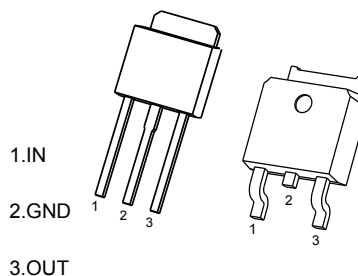


VC7812 Three-terminal positive voltage regulator

FEATURES

- Maximum output current
 I_{OM} : 1.5 A
- Output voltage
 V_O : 12 V
- Continuous total dissipation
 P_D : 1.25 W ($T_a = 25^\circ\text{C}$)

TO-251-3L/TO-252-2L



ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

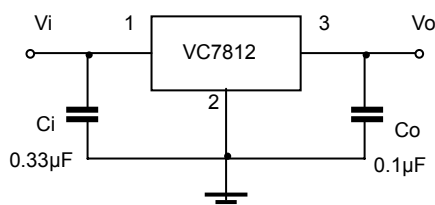
Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	80	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_{OPR}	-25~+125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65~+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=19\text{V}$, $I_o=500\text{mA}$, $C_i=0.33\mu\text{F}$, $C_o=0.1\mu\text{F}$, unless otherwise specified)

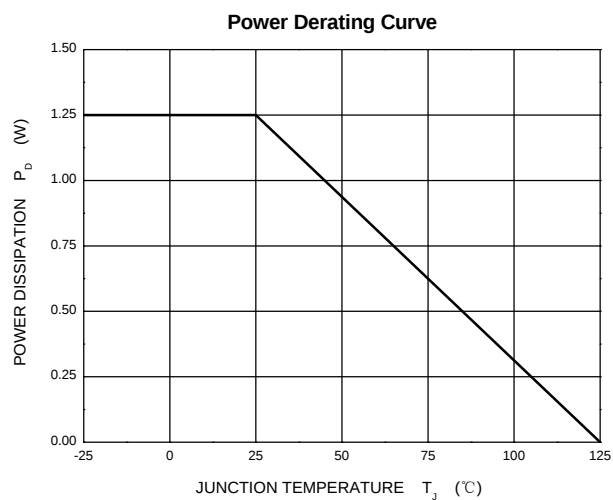
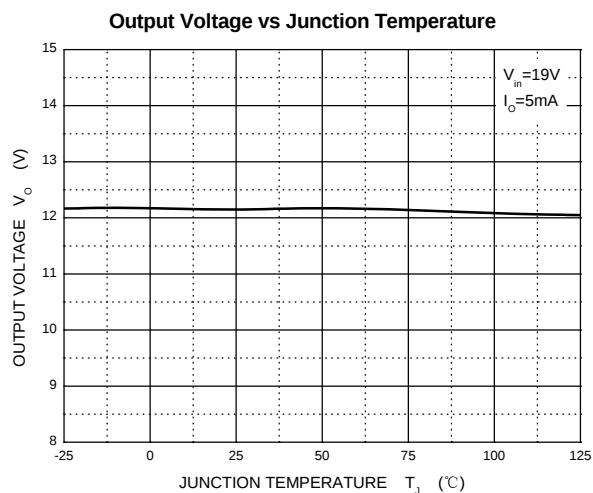
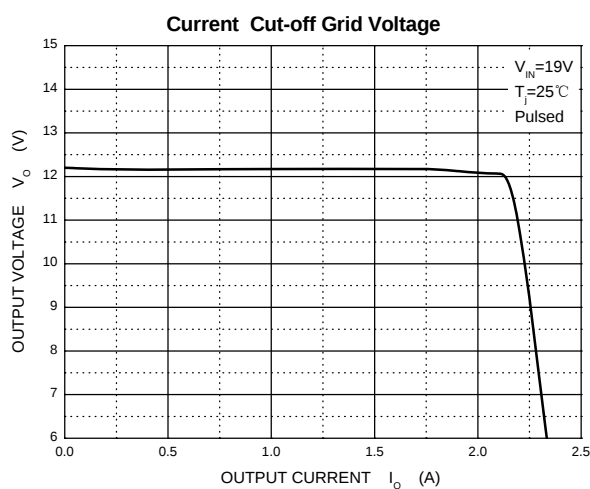
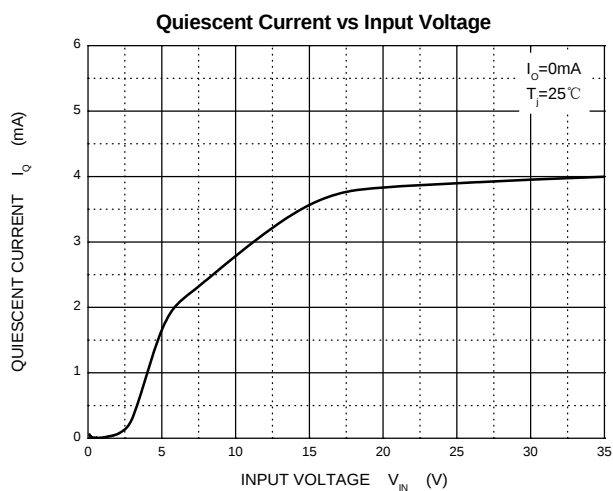
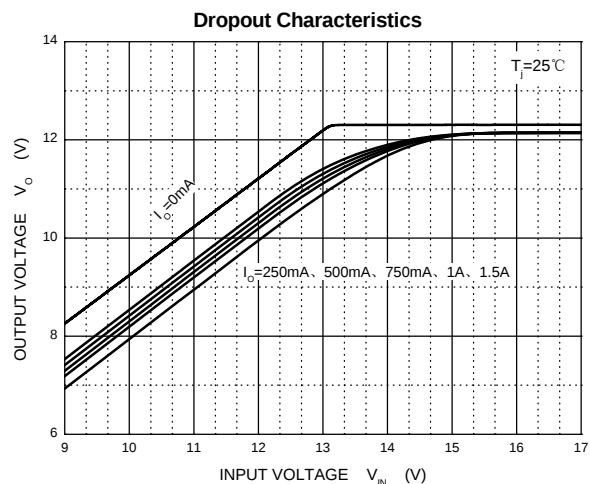
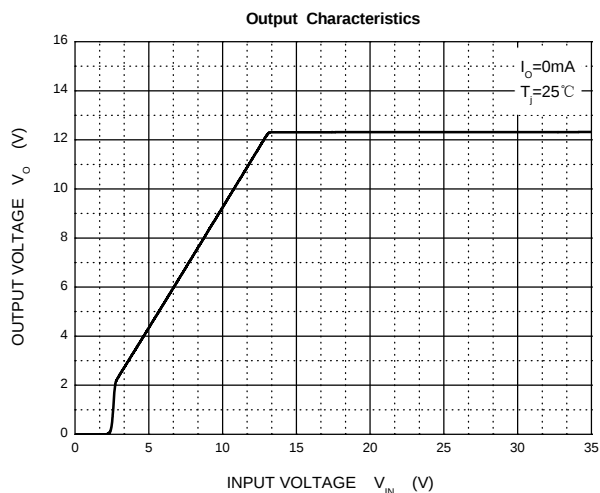
Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Output Voltage	Vo		25°C	11.5	12.0	12.5	V
		Io= 5mA-1A, 14.5V≤ Vi ≤27V	-25-125°C	11.4	12.0	12.6	V
Load Regulation	ΔVo	Io=5mA -1.5A	25°C		10	240	mV
		Io=250mA - 750mA	25°C		3	120	mV
Line Regulation	ΔVo	14.5V≤ Vi ≤30V	25°C		12	240	mV
		16V≤Vi≤22V	25°C		4	120	mV
Quiescent Current	Iq		25°C		4.3	8	mA
Quiescent Current Change	ΔIq	5.0mA≤ Io ≤1.0A	-25-125°C			0.5	mA
		14.5V ≤Vi≤ 30V	-25-125°C			1.0	mA
Output Voltage Drift	Δ Vo/ Δ T	Io=5mA	-25-125°C		-1		mV/°C
Output Noise Voltage	VN	f =10Hz to 100KHz	25°C		75		μV/Vo
Ripple Rejection	RR	f =120Hz, 15V≤ Vi ≤25V	-25-125°C	55	71		dB
Dropout Voltage	Vd	Io=1.0A	25°C		2		V
Output Resistance	RO	f = 1KHz	-25-125°C		18		mΩ
Short Circuit Current	Isc		25°C		350		mA
Peak Current	Ipk		25°C		2.2		A

* Pulse test.

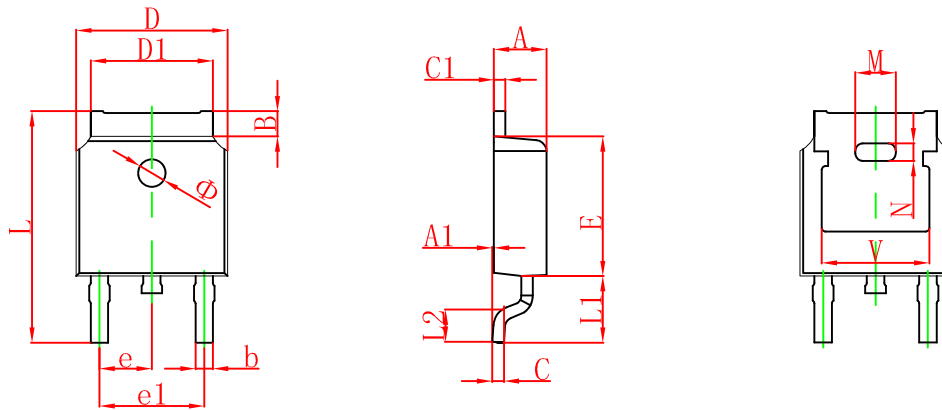
TYPICAL APPLICATION



Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

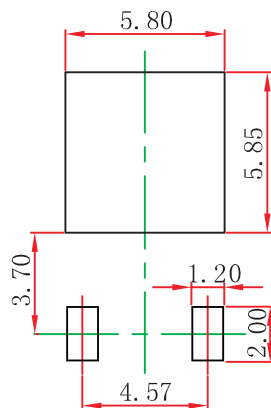


TO-252(4R)-2L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.380	0.087	0.094
A1	0.000	0.100	0.000	0.004
B	0.800	1.400	0.031	0.055
b	0.710	0.810	0.028	0.032
c	0.460	0.560	0.018	0.022
c1	0.460	0.560	0.018	0.022
D	6.500	6.700	0.256	0.264
D1	5.130	5.460	0.202	0.215
E	6.000	6.200	0.236	0.244
e	2.286 TYP.		0.090 TYP.	
e1	4.327	4.727	0.170	0.186
M	1.778REF.		0.070REF.	
N	0.762REF.		0.018REF.	
L	9.800	10.400	0.386	0.409
L1	2.9REF.		0.114REF.	
L2	1.400	1.700	0.055	0.067
V	4.830 REF.		0.190 REF.	
Φ	1.100	1.300	0.043	0.051

TO-252(4R)-2L Suggested Pad Layout

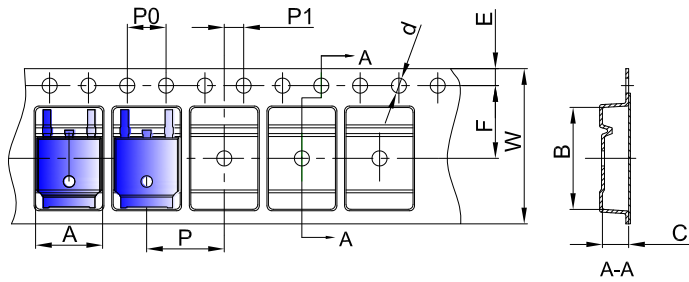


Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

To-252(4R)-2L Tape and Reel

TO-252 Embossed Carrier Tape

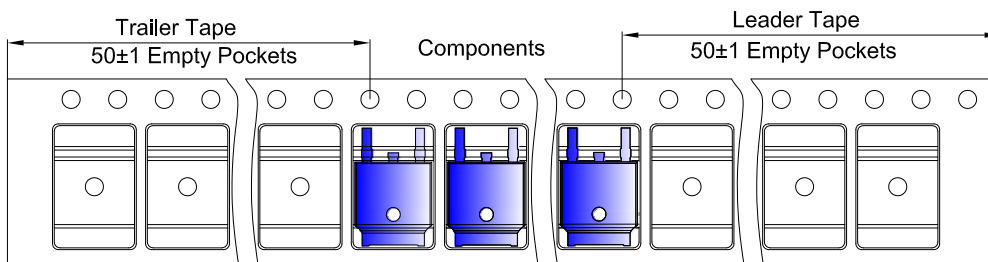


Packaging Description:

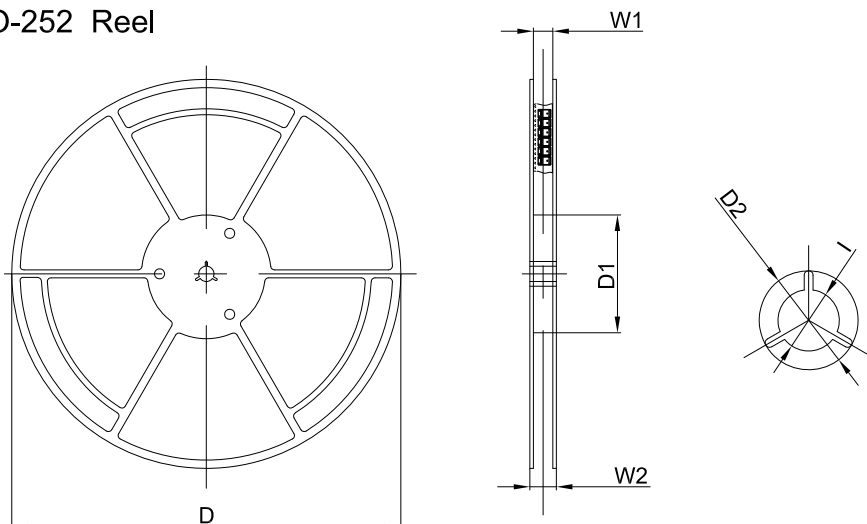
TO-252 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 25,00 units per 13" or 33.0 cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
TO-252	6.90	10.50	2.70	Ø1.55	1.75	7.50	4.00	8.00	2.00	16.00

TO-252 Tape Leader and Trailer



TO-252 Reel



Dimensions are in millimeter						
Reel Option	D	D1	D2	W1	W2	I
13"Dia	330.00	100.00	Ø21.00	16.40	21.00	Ø13.00

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
2,500 pcs	13inch	2,500 pcs	340×336×29	25,000 pcs	353×346×365	