LM30 SERIES

2.6～3W DC/DC CONVERTERS
Single Output & Dual Outputs

H19.5×W6×L23.5(mm)

■ Features

- ● Transfer Molding Package, and Washable after Soldering
- ● Remote ON/OFF Control
- ● Input-Output Isolated AC3000V
- ● High Efficiency 80%～85% typ.
- ● Low Output Ripple and Noise 30mVp-p (0～100MHz)
- ● Conformity to RoHS Directive
- ● Please add external Fuse connected to input for protection

- ● トランスファモールドにより基板洗浄可能
- ● リモートON/OFFコントロール
- ● 入出力間絶縁 AC3000V
- ● 高効率 80%～85% typ.
- ● 低出力リップルノイズ 30mVp-p (0～100MHz)
- ● RoHS指令対応
- ● 保護のため入力にヒューズを外付して下さい

■ General Characteristics

(at Ta : 25℃, Full Load, Nominal Vin)

- ● Input Voltage, Range — DC5, 12, 24, 48, 100, 140V (See Table 1)
- ● Output Voltage, Current — DC3.3, 5, 6, 12, 15, 24V ±5, ±12, ±15V (See Table 1)
- ● Output Voltage Accuracy — ±3%
- ● Efficiency — See Table 1
- ● Line Regulation — 0.3% max. (at Vin Range)
- ● Load Regulation — Single : ±0.5% max. (0～100% Load)
  Dual : ±3% max.
  ±5% max. (±5V Vout only)
  (10～100% Load)
- ● Reflected Input Ripple — (2% Vin)Vp-p max.
- ● Reflected Input Noise — (2% Vin)Vp-p max.
- ● Output Ripple — 20mVp-p max. (0～100MHz)
- ● Output Noise — 30mVp-p max. (0～100MHz)
- ● Short Circuit Protection — Built-in, Auto-restart
- ● Remote ON/OFF Control — ON : Short or 0～0.8V
  OFF : Open or 2～10V
  (Between pin②～③)
- ● Temperature Coefficient — 0.02%/℃ max.
- ● Operating Ambient Temp. — −40℃～+85℃ (See Fig. 1)
  −30℃～+85℃ (5V Vin only)
- ● Storage Temperature — −40℃～+100℃
- ● Isolation Voltage — AC3000V or DC6000V one minute (Input−Output)
- ● Isolation Impedance — 100MΩ min. (at DC1000V) (Input−Output)
- ● Isolation Capacitance — 10pF max.
- ● Switching Frequency — 400kHz typ.
- ● Weight — 5.7g max.
- ● Humidity — 20～95% RH
- ● Shock — 490m/s² (11msec 3directions)
- ● Vibration — 10～55Hz 98m/s² (30minutes 3directions)
- ● Soldering Conditions
  Soldering DIP — 260℃, for 15 seconds max.
  Soldering iron — 360℃, for 5 seconds max.
- ● MTBF — Single : 1,200,000H
  Dual : 1,000,000H
  (Ta : 25℃, 80% Load, Nominal Vin)
- ● Warranty — 5 years

■ Selection Guide

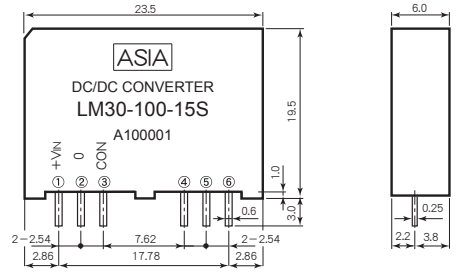
Table 1

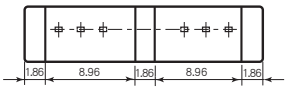
Model Number	Input Volt. (Range) (V. DC)	Output Voltage (V. DC)	Output Current (A)	Efficiency (Typical) (%)
LM30− 5 − 3.3 S	5 (4.5～9)	3.3	0.8	80
LM30− 5 − 5 S		5	0.6	81
LM30− 5 − 6 S		6	0.5	81
LM30− 5 − 12 S		12	0.25	83
LM30− 5 − 15 S		15	0.2	83
LM30− 5 − 24 S		24	0.125	83
LM30− 5 − 5 D		±5	±0.3	81
LM30− 5 − 12 D		±12	±0.125	83
LM30− 5 − 15 D		±15	±0.1	83
LM30− 12 − 3.3 S	12 (8～18)	3.3	0.8	80
LM30− 12 − 5 S		5	0.6	82
LM30− 12 − 6 S		6	0.5	82
LM30− 12 − 12 S		12	0.25	85
LM30− 12 − 15 S		15	0.2	85
LM30− 12 − 24 S		24	0.125	85
LM30− 12 − 5 D		±5	±0.3	82
LM30− 12 − 12 D		±12	±0.125	85
LM30− 12 − 15 D		±15	±0.1	85
LM30− 24 − 3.3 S	24 (16～36)	3.3	0.8	80
LM30− 24 − 5 S		5	0.6	82
LM30− 24 − 6 S		6	0.5	82
LM30− 24 − 12 S		12	0.25	85
LM30− 24 − 15 S		15	0.2	85
LM30− 24 − 24 S		24	0.125	85
LM30− 24 − 5 D		±5	±0.3	82
LM30− 24 − 12 D		±12	±0.125	85
LM30− 24 − 15 D		±15	±0.1	85
LM30− 48 − 3.3 S	48 (32～72)	3.3	0.8	80
LM30− 48 − 5 S		5	0.6	82
LM30− 48 − 6 S		6	0.5	82
LM30− 48 − 12 S		12	0.25	85
LM30− 48 − 15 S		15	0.2	85
LM30− 48 − 24 S		24	0.125	85
LM30− 48 − 5 D		±5	±0.3	82
LM30− 48 − 12 D		±12	±0.125	85
LM30− 48 − 15 D		±15	±0.1	85
LM30−100 − 3.3 S	100 (64～144)	3.3	0.8	80
LM30−100 − 5 S		5	0.6	82
LM30−100 − 6 S		6	0.5	82
LM30−100 − 12 S		12	0.25	85
LM30−100 − 15 S		15	0.2	85
LM30−100 − 24 S		24	0.125	85
LM30−100 − 5 D		±5	±0.3	82
LM30−100 − 12 D		±12	±0.125	85
LM30−100 − 15 D		±15	±0.1	85
LM30−140 − 3.3 S	140 (90～200)	3.3	0.8	80
LM30−140 − 5 S		5	0.6	82
LM30−140 − 6 S		6	0.5	82
LM30−140 − 12 S		12	0.25	85
LM30−140 − 15 S		15	0.2	85
LM30−140 − 24 S		24	0.125	85
LM30−140 − 5 D		±5	±0.3	82
LM30−140 − 12 D		±12	±0.125	85
LM30−140 − 15 D		±15	±0.1	85

※ 上記仕様以外にも対応可能ですので お問い合わせ下さい。
Please consult with us about other specification.

LM30 SERIES DATA SHEET

■ Pin Outs & Dimensions (±0.3mm)

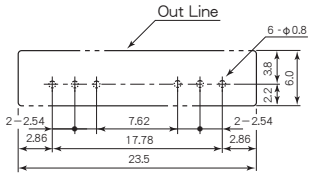




Pin Outs

Single Output		Dual Outputs	
①	+Vdc in	①	+Vdc in
②	0 Vdc in	②	0 Vdc in
③	ON/OFF Control	③	ON/OFF Control
④	No Connection	④	+Vdc out
⑤	+Vdc out	⑤	Common
⑥	0 Vdc out	⑥	−Vdc out

■ Hole Configurations on PCB (Top View)



■ Characteristic Curves

Fig. 1 Derating Curve

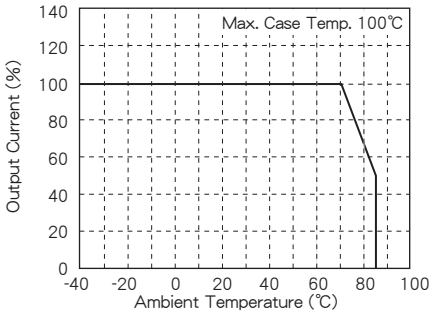


Fig. 2 Temperature Characteristic on Case Surface

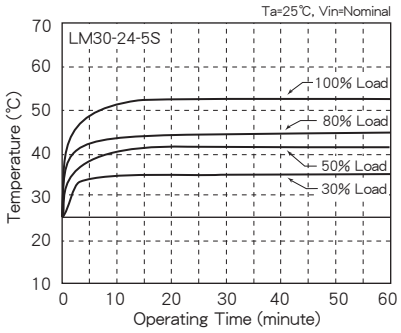


Fig. 3 Output Ripple and Noise

Fig. 3.1

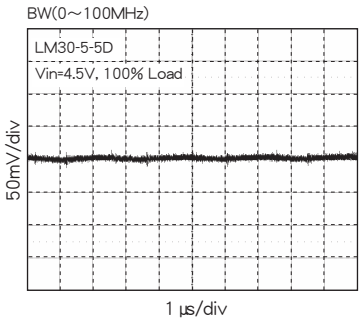


Fig. 3.2

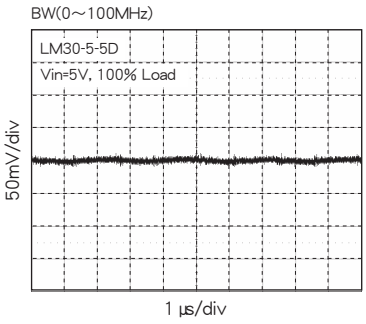


Fig. 3.3

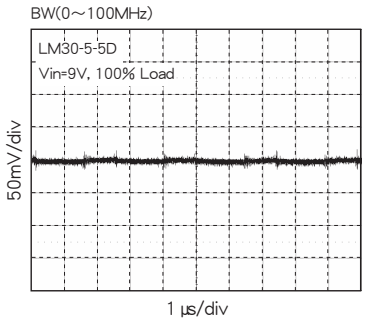


Fig. 4 Reflected Input Ripple and Noise

Fig. 4.1

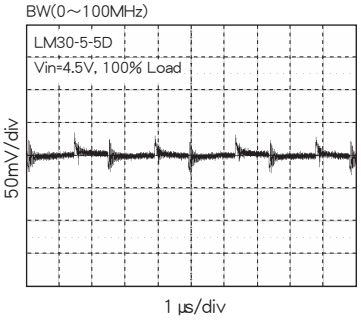


Fig. 4.2

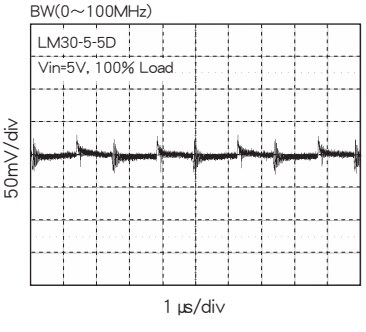


Fig. 4.3