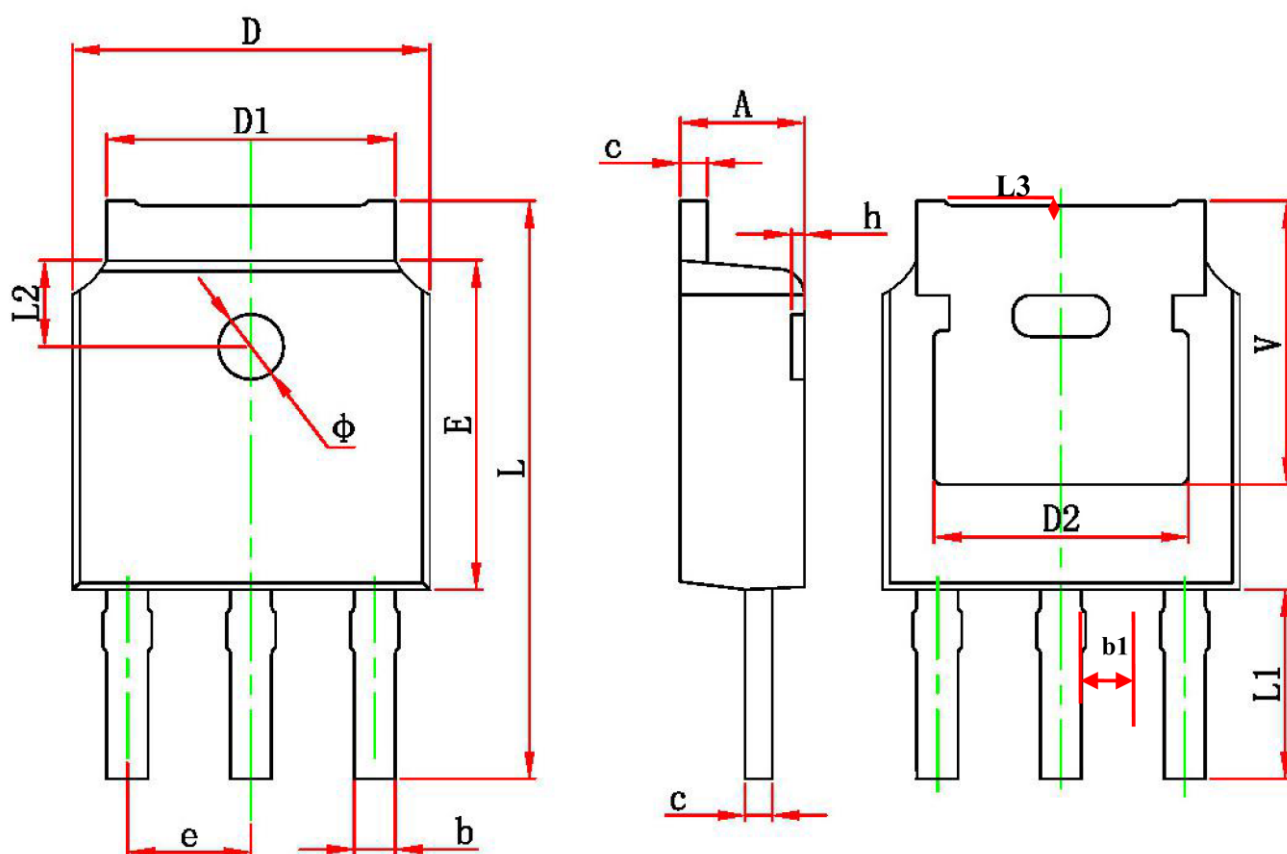


Output Voltage vs Junction Temperature



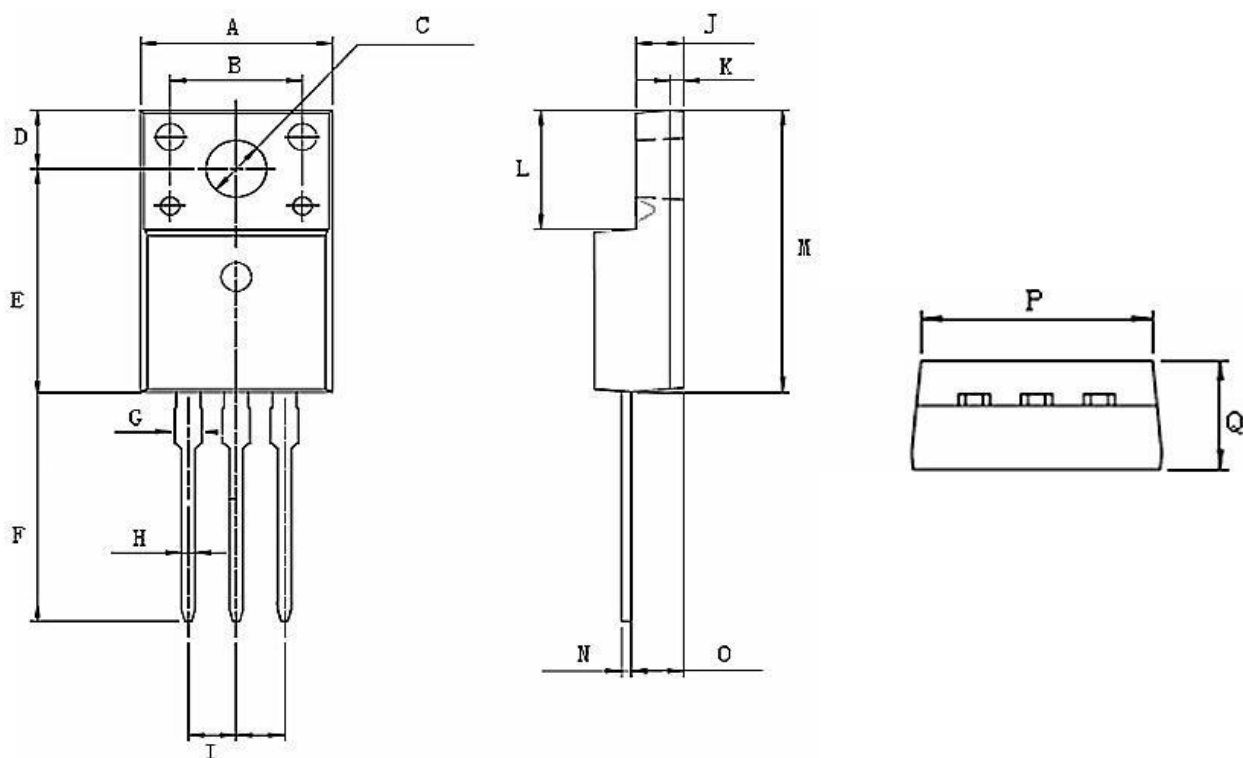
Power Derating Curve



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