

### 5, 10, 15 and 30W Ultraminiature Encapsulated Switching Power Supplies

- Universal 90-264VAC Input
- High Efficiency
- Improved EMI Performance
- 3000V Isolation
- Single and Dual Outputs



As Small as 2.28" x 1.77" x 0.83"

Model Number	Output Voltage	Output Amps(max)	(pk)
<b>SINGLE OUTPUT - PCB Mount</b>			
ESCA-5000	3.3VDC	1.25A	1.56A
ESCA-5001	5VDC	1A	1.5A
ESCA-5002	12VDC	0.42A	0.63A
ESCA-5003	15VDC	0.33A	0.5A
ESCA-5005	24VDC	0.23A	0.35A
ESCA-0100	3.3VDC	2.5A	3.3A
ESCA-0101	5VDC	2A	2.6A
ESCA-0122	9VDC	1.1A	1.5A
ESCA-0102	12VDC	0.85A	1.2A
ESCA-0103	15VDC	0.67A	0.9A
ESCA-0105	24VDC	0.42A	0.6A
ESCA-1500	3.3VDC	3.5A	3.8A
ESCA-1501	5VDC	3A	3.6A
ESCA-1522	9VDC	1.66A	1.9A
ESCA-1502	12VDC	1.25A	1.5A
ESCA-1503	15VDC	1A	1.25A
ESCA-1505	24VDC	0.63A	0.75A
<b>SINGLE OUTPUT - Chassis Mount</b>			
ESCC-5000	3.3VDC	1.25A	1.56A
ESCC-5001	5VDC	1A	1.5A
ESCC-5002	12VDC	0.42A	0.63A
ESCC-5003	15VDC	0.33A	0.5A
ESCC-5005	24VDC	0.23A	0.35A
ESCC-0100	3.3VDC	2.5A	3.3A
ESCC-0101	5VDC	2A	2.6A
ESCC-0122	9VDC	1.1A	1.5A
ESCC-0102	12VDC	0.85A	1.2A
ESCC-0103	15VDC	0.67A	0.9A
ESCC-0105	24VDC	0.42A	0.6A
ESCC-1500	3.3VDC	3.5A	3.8A
ESCC-1501	5VDC	3A	3.6A
ESCC-1522	9VDC	1.66A	1.9A
ESCC-1502	12VDC	1.25A	1.5A
ESCC-1503	15VDC	1A	1.25A
ESCC-1505	24VDC	0.63A	0.75A

Continued

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**Output Specifications**

Voltage and Current	See Selection Chart
Load Regulation (20%-FL)	Singles: +/- 3%, Duals: +/- 3%
Line Regulation	Singles +/- 0.1-1%, typ Duals +/- 0.3-1%, typ
Cross Regulation (Duals)	2%
Preset Accuracy	1%
Temperature Coefficient	+/-0.03%/°C
Ripple/Noise	100mV Pk-Pk, typ
Over Voltage Protection	Clamp, 130-150% *
Over Temp. Protection	Auto Recovery after Cooling
Short Circuit Protection	Continuous, self-recovering
Hold Up Time	20 mS, typ

**Input Specifications**

Input Voltage Range	90-264 VAC
Frequency Range	47-63 Hz
Inrush Current, typ:	
(ECA5, 10, 15)	20A@100V, 40A@200V Input *
(ECA30)	30A @ 115VAC
	60A @ 230VAC

\*Please see page 4 for Waiver of Liability Statement

Model Number	Output Voltage	Output Amps(max)	(pk)
<b>DUAL OUTPUT - PCB Mount</b>			
EDCA-5006	+/-12VDC	+/-0.21A	+/-0.26A
EDCA-5007	+/-15VDC	+/-0.17A	+/-0.21A
EDCA-0106	+/-12VDC	+/-0.42A	+/-0.6A
EDCA-0107	+/-15VDC	+/-0.34A	+/-0.45A
EDCA-0108 <i>Coming Soon!</i>	+5/12 VDC	+1/0.42A	+1.3/0.6A
EDCA-1506	+/-12VDC	+/-0.63A	+/-0.8A
EDCA-1507	+/-15VDC	+/-0.5A	+/-0.65A
EDCA-1508 <i>Coming Soon!</i>	+5/12VDC	+1.5/0.65A	+1.8/0.8A
<b>DUAL OUTPUT - Chassis Mount</b>			
EDCC-5006	+/-12VDC	+/-0.21A	+/-0.26A
EDCC-5007	+/-15VDC	+/-0.17A	+/-0.21A
EDCC-0106	+/-12VDC	+/-0.42A	+/-0.6A
EDCC-0107	+/-15VDC	+/-0.34A	+/-0.45A
EDCC-0108 <i>Coming Soon!</i>	+5/12VDC	+1/0.42A	+1.3/0.6A
EDCC-1506	+/-12VDC	+/-0.63A	+/-0.8A
EDCC-1507	+/-15VDC	+/-0.5A	+/-0.65A
EDCC-1508 <i>Coming Soon!</i>	+5/12VDC	+1.5/0.65A	+1.8/0.8A
<b>TRIPLE OUTPUT - PCB Mount <i>Coming Soon!</i></b>			
EDCA-5009	5/±12VDC	0.53/±0.1A	0.6/±0.1A
EDCA-5011	5/±12VDC	0.41/±0.1A	0.45/±0.1A
EDCA-0109	5/±12VDC	1.5/±0.1A	1.8/±0.13A
EDCA-0111	5/±12VDC	1.4/±0.1A	1.8/±0.13A
EDCA-1509	5/±12VDC	2.5/±0.1A	2.8/±0.13A
EDCA-1511	5/±12VDC	2.5/±0.1A	2.8/±0.13A
<b>TRIPLE OUTPUT - Chassis Mount <i>Coming Soon!</i></b>			
EDCC-5009	5/±12VDC	0.53/±0.1A	0.6/±0.1A
EDCC-5011	5/±15VDC	0.41/±0.1A	0.45/±0.1A
EDCC-0109	5/±12VDC	1.5/±0.1A	1.8/±0.13A
EDCC-0111	5/±15VDC	1.4/±0.1A	1.8/±0.13A
EDCC-1509	5/±12VDC	2.5/±0.1A	2.8/±0.13A
EDCC-1511	5/±15VDC	2.5/±0.1A	2.8/±0.13A

Continued

### 5, 10, 15 and 30W Ultraminiature Encapsulated Switching Power Supplies

Model Number	Output Voltage	Output Amps	Output Watts	Load Regulation	Efficiency	Ripple & Noise
<b>SINGLE OUTPUT - PCB Mount</b>						
ESCA-0300	3.3VDC	7.5	25W	3% max.	73%, typ.	150mV p-p max.
ESCA-0301	5VDC	6	30W	2% max.	78%, typ.	150mV p-p max.
ESCA-0302	12VDC	2.5	30W	1% max.	83%, typ.	150mV p-p max.
ESCA-0303	15VDC	2	30W	1% max.	84%, typ.	150mV p-p max.
ESCA-0305	24VDC	1.25	30W	1% max.	84%, typ.	150mV p-p max.
ESCA-0312	48VDC	0.63	30W	1% max.	85%, typ.	150mV p-p max.
<b>SINGLE OUTPUT - Chassis Mount</b>						
ESCC-0300	3.3VDC	7.5	25W	3% max.	73%, typ.	150mV p-p max.
ESCC-0301	5VDC	6	30W	2% max.	78%, typ.	150mV p-p max.
ESCC-0302	12VDC	2.5	30W	1% max.	83%, typ.	150mV p-p max.
ESCC-0303	15VDC	2	30W	1% max.	84%, typ.	150mV p-p max.
ESCC-0305	24VDC	1.25	30W	1% max.	84%, typ.	150mV p-p max.
ESCC-0312	48VDC	0.63	30W	1% max.	85%, typ.	150mV p-p max.
<b>DUAL OUTPUT - PCB Mount</b>						
EDCA-0306	±12 VDC	±1.25	30W	±3% max.	80%, typ.	±100mV p-p max.
EDCA-0307	±15 VDC	±1	30W	±3% max.	80%, typ.	±100mV p-p max.
EDCA-0308	+5/12 VDC	3/1.25	30W	±2 / ±4% max.	74%, typ.	100/150mV p-p max.
<b>DUAL OUTPUT - Chassis Mount</b>						
EDCC-0306	±12 VDC	±1.25	30W	±3% max.	80%, typ.	±100mV p-p max.
EDCC-0307	±15 VDC	±1	30W	±3% max.	80%, typ.	±100mV p-p max.
EDCC-0308	+5/12 VDC	3/1.25	30W	±2 / ±4% max.	74%, typ.	100 / 150mV p-p max.
<b>TRIPLE OUTPUT - PCB Mount</b>						
ETCA-0309	+5,±12 VDC	3,0.63/0.63	30W	0.6 / ±0.5% max.	74%, typ.	100, ±75mV p-p max.
ETCA-0311	+5,±15 VDC	3,0.5/0.5	30W	0.6 / ±0.5% max.	74%, typ.	100, ±75mV p-p max.
<b>TRIPLE OUTPUT - Chassis Mount</b>						
ETCC-0309	+5,±12 VDC	3,0.63/0.63	30W	0.6 / ±0.5% max.	74%, typ.	100, ±75mV p-p max.
ETCC-0311	+5,±15 VDC	3,0.5/0.5	30W	0.6 / ±0.5% max.	74%, typ.	100, ±75mV p-p max.

Note: Optional DIN Rail Mount Clips are available for all CHASSIS Mount supplies. Simply add the suffix "/DRL" to the Model Number. For example: "ESCC-5000/DRL." Contact Astrodyne Sales for further information.

### Physical Specifications

Size (ECA5, 10)	
PCB Mount (5W)	2.28L" x 1.77W" x 0.83H"
PCB Mount (10W)	2.56L" x 1.77W" x 0.83H"
Chassis Mount (5W, 10W)	3.77L" x 2.16W" x 1.0H"
(ECA15)	
PCB Mount	2.75L" x 1.89W" x 0.93H"
Chassis Mount	3.96L" x 2.16W" x 1.0H"
(ECA30)	
PCB Mount Single	3.5L" x 2.5W" x 0.98H"
PCB Mount Dual/Triple	4.06L" x 2.5W" x 0.98H"
Chassis Mount	4.76L" x 2.56W" x 1.0H"
Case Material	Rynite, 94V-0 Rated
Construction (ECA5, 10, 15)	Encapsulated
(ECA30)	Encapsulated
Weight PCB / CHA (ECA5)	4 oz (112g) / 8.5 oz (238g)
(ECA10)	4.6 oz (128g) / 8.5 oz (238g)
(ECA15)	5.6 oz (158g) / 8.9 oz (250g)
(ECA30)	
Singles	10.4 oz (292g) / 13.4 oz (376g)
Duals/Triples	12.1 oz (340g) / 15.4 oz (430g)

### Environmental Specifications

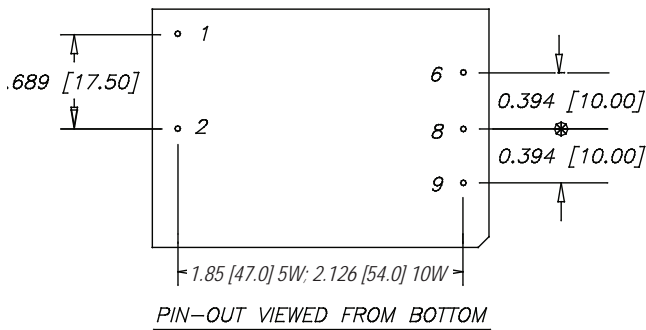
Oper. Temperature	0 to +70°C (See Derate)
Storage Temperature	-25 to +71°C *
Relative Humidity	0 to + 95%, non-cond *
EMC / EMI	FCC/A, VDE 0871/A, CISPRB
MTBF	(Mil Std 217, 25°C) 180,000 Hrs

### General Specifications

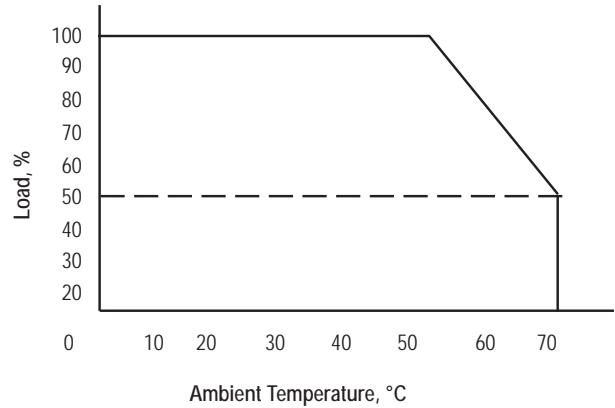
Input-Out Isolation	3KVAC, (4KVAC Medical)
I/P-Ground	2500VAC
O/P-Ground	1000VAC
Efficiency	75%-78%, typ
Switching Frequency	100Khz, (fixed, typical)
Safety	UL/EN 60950-1, IEC60950

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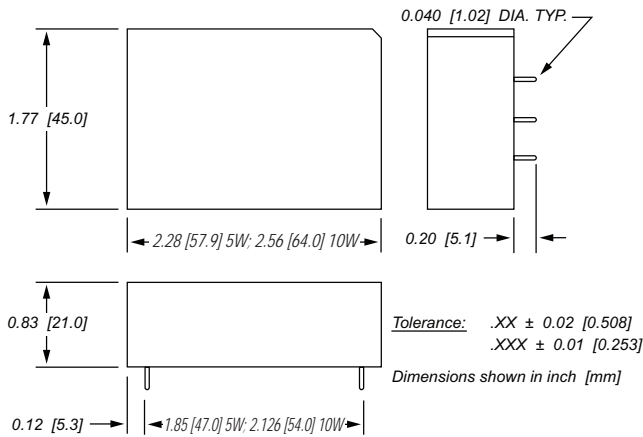
#### Mechanical Dimensions - PCB Mount - ECA5/10



#### Output Derating Curve - ECA5/10

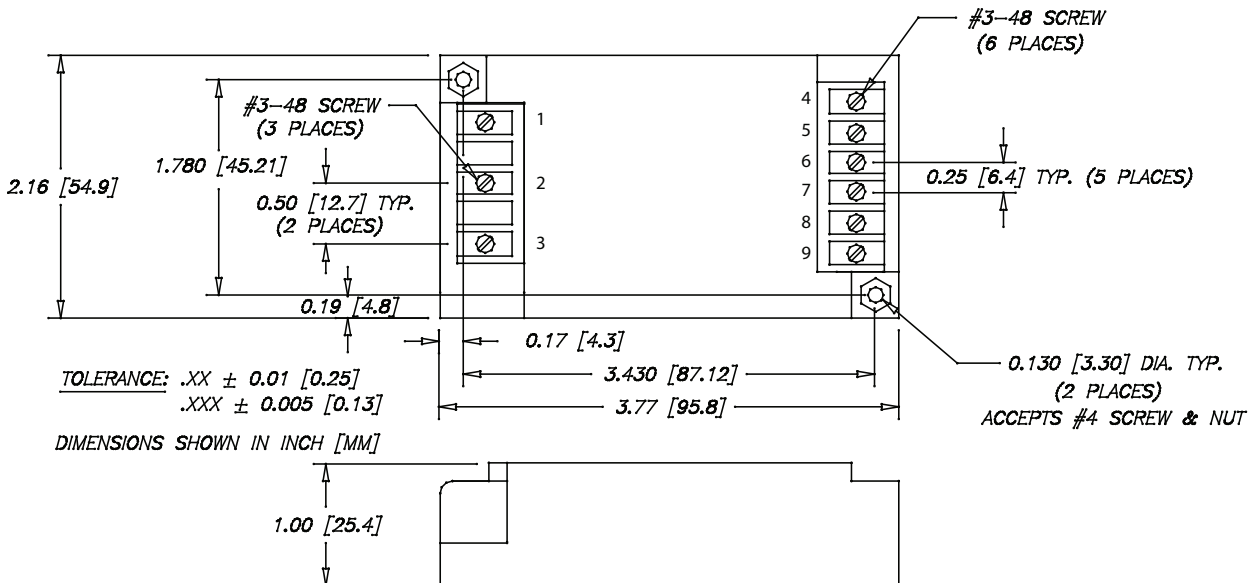


Encapsulated 5W - 30W



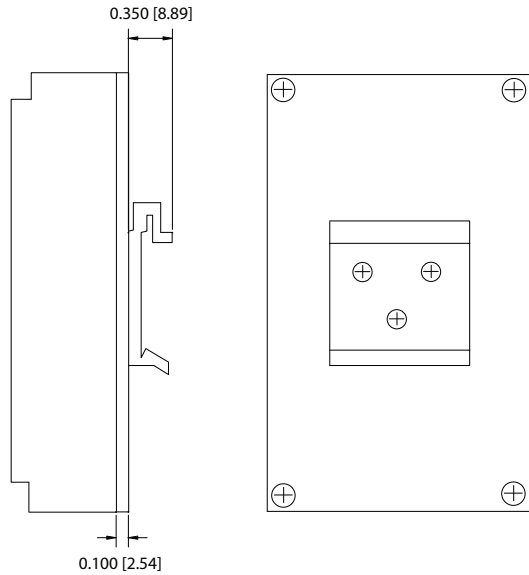
Model Type / Pin#	Single	Dual
1	AC HI	AC HI
2	AC LO	AC LO
6	+Vout	+Vout
8	No Pin	Out Com
9	-Vout	-Vout

#### Mechanical Dimensions - Chassis Mount - ECA5/10



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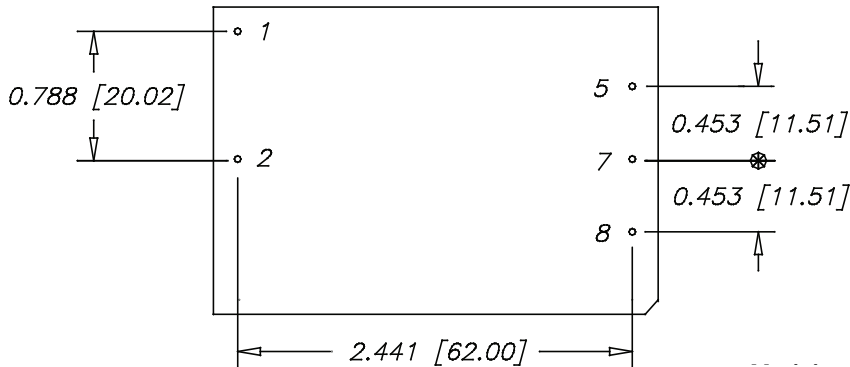
#### Mechanical Dimensions - DIN Rail - ECA5/10



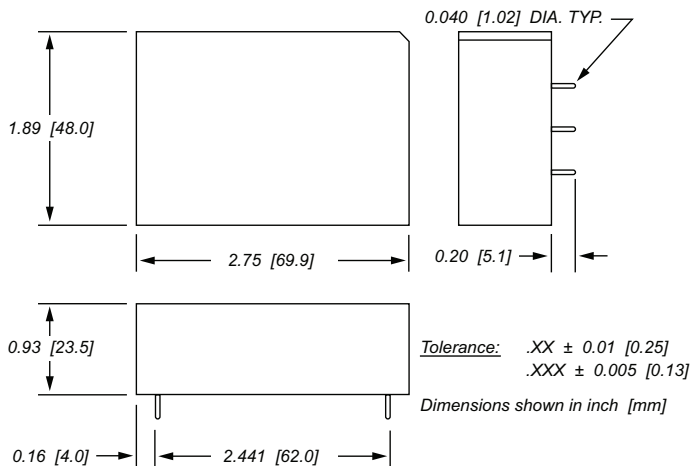
Model Type / Pin#	Single	Dual
1	AC LO	AC LO
2	N/C	N/C
3	AC HI	AC HI
4	N/C	N/C
5	-Vout	-Vout
6	-Vout	Com
7	+Vout	Com
8	+Vout	+Vout
9	N/C	N/C

DIN Rail mounting kit available for Chassis-mount modules, specify part # M-DRL-01. Kit includes mounting plate, DIN Rail clip and assembly hardware.

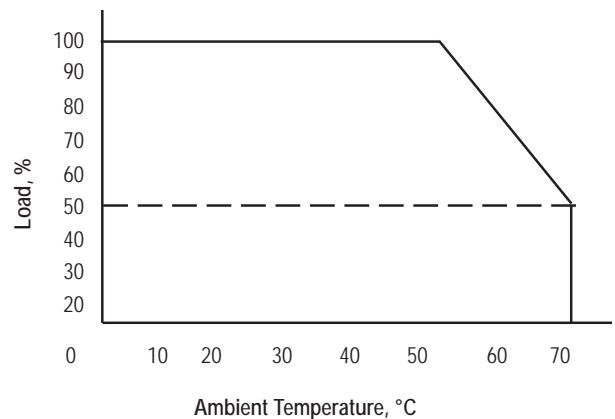
#### Mechanical Dimensions - PCB Mount - ECA15



Model Type / Pin#	Single	Dual
1	AC HI	AC HI
2	AC LO	AC LO
5	+ Vout	+ Vout
7	No Pin	Out Com
8	- Vout	- Vout

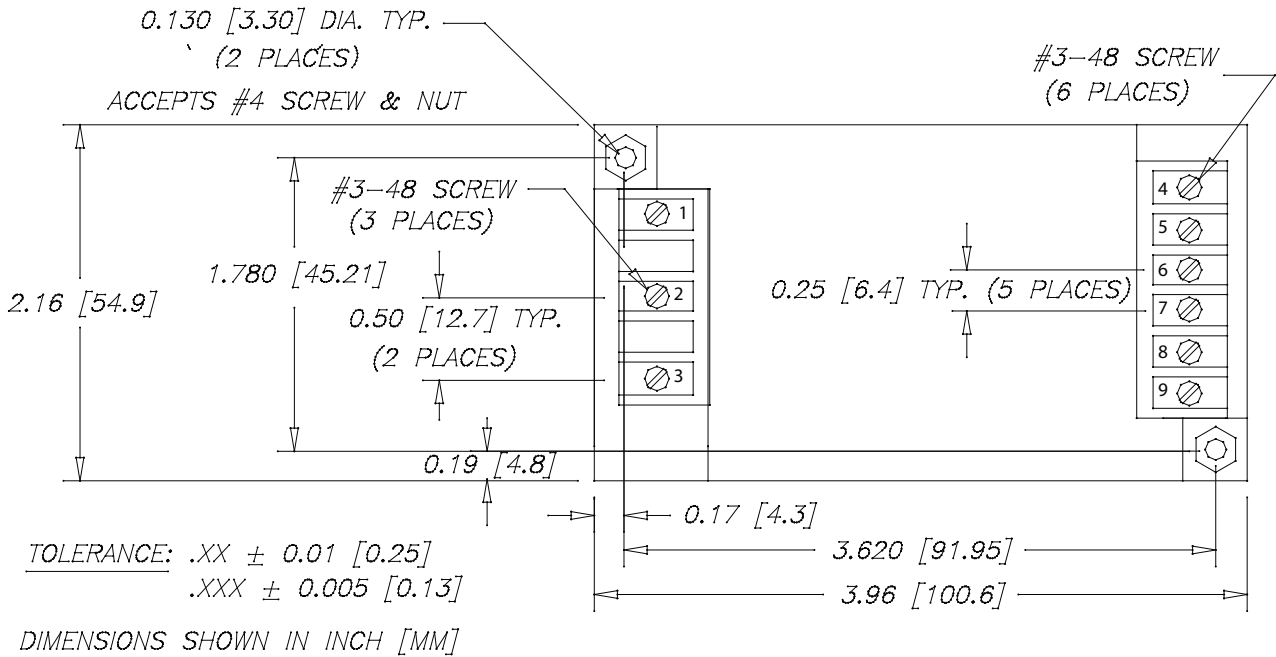


#### Output Derating Curve - ECA15

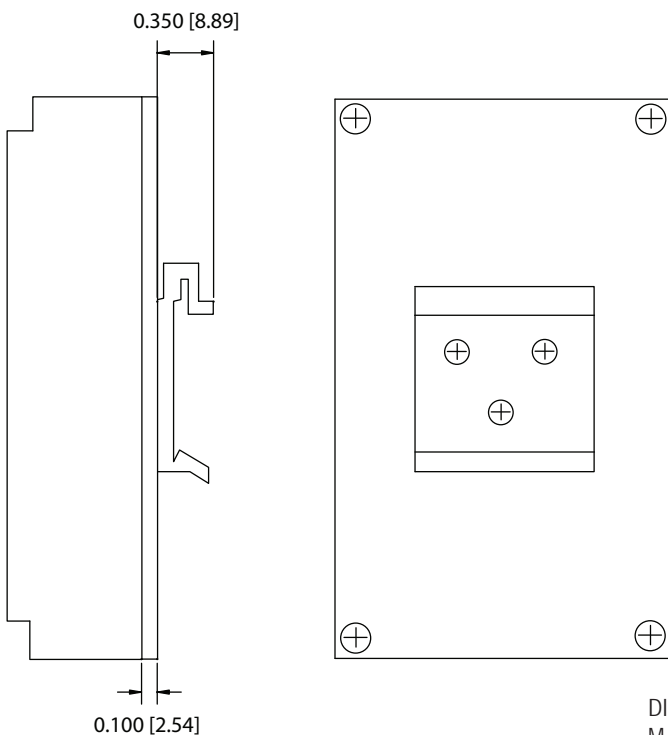


### 5, 10, 15 and 30W Ultraminiature Encapsulated Switching Power Supplies

#### Mechanical Dimensions - Chassis Mount - ECA15



#### Mechanical Dimensions - DIN Rail - ECA15

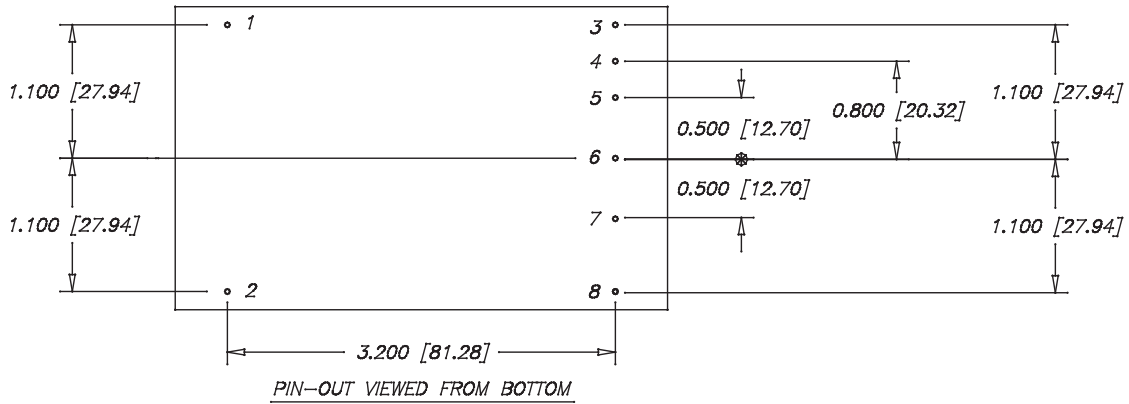


Model Type / Pin#	Single	Dual
1	AC LO	AC LO
2	N/C	N/C
3	AC HI	AC HI
4	N/C	N/C
5	-Vout	-Vout
6	-Vout	Com
7	+Vout	Com
8	+Vout	+Vout
9	N/C	N/C

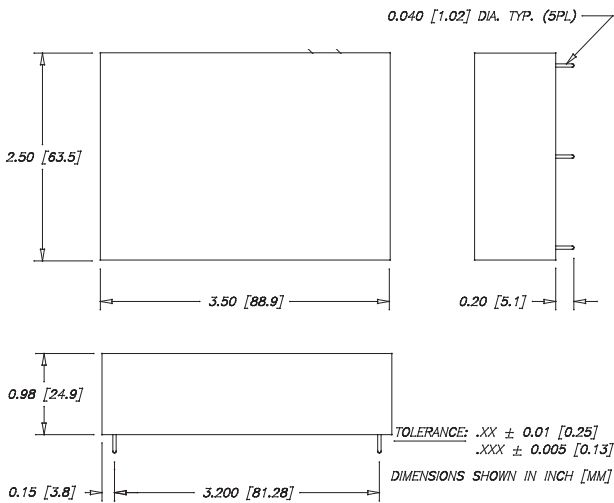
DIN Rail mounting kit available for Chassis-mount modules, specify part # M-DRL-15. Kit includes mounting plate, DIN Rail clip and assembly hardware.

### 5, 10, 15 and 30W Ultraminiature Encapsulated Switching Power Supplies

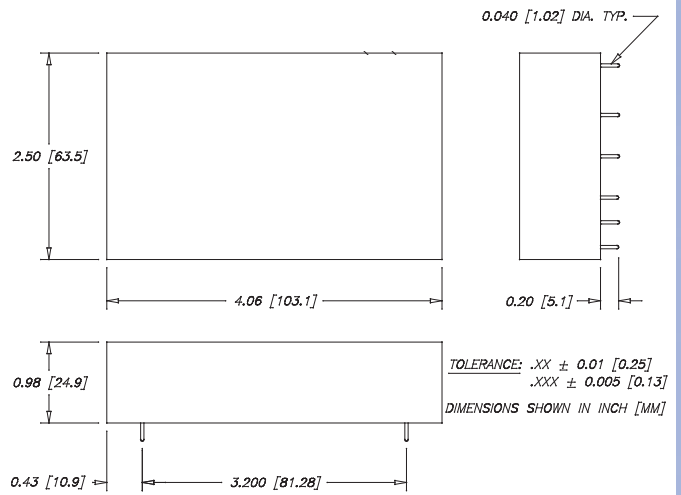
#### Mechanical Dimensions - PCB Mount - ECA30



#### SINGLE OUTPUT

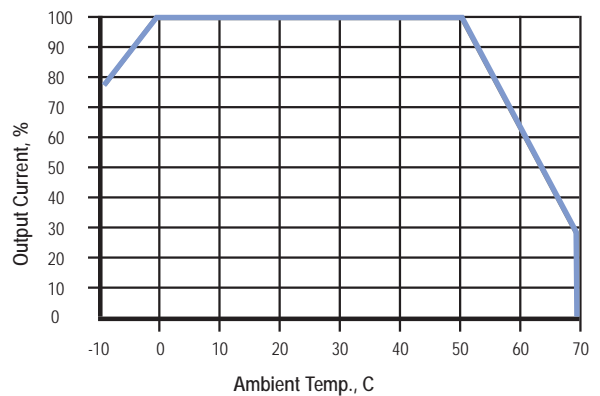


#### DUAL/TRIPLE OUTPUT



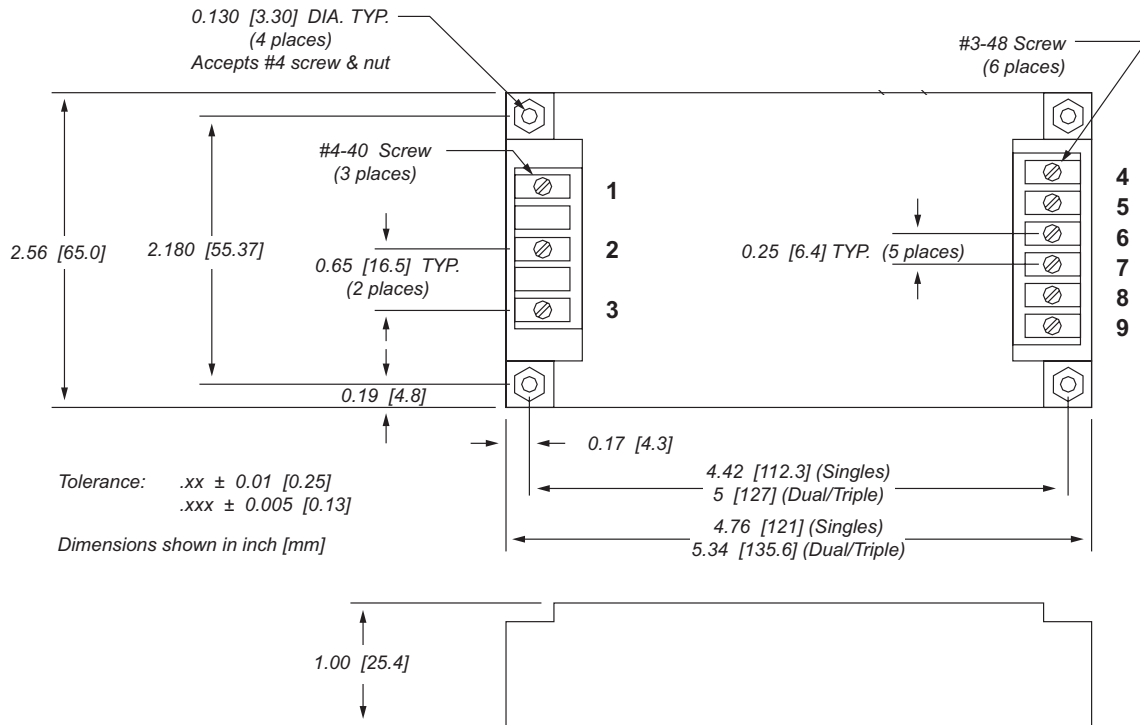
Model Type / Pin#	Dual Single	Dual Matched	Dual 5/12V	Dual Triple
1	AC HI	AC HI	AC HI	AC HI
2	AC LO	AC LO	AC LO	AC LO
3	No Pin	-Vout	Com	-Vout
4	No Pin	No Pin	No Pin	No Pin
5	No Pin	No Pin	No Pin	+5 Ret
6	-Vout	Com	+5out	+/-Com
7	No Pin	No Pin	No Pin	+5Vout
8	+Vout	+Vout	+12Vout	+Vout

#### Output Derating Curve - ECA30

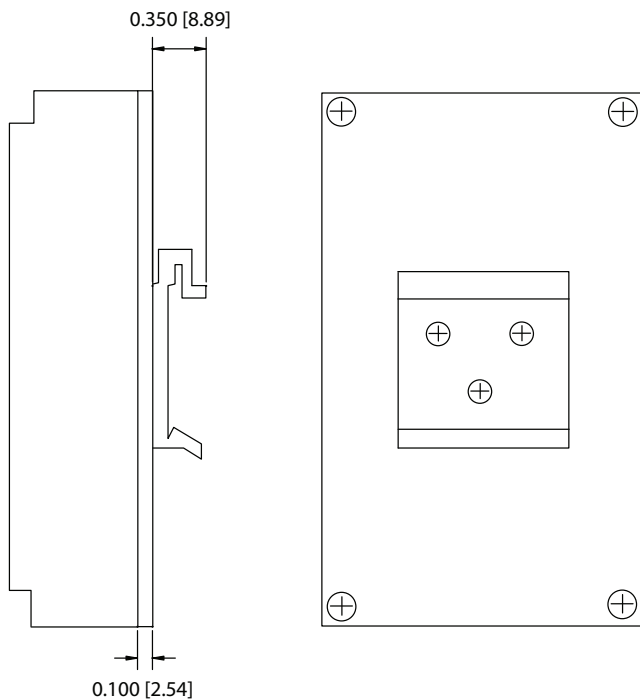


### 5, 10, 15 and 30W Ultraminiature Encapsulated Switching Power Supplies

#### Mechanical Dimensions - Chassis Mount - ECA30



#### Mechanical Dimensions - DIN Rail - ECA30



Model Type / Pin#	Single	Match Dual	Unmatch Dual	Triple
1	AC LO	AC LO	AC LO	AC LO
2	N/C	N/C	N/C	N/C
3	AC HI	AC HI	AC HI	AC HI
4	+Vout	+Vout	+12Vout	+Vout
5	+Vout	Com	+5Vout	+5Vout
6	-Vout	Com	+5Vout	+/- Com
7	-Vout	-Vout	Com	+5V Ret
8	N/C	N/C	Com	-Vout
9	N/C	N/C	N/C	N/C

DIN Rail mounting kit available for Chassis-mount modules.  
 - For 30 watt single outputs specify part # M-DRL-30S  
 - For 30 watt dual/single outputs specify part # M-DRL-30T  
 Kit includes mounting plate, DIN Rail clip and assembly hardware.