



- Universal 90-264VAC Input
- High Efficiency
- Improved EMI Performance
- 3000V Isolation
- Single, Dual and Triple Outputs
- UL60950-1, EN60950-1

As Small as 2.36"W x 3.41"L x 0.93"H (Single Output)



Model Number Output Voltage Output Amps (max)*2 Load Reg (max) Ripple & Noise pk-pk Efficiency typ.

SINGLE OUTPUT

EFM-0300	3.3 VDC	7.5A	3%	100mV typ.	73%
EFM-0301	5 VDC	6A	2%	70mV typ.	78%
EFM-0302	12 VDC	2.5A	1%	70mV typ.	83%
EFM-0303	15VDC	2A	1%	70mV typ.	84%
EFM-0305	24VDC	1.25A	1%	50mV typ.	84%
EFM-0312	48VDC	0.63A	1%	50mV typ.	85%

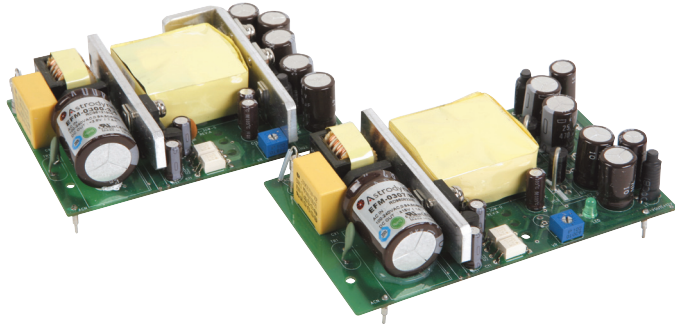
DUAL OUTPUT

EFM-0306	±12VDC	±1.25A	±3%	±50mV typ.	80%
EFM-0307	±15VDC	±1A	±3%	±50mV typ.	80%
EFM-0308	5/12VDC	3/1.25	±2%/ ±4%	±50mV typ.	74%

TRIPLE OUTPUT

EFM-0309	5/±12VDC	3/±0.63A	0.6% / ±0.5%	100mV / ±75mV typ.	74%
EFM-0311	5/±15VDC	3/±0.5A	0.6% / ±0.5%	100mV / ±75mV typ.	74%

* See Note section on page 3



- Universal 90-264VAC Input
- High Efficiency
- Improved EMI Performance
- 4000V Isolation
- Single, Dual and Triple Outputs
- UL60601-1, EN60601-1



As Small as 2.36"W x 3.41"L x 0.93"H (Single Output)



Model Number Output Voltage Output Amps (max)*2 Load Reg (max) Ripple & Noise pk-pk Efficiency typ.

SINGLE OUTPUT

EFM-0300/M	3.3 VDC	7.5A	3%	100mV typ.	73%
EFM-0301/M	5 VDC	6A	2%	70mV typ.	78%
EFM-0302/M	12 VDC	2.5A	1%	70mV typ.	83%
EFM-0303/M	15VDC	2A	1%	70mV typ.	84%
EFM-0305/M	24VDC	1.25A	1%	50mV typ.	84%
EFM-0312/M	48VDC	0.63A	1%	50mV typ.	85%

DUAL OUTPUT

EFM-0306/M	±12VDC	±1.25A	±3%	±50mV typ.	80%
EFM-0307/M	±15VDC	±1A	±3%	±50mV typ.	80%
EFM-0308/M	5/12VDC	3/1.25	±2%/ ±4%	±50mV typ.	74%

TRIPLE OUTPUT

EFM-0309/M	5/±12VDC	3/±0.63A	0.6% / ±0.5%	100mV / ±75mV typ.	74%
EFM-0311/M	5/±15VDC	3/±0.5A	0.6% / ±0.5%	100mV / ±75mV typ.	74%

* See Note section on page 3



INPUT SPECIFICATIONS

Input Voltage Range	90-264 VAC
Frequency Range	47-63 Hz
Inrush Current, typ:	30A@115V, 60A@230V Input *

OUTPUT SPECIFICATIONS

Voltage and Current	See Selection Chart
Load Regulation *3	See Selection Chart
Line Regulation (LL-HL)	±1%, max. (Singles & Duals) 0.6 / ±0.2%, max. (Triples)
Cross Regulation	
Duals:	±2%. max. (0308: ±2 / ±6%)
Triples:	±3% max.
Preset Accuracy (FL,120VAC)	1% (0308: ±2 / ±5%) 1 / ±5%
DC Voltage Adjust (typ)	±10% of FS (Primary)
Temperature Coefficient	±0.03%/°C (0-50°C, typ)
Ripple/Noise *1, 4	See Selection Chart
Over Voltage Protection	Latching Auto Recovery *
Current Limit (auto recover)	>110% of FS, Power Limit
Short Circuit Protection	Latching Auto Recovery *
Hold Up Time	20 mS, typ

GENERAL SPECIFICATIONS

Input-Out Isolation (1 min max.)	3KVAC, (4KVAC Medical)
Efficiency	See Selection Chart
Switching Frequency	65Khz, (fixed, typical)
Safety (Commercial)	UL60950-1, EN60950-1
(Medical)	UL60601-1, EN60601-1

PHYSICAL SPECIFICATIONS

Size	Singles:	2.36" x 3.41" x 0.93"
	Duals/Triples:	2.36" x 3.94" x 0.93"
Construction		Open Frame
Weight		4.3oz (122g)

ENVIRONMENTAL SPECIFICATIONS

Oper. Temperature (Free Air)	-10 to +70°C with Derate
Storage Temperature	-25 to +71°C *
Relative Humidity	0 to + 95%, non-cond *
EMC	EN55022, class II

Notes:

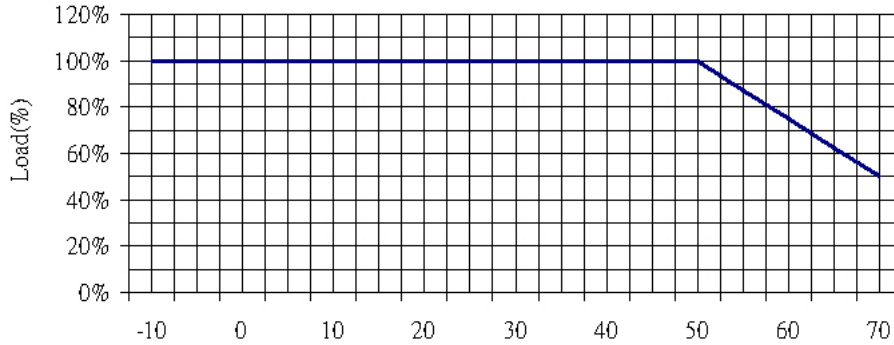
1. All measurements should be made directly at the terminals of the power supply
2. Minimum Load is NOT required for proper operation. However, auxiliary outputs should be reduced as a function of primary output minimum load or load regulation will be higher.
3. Load Regulation measured from 20% to full load. All other outputs at nominal load.
4. Output noise measured directly at pins at nominal load with 0.1uF and 10uF capacitors, pk-pk @ 20MHz bandwidth.

All specifications are typical at nominal input, full load, and 25°C unless otherwise noted

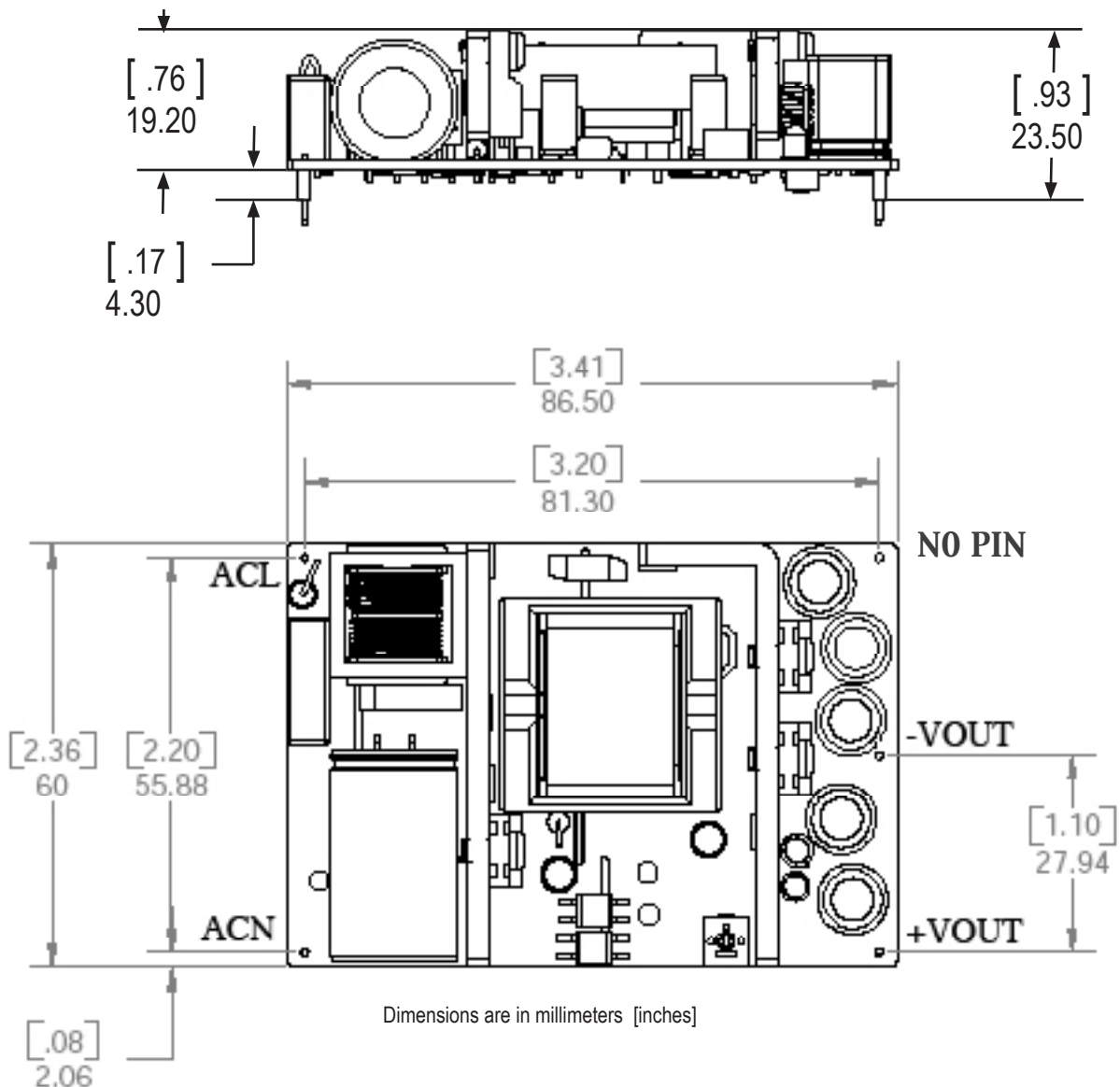
* These are stress ratings. Exposure of the devices to any of these conditions may adversely affect long term reliability. Proper operation under conditions other than the standard operating conditions is neither warranted nor implied.

Astrodyne products are not authorized or warranted for use as critical components in life support systems, equipment used in hazardous environments, nuclear controls systems, or other mission-critical applications.

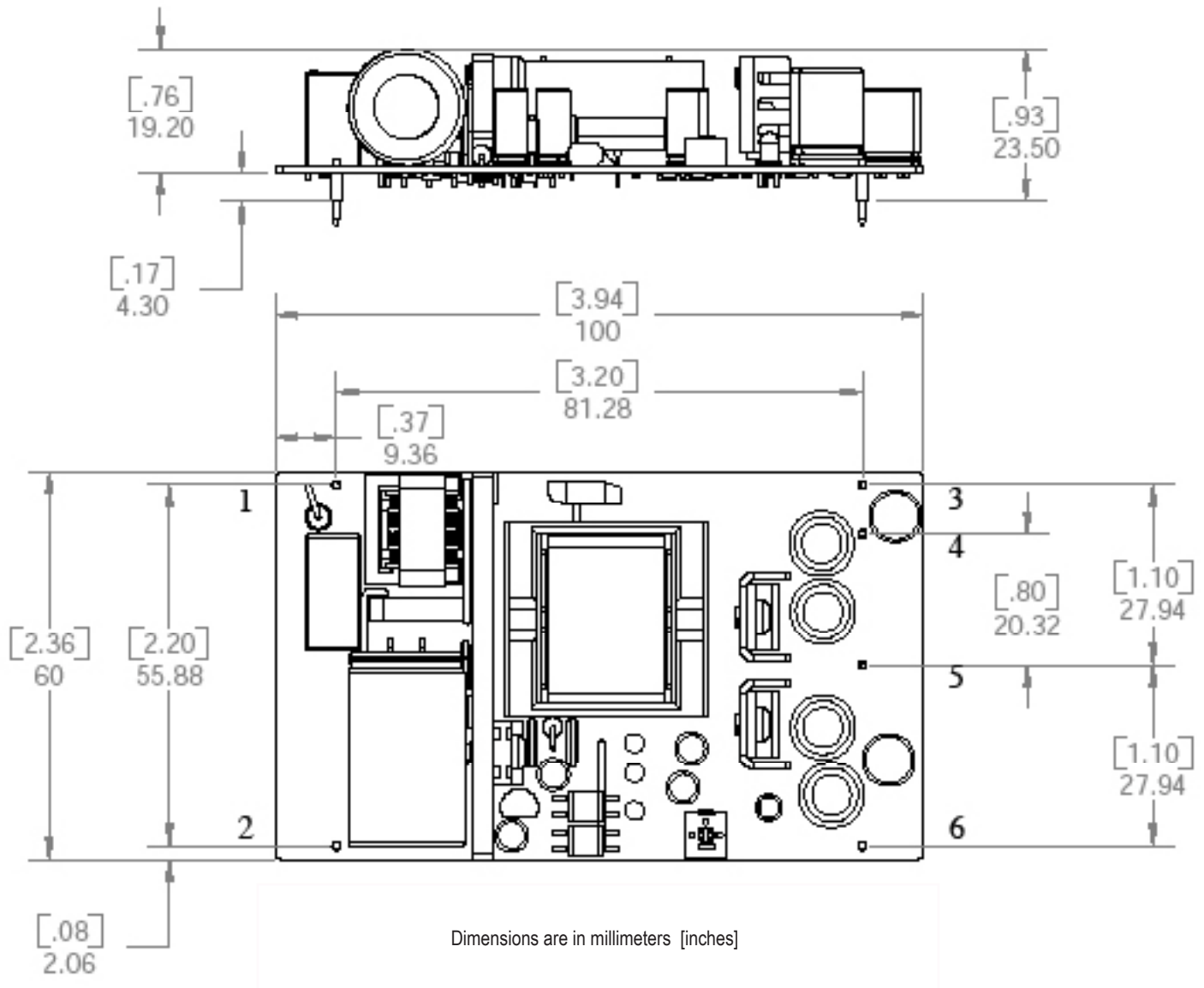
OUTPUT DERATING CURVE



MECHANICAL DIMENSIONS - SINGLE

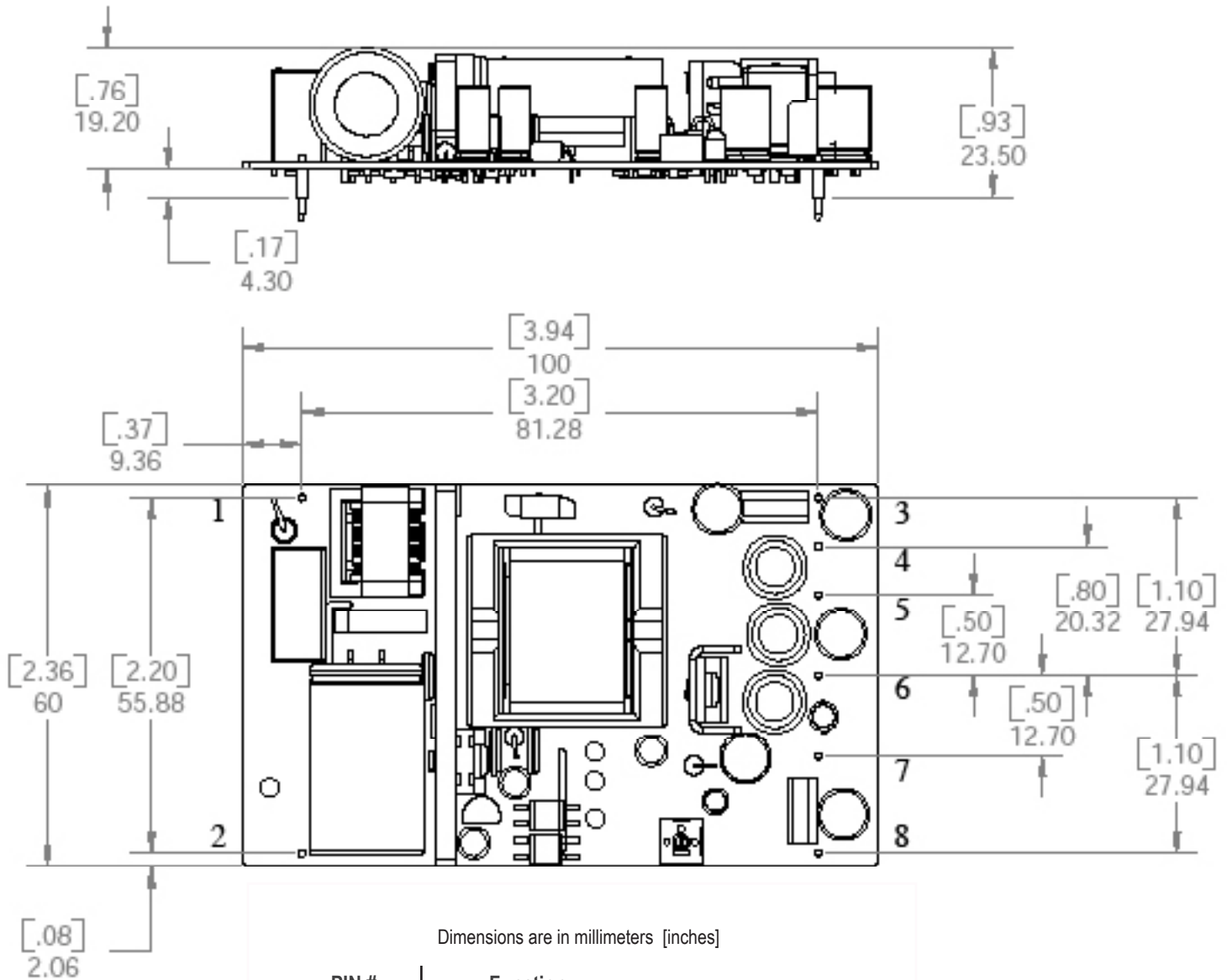


MECHANICAL DIMENSIONS - DUAL



PIN #	EFM-0306~0307	EFM-0308
1	ACL	ACL
2	ACN	ACN
3	- V out	RETURN
4	NO PIN	NO PIN
5	COMMON	+5 V out
6	+ V out	+12 V out

MECHANICAL DIMENSIONS - TRIPLE



PIN #	Function
1	ACL
2	ACN
3	- V out
4	NO PIN
5	+5 V RETURN
6	COMMON
7	+5 V
8	+ V out