



DESCRIPTION

The A7812 is available in TO-220, TO220F, TO-252 and TO-263-3 Packages.

FEATURE

- Output current up to 1.0A
- Input Voltage: 35V
- Output Voltage: 12V
- Thermal overload protection
- Short circuit protection

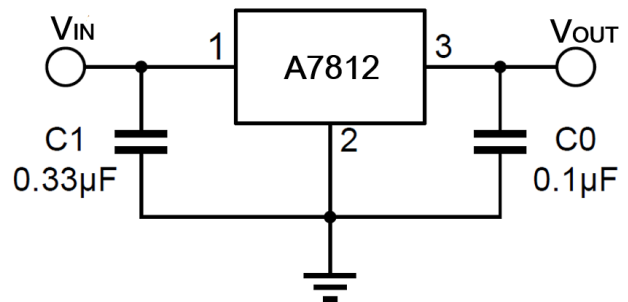
ORDERING INFORMATION

Package Type	Part Number	
TO-220 SPQ: 50pcs/Tube	T3	A7812T3U
		A7812T3VU
TO-220F SPQ: 50pcs/Tube	T3F	A7812T3FU
		A7812T3FVU
TO-252 SPQ: 2,500pcs/Reel	D	A7812DR
		A7812DVR
TO-263-3 SPQ: 800pcs/Reel	S3	A7812S3R
		A7812S3VR
Note	V: Halogen free Package R: Tape & Reel U: Tube	
AiT provides all RoHS products		

APPLICATION

- DVB
- Computer, Mother Board, Graphic Card
- LCD Monitor and LCD TV
- DVD Decode Board
- ADSL Modem
- Post Regulators for Switching Supplies

TYPICAL APPLICATION





PIN DESCRIPTION

<p>A7812 TO-220</p> <p>1 2 3 IN GND OUT</p> <p>TO-220, T3 Top View</p>	<p>A7812 TO-220F</p> <p>1 2 3 IN GND OUT</p> <p>TO-220F, TF3 Top View</p>	
<p>A7812 TO-252</p> <p>1 2 3 IN GND OUT</p> <p>TO-252, D Top View</p>	<p>A7812 TO-263-3</p> <p>1 2 3 IN GND OUT</p> <p>TO-263-3, S3 Top View</p>	
Pin #	Symbol	Function
1	IN	Input
2	GND	Ground
3	OUT	Output



ABSOLUTE MAXIMUM RATINGS

T_A = 25°C, unless otherwise specified.

Parameter	Symbol	Value	Unit
Input voltage	V _{IN}	35	V
Thermal resistance junction-air	TO-220	65	°C/W
	TO-220F	65	
	TO-252	80	
	TO-263-3	66.7	
Thermal resistance junction-cases	R _{θJC}	5	°C /W
Operating Temperature	T _{OPR}	-40~+125	°C
Storage Temperature	T _{STG}	-65~+150	°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

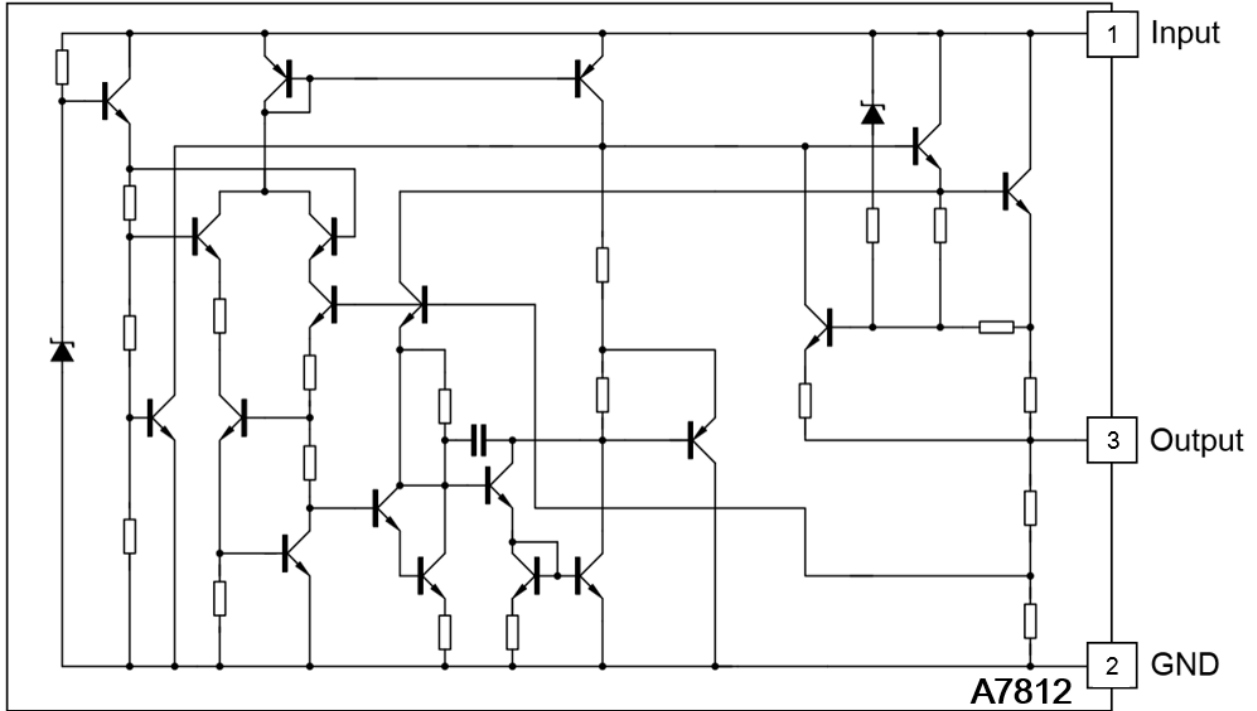
ELECTRICAL CHARACTERISTICS

T_A=25°C , I_{OUT}=500mA, V_{IN}=19V, C₁=0.33μF , C₀=0.1μF, unless otherwise specified

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output voltage	V _{OUT}	T _A =25°C	11.5	12	12.5	V
		5.0mA<I _{OUT} <1.0A, P _O <15W V _{IN} =15.5V to 27V	11.4	12	12.6	V
Line regulation	ΔV _{LINE}	V _{IN} =14.5V to 30V	-	-	240	mV
		V _{IN} =16V to 22V	-	-	120	
Load regulation	ΔV _{LOAD}	I _{OUT} =5.0mA to 1.0A	-	-	240	mV
		I _{OUT} =250mA to 750mA	-	-	120	
Quiescent current	I _Q	T _A =25°C	-	4.3	8	mA
Quiescent current change	ΔV _Q	I _O =5mA to 1.0A	-	-	0.5	mA
		V _{IN} =15V to 30V, I _{OUT} =500mA	-	-	0.8	
Output voltage drift	ΔV _{OUT} /ΔT	I _{OUT} =5mA	-	-1	-	mV/°C
Output noise voltage	V _N	f=10Hz to 100kHz	-	42	-	μV/V _{OUT}
Ripple rejection	RR	f=120Hz, V _{IN} =15V to 25V	-	60	-	dB
Dropout voltage	V _{DROP}	I _{OUT} =1.0A	-	2	-	V
Output resistance	R _O	f=1kHz	-	18	-	mΩ
Short circuit current	I _{SC}	V _{IN} =35V	-	200	-	mA



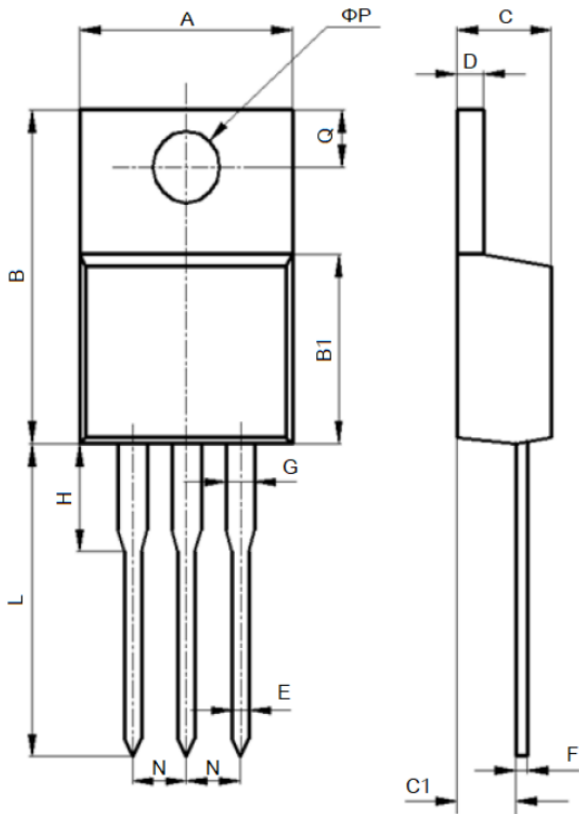
BLOCK DIAGRAM





PACKAGE INFORMATION

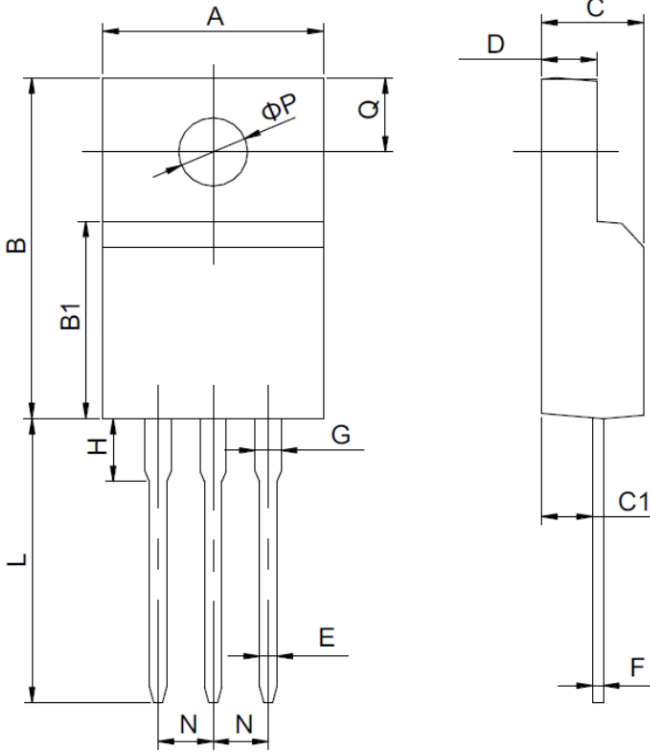
Dimension in TO-220 (Unit: mm)



Symbol	Min.	Max.
A	10.100	10.500
B	15.200	15.600
B1	9.000	9.400
C	4.400	4.600
C1	2.400	3.000
D	1.200	1.400
E	0.700	0.900
F	0.400	0.600
G	1.170	1.370
H	3.300	3.800
L	13.100	13.700
N	2.340	2.740
Q	2.400	3.000
ΦP	3.700	3.900



Dimension in TO-220F (Unit: mm)

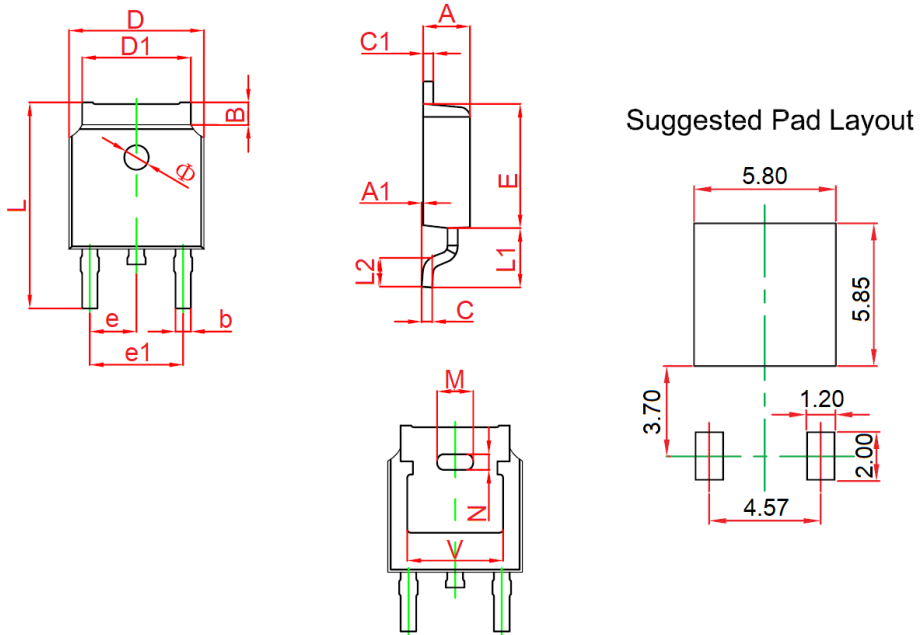


Symbol	Min.	Max.
A	9.700	10.300
B	15.500	16.100
B1	8.990	9.390
C	4.400	4.800
C1	2.150	2.550
D	2.500	2.900
E	0.700	0.900
F	0.400	0.600
G	1.120	1.420
H	3.400	3.800
L	12.600	13.600
N	2.340	2.740
Q	3.150	3.550
ΦP	3.000	3.300



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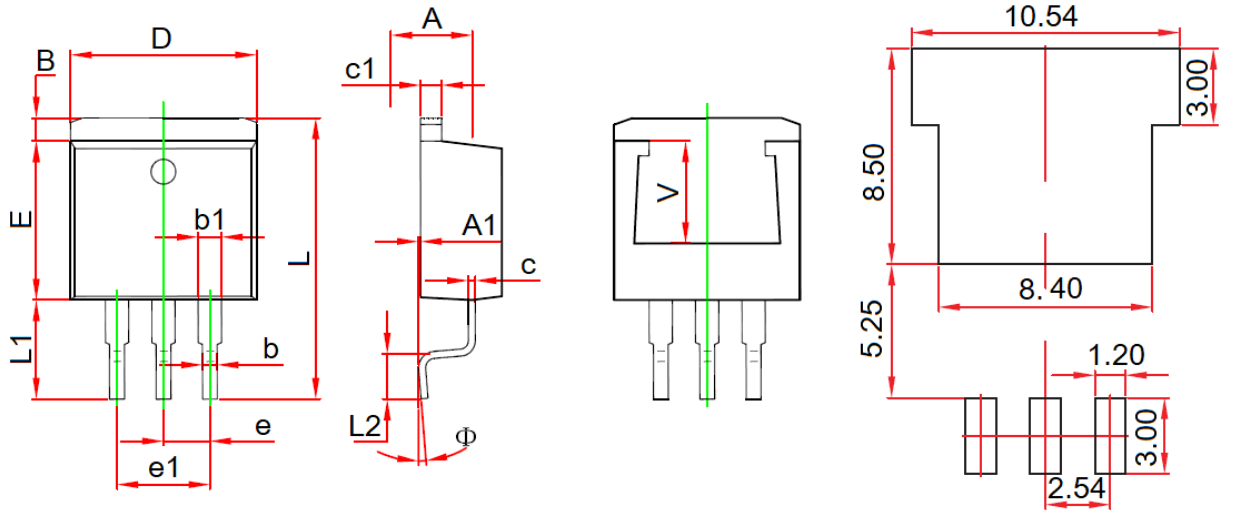
Dimension in TO-252 Package (Unit: mm)



Symbol	Min.	Max.
A	2.200	2.380
A1	0.000	0.100
B	0.800	1.400
b	0.710	0.810
C	0.460	0.560
C1	0.460	0.560
D	6.500	6.700
D1	5.130	5.460
E	6.000	6.200
e	2.286 TYP.	
e1	4.327	4.727
M	1.778 REF.	
N	0.762 REF.	
L	9.800	10.400
L1	2.9 REF.	
L2	1.400	1.700
V	4.830 REF.	
Φ	1.100	1.300



Dimension in TO-263 Package (Unit: mm)



Symbol	Min.	Max.
A	4.470	4.670
A1	0.000	0.150
B	1.120	1.420
b	0.710	0.910
b1	1.170	1.370
c	0.310	0.530
c1	1.170	1.370
D	10.010	10.310
E	8.500	8.900
e	2.540 TYP.	
e1	4.980	5.180
L	14.940	15.500
L1	4.950	5.450
L2	2.340	2.740
Φ	0°	8°
V	5.600 REF.	



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