



### 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

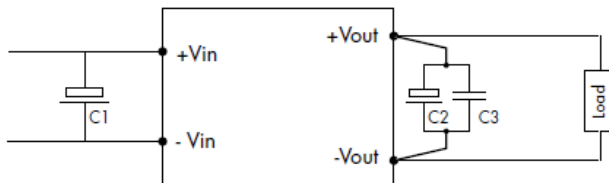
Input Specifications	
Input current (no load)	24 Vin models: 50 mA typ. 48 Vin models: 30 mA typ.
Input current (full load)	24 Vin; 3.3 Vout models: 570 mA typ. 24 Vin; other output models: 730 mA typ. 48 Vin; 3.3 Vout models: 280 mA typ. 48 Vin; other output models: 360 mA typ.
Start-up voltage /under 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.

<b>Output Specifications</b>	
Voltage set accuracy	± 1 %
Regulation	- Input variation $V_{in}$ min. to $V_{in}$ max. 0.5% max. - Load variation 10 - 100 %  dual output models unbalanced: 2.0 % max. dual output models unbalanced: 5.0 % max.
Ripple and noise (20 MHz Bandwidth)	100 mVpk-pk max. (with external output capacitor, see Note 1)
Temperature coefficient	± 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 $\mu$ F
<b>General Specifications</b>	
Temperature ranges	- Operating -25 ° C ... +71 ° C - Derating 2.5%/K above 50 ° C - Case temperature +100 ° C max. - Storage -40 ° C ... +110 ° C
Humidity (non condensing)	85 % rel H max.
Reliability, calculated MTBF (MIL-HDBK-217F ground be	> 190' 000h @ +25 ° C
Isolation voltage (60sec	- Input/Output 1' 500 VDC
Isolation capacity	- Input/Output 235 pF typ.
Isolation resistance	- Input/Output (500 VDC) >100 M Ohm
Switching frequency (fixed)	330 kHz typ. (Pulse width modulation PWM)
Remote On/Off	- On: open circuit on pin RC - Off: short circuit between pin RC and pin - $V_{in}$

<b>Physical Specifications</b>	
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 ° C / 10sec.

#### Note 1

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



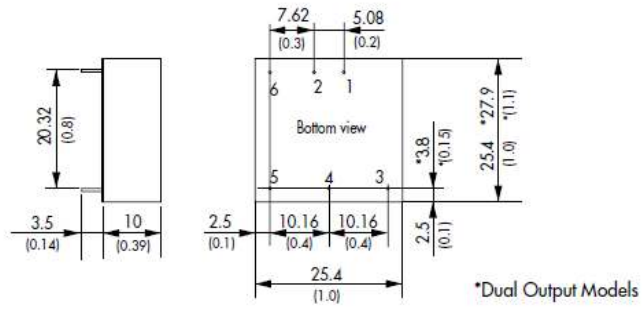
C1: 33  $\mu$ F low ESR electrolytic capacitor

For dual output models use capacitors for each output

C2: 10  $\mu$ F low ESR electrolytic capacitor

C3: 1  $\mu$ F film capacitor

## Outline Dimensions mm



() = Inch

### Pin-Out

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