Kaga Electronics (USA) Inc.
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FEATURES

- 8 WATTS OUTPUT POWER
- OUTPUT CURRENT UP TO 2A
- STANDARD 1.25 X 0.80 X 0.40 INCH
- HIGH EFFICIENCY UP TO 88%
- 2:1 WIDE INPUT VOLTAGE RANGE
- FIVE-SIDED CONTINUOUS SHIELD
- FIXED SWITCHING FREQUENCY (300KHz)
- STANDARD 24 PIN DIP PACKAGE
- CE MARK MEETS 2006/95/EC, 93/68/EEC AND 2004/108/EC
- ISO9001 CERTIFIED MANUFACTURING FACILITIES
- COMPLIANT TO RoHS EU DIRECTIVE 2002/95/EC

DESCRIPTION

The MT8A series offer 8 watts of output power from a package in an IC compatible 24pin DIP configuration. MT8A series have 2:1 wide input voltage of 9-18, 18-36 and 36-75VDC. The MT8A have features 1600VDC of isolation, short circuit protection and as well as five sided shielding.

TECHNICAL SPECIFICATION

All specifications are typical at nominal input, full load and 25ºC otherwise noted

OUTPUT SPECIFICATIONS			
Output power			8 Watts, max.
Voltage accuracy	Full load and nominal Vin		± 1%
Minimum load			0%
Line regulation	LL to HL at Full Load		± 0.2%
Load regulation	No Load to Full Load	Single Dual	± 0.5% ± 1%
Cross regulation (Dual)	Asymmetrical load 25% / 100% FL		± 5%
Ripple and noise	20MHz bandwidth		See table
Temperature coefficient			±0.02% / ºC, max.
Transient response recovery time	25% load step change		200µS
Over load protection	% of FL at nominal input		150%, typ.
Short circuit protection			Continuous, automatics recovery

GENERAL SPECIFICATIONS		
Efficiency		See table
Isolation voltage	Input to Output Input (Output) to Case	1600VDC, min. 1600VDC, min.
Isolation resistance		10^9ohms, min.
Isolation capacitance		300pF max.
Switching frequency		300KHz, typ.
Case material		Nickel-coated copper
Base material		Non-conductive black plastic
Potting material		Epoxy (UL94-V0)
Dimensions		1.25 X 0.80 X 0.40 Inch (31.8 X 20.3 X 10.2 mm)
Weight		16g (0.55oz)
MTBF (Note 1)	BELLCORE TR-NWT-000332 MIL-HDBK-217F	3.053 x 10^6 hrs 1.213 x 10^6 hrs

INPUT SPECIFICATIONS			
Input voltage range	12V nominal input 24V nominal input 48V nominal input		9 – 18VDC 18 – 36VDC 36 – 75VDC
Input filter			Pi type
Input surge voltage 100mS max	12V input 24V input 48V input		36VDC 50VDC 100VDC
Input reflected ripple current	Nominal Vin and full load		20mAp-p
Start up time	Nominal Vin and Constant resistive load	Power up	700mS max.
Remote ON/OFF (Note 6) (Positive logic)	DC-DC ON DC-DC OFF		Open or 3.5V < Vr < 12V Short or 0V < Vr < 1.2V
Input current of remote control pin	Nominal Vin		-0.5mA ~ 0.5mA
Remote off state input current	Nominal Vin		2.5mA

ENVIRONMENTAL SPECIFICATIONS		
Operating ambient temperature		-40ºC to +85ºC (with derating)
Maximum case temperature		+100ºC
Storage temperature range		-55ºC to +105ºC
Thermal impedance	Nature convection	20ºC/Watt
Thermal shock		MIL-STD-810F
Vibration		MIL-STD-810F
Relative humidity		5% to 95% RH

EMC CHARACTERISTICS				
EMI (Note 7)	EN55022			Class A
ESD	EN61000-4-2	Air Contact	± 8KV ± 6KV	Perf. Criteria A
Radiated immunity	EN61000-4-3		10 V/m	Perf. Criteria A
Fast transient (Note 8)	EN61000-4-4		± 2KV	Perf. Criteria A
Surge (Note 8)	EN61000-4-5		± 1KV	Perf. Criteria A
Conducted immunity	EN61000-4-6		10 Vr.m.s	Perf. Criteria A

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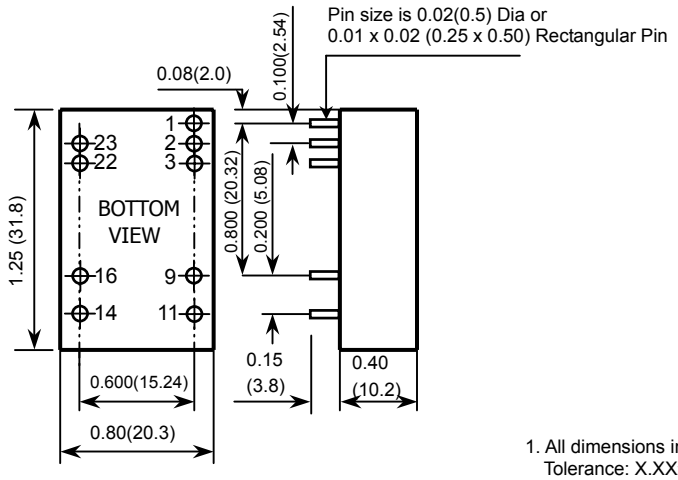
Model Number	Input Range	Output Voltage	Output Current		Output [4] Ripple & Noise	Input Current		Eff [4] (%)	Capacitor [5] Load max
			Min. load	Full load		No load [3]	Full load [2]		
MT8A-1233SI	9 – 18 VDC	3.3 VDC	0mA	2000mA	50mVp-p	10mA	724mA	80	3300μF
MT8A-1205SI	9 – 18 VDC	5 VDC	0mA	1500mA	50mVp-p	15mA	791mA	83	1600μF
MT8A-1212SI	9 – 18 VDC	12 VDC	0mA	666mA	50mVp-p	13mA	792mA	88	350μF
MT8A-1215SI	9 – 18 VDC	15 VDC	0mA	533mA	50mVp-p	20mA	802mA	87	240μF
MT8A-1205WI	9 – 18 VDC	± 5 VDC	0mA	± 800mA	50mVp-p	15mA	843mA	83	± 1000μF
MT8A-1212WI	9 – 18 VDC	± 12 VDC	0mA	± 333mA	50mVp-p	20mA	802mA	87	± 160μF
MT8A-1215WI	9 – 18 VDC	± 15 VDC	0mA	± 267mA	50mVp-p	20mA	824mA	85	± 100μF
MT8A-2433SI	18 – 36 VDC	3.3 VDC	0mA	2000mA	50mVp-p	10mA	362mA	80	3300μF
MT8A-2405SI	18 – 36 VDC	5 VDC	0mA	1500mA	50mVp-p	30mA	396mA	83	1600μF
MT8A-2412SI	18 – 36 VDC	12 VDC	0mA	666mA	50mVp-p	13mA	406mA	86	350μF
MT8A-2415SI	18 – 36 VDC	15 VDC	0mA	533mA	50mVp-p	15mA	411mA	85	240μF
MT8A-2405WI	18 – 36 VDC	± 5 VDC	0mA	± 800mA	50mVp-p	15mA	427mA	82	± 1000μF
MT8A-2412WI	18 – 36 VDC	± 12 VDC	0mA	± 333mA	50mVp-p	15mA	406mA	86	± 160μF
MT8A-2415WI	18 – 36 VDC	± 15 VDC	0mA	± 267mA	50mVp-p	13mA	411mA	85	± 100μF
MT8A-4833SI	36 – 75 VDC	3.3 VDC	0mA	2000mA	50mVp-p	7mA	181mA	80	3300μF
MT8A-4805SI	36 – 75 VDC	5 VDC	0mA	1500mA	50mVp-p	8mA	198mA	83	1600μF
MT8A-4812SI	36 – 75 VDC	12 VDC	0mA	666mA	50mVp-p	10mA	203mA	86	350μF
MT8A-4815SI	36 – 75 VDC	15 VDC	0mA	533mA	50mVp-p	10mA	203mA	86	240μF
MT8A-4805WI	36 – 75 VDC	± 5 VDC	0mA	± 800mA	50mVp-p	8mA	205mA	85	± 1000μF
MT8A-4812WI	36 – 75 VDC	± 12 VDC	0mA	± 333mA	50mVp-p	8mA	200mA	87	± 160μF
MT8A-4815WI	36 – 75 VDC	± 15 VDC	0mA	± 267mA	50mVp-p	7mA	201mA	87	± 100μF

Note

1. BELLCORE TR-NWT-000332. Case 1: 50% Stress, Temperature at 40ºC.
   MIL-HDBK-217F Notice2 @Ta=25 ºC, Full load (Ground, Benign, controlled environment).
2. Maximum value at nominal input voltage and full load of standard type.
3. Typical value at nominal input voltage and no load.
4. Typical value at nominal input voltage and full load.
5. Test by minimum Vin and constant resistive load.
6. The ON/OFF control pin voltage is referenced to –Vin.
7. The MT8A series can meet EN55022 Class A with parallel an external capacitor to the input pins.
   Recommend: 12Vin: 4.7μF/25V 1210 MLCC.
   24Vin: N/A.
   48Vin: N/A.
8. An external input filter capacitor is required if the module has to meet EN61000-4-4, EN61000-4-5.
   The filter capacitor Kaga USA suggests: Nippon chemi-con KY series, 220μF/100V, ESR 48mΩ.



DIP PIN CONNECTION					
PIN	SINGLE	DUAL	PIN	SINGLE	DUAL
1	CTRL	CTRL			
2	- INPUT	- INPUT	23	+ INPUT	+ INPUT
3	- INPUT	- INPUT	22	+ INPUT	+ INPUT
9	NC	COMMON	16	- OUTPUT	COMMON
11	NC	- OUTPUT	14	+ OUTPUT	+ OUTPUT

1. All dimensions in Inches (mm)
   Tolerance: X.XX±0.02 (X.X±0.5)
   X.XXX±0.01 (X.XX±0.25)
2. Pin pitch tolerance ±0.01(0.25)
3. Pin dimension tolerance ±0.004 (0.1)