



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Models

Model	Input Voltage (DC V)	Input Voltage range (DC V)	Output voltage (DC V)	Output current (mA)
MSD15-2412	24	18~36	±12	±600
MSD15-2415	24		±15	±500
MSD15-4812	48	36~75	±12	±600
MSD15-4815	48		±15	±500

Specification

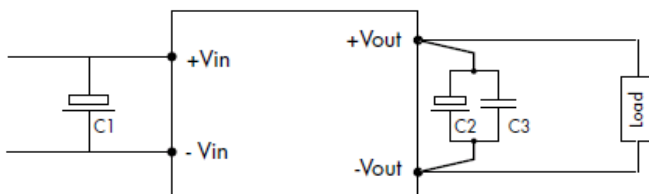
Input Specifications	
Input current (no load)	24 Vin models: 50 mA typ. 48 Vin models: 30 mA typ.
Input current (full load)	24 Vin; 3.3 Vout models: 570 mA typ. 24 Vin; other output models: 730 mA typ. 48 Vin; 3.3 Vout models: 280 mA typ. 48 Vin; other output models: 360 mA typ.
Start-up voltage /under voltage shut down	24 Vin models: 17 VDC /16.5 VDC 48 Vin models: 34.0 VDC /32.5 VDC
Surge voltage(100 msec. max.)	24 Vin models: 50 V max.. 48 Vin models: 100 V max.

Output Specifications	
Voltage set accuracy	$\pm 1\%$
Regulation	<ul style="list-style-type: none"> - Input variation V_{in} min. to V_{in} max. 0.5% max. - Load variation 10 - 100 % <p style="text-align: right;">dual output models unbalanced: 2.0 % max. dual output models unbalanced: 5.0 % max.</p>
Ripple and noise (20 MHz Bandwidth)	100 mVpk-pk max. (with external output capacitor, see Note 1)
Temperature coefficient	$\pm 0.02\% / K$
Output current limitation	$>105\%$ of I_{out} max., foldback
Short circuit protection	indefinite (automatic recovery)
Start-up time	30ms max.
Max. capacitive load	1200 μF
General Specifications	
Temperature ranges	<ul style="list-style-type: none"> - Operating $-25^{\circ} C \dots +71^{\circ} C$ - Derating 2.5%/K above $50^{\circ} C$ - Case temperature $+100^{\circ} C$ max. - Storage $-40^{\circ} C \dots +110^{\circ} C$
Humidity (non condensing)	85 % rel H max.
Reliability, calculated MTBF (MIL-HDBK-217F ground be	$> 190^7 000h @ +25^{\circ} C$
Isolation voltage (60sec)	- Input/Output 1' 500 VDC
Isolation capacity	- Input/Output 235 pF typ.
Isolation resistance	- Input/Output (500 VDC) $>100 M \text{ Ohm}$
Switching frequency (fixed)	330 kHz typ. (Pulse width modulation PWM)
Remote On/Off	<ul style="list-style-type: none"> - On: open circuit on pin RC - Off: short circuit between pin RC and pin $-V_{in}$

Physical Specifications	
Case material	plastic PBT (UL94V-0 rated)
Baseplate	non conductive FR4
Potting material	silicon (UL94V-0 rated)
Weight	12 g (0.41 oz)
Soldering temperature	max. $265^{\circ} C / 10sec.$

Note 1

Recommended circuit to reduce conducted noise and output ripple & noise:



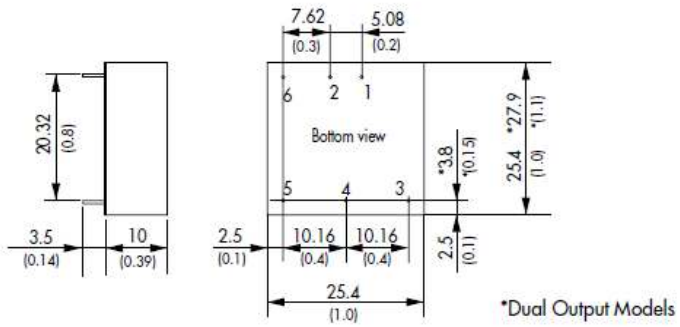
For dual output models use capacitors for each output

C1: 33 μF low ESR electrolytic capacitor

C2: 10 μF low ESR electrolytic capacitor

C3: 1 μF film capacitor

Outline Dimensions mm



Pin-Out

- 1 +Vin (Vcc)
- 2 -Vin (GND)
- 3 +Vout
- 4 Common
- 5 -Vout
- 6 Remote On/Off

() = Inch