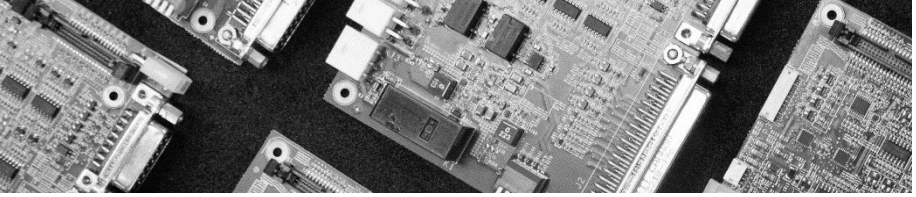


ECA5

5W ULTRAMINIATURE ENCAPSULATED SWITCHING POWER SUPPLIES

The ECA-5 series features efficient, compact switching power supplies with a 5-watt output and a universal input range of 90 to 264 volts AC, suitable for global use. Notable for its strong electromagnetic interference (EMI) performance, it minimizes disruption to nearby electronics. It also offers 4242 volts DC electrical isolation, enhancing safety. The series includes single, dual, and triple output models, allowing for flexible power distribution in various applications.

HOW TO ORDER

ESCC-5000/DRL

- DRL: DIN RAIL MOUNT
- OUTPUT VOLTAGE:
  - 0 = 3.3 VDC
  - 1 = 5 VDC
  - 2 = 12 VDC
  - 3 = 15 VDC
  - 5 = 24 VDC
  - 6 = ±12 VDC
  - 7 = ±15 VDC
  - 9 = +5±12 VDC
  - 11 = +5±15 VDC
  - 18 = 18 VDC
  - 22 = 9 VDC
- OUTPUT POWER: 5W
- FORM FACTOR:
  - C = CHASSIS MOUNT
  - A = PCB MOUNT
- # OF OUTPUTS:
  - S = SINGLE OUTPUT
  - D = DOUBLE OUTPUT
  - T = TRIPLE OUTPUT
- FAMILY: ECA SERIES

FEATURES

INPUT VOLTAGE
90-264VAC (100-240VAC Nominal)

FREQUENCY RANGE
47-63 Hz

OPERATING TEMPERATURE
0 to +50°C(FL) See Derate*

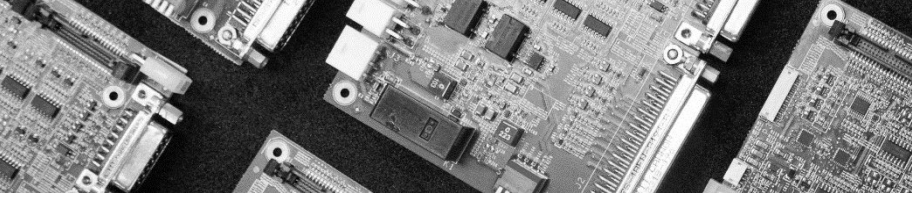
SAFETY APPROVALS

UL/cUL:	EN60950-1 2nd ed./ C22.2 60950-1 2nd ed.
CB:	IEC60950-1 2nd ed.
EMC:	EN55011 Class B

Improved EMI Performance

ISOLATION
4242VDC

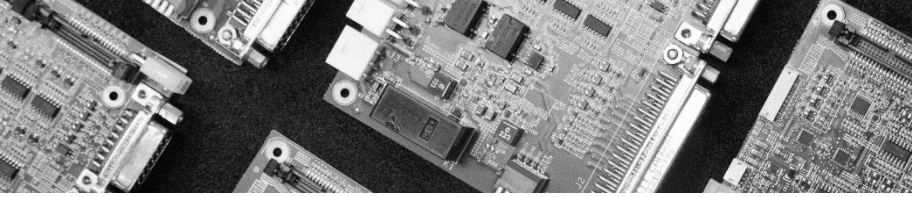
EFFICIENCY
See model selection chart



ECA5

5W ULTRAMINIATURE ENCAPSULATED SWITCHING POWER SUPPLIES

PARAMETERS	ECA5
Input Voltage	90-264 VAC (100-240 VAC, nom.)
Input Frequency	47-63 Hz
Inrush Current	20A@115V, 40A@230V Input*
Leakage Current	<3.5mA@264 VAC, 50 Hz
Voltage Current	See Selection Chart
Load Regulation (Note 7)	Single/Duals: ±3% Triple: 0.5 / ±5% (max)
Line Regulation (Note 8)	Single: 0.1 ~ 1%, typ Duals: ±0.3 ~ 1%, typ Triple: 0.6 / ±0.2% (max)
Cross Regulation (Note 11)	Duals: 2% Triple: NA / ±0.1%
Preset Accuracy (Note 9)	Single: ±1% Duals: ±1.5% Triples: 1% / ±5%
Temperature Coefficient	±0.03% / °C
Ripple/Noise (Note 1, 2, 10)	See Selection Chart
Over Voltage Protection	Clamp*
Short Circuit Protection (Note 3)	Continuous, Self-Recovering*
Hold Up Time	30 mS, typ (Nom. Input, 100% load)
* *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.*	
Isolation (Note 4)	4242 VDC Input-Output
Efficiency	See Selection Chart
Switching Frequency	100 Khz, (fixed, typical)
Safety UL/cUL:	UL60950-1 2nd ed./ C22.260950-1 2nd ed.
CB:	IEC60950-1 2nd ed.
EMC:	EN55011 Class B
Size	PCB Mount: 2.29L" x 1.77W" x 0.85H" Chassis Mount: 3.77L" x 2.16W" x 1.0H" Din Rail: 3.77L" x 2.16W" x 1.42H"
Case Material	Rynite, 94 V-0 Rated
Construction	Encapsulated, Soft Pot
Weight	PCB / CHA: 4 oz (113g) / 8.5 oz (241g) Din Rail: 11.5 oz (326g)



ECA5

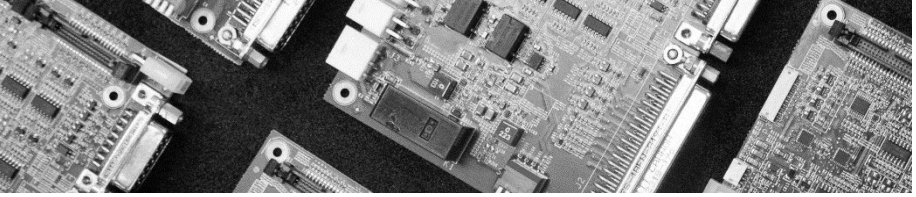
5W ULTRAMINIATURE ENCAPSULATED SWITCHING POWER SUPPLIES

PARAMETERS	MCA5
Oper. Temperature	0 to + 50ºC (See Derate)
Storage Temperature	-25 to 71ºC *
Relative Humidity	0 to + 95%, non-cond*
MTBF	(Mil Std 217, 25ºC) 270,000 Hrs

NOTES

1. *All measurements should be made directly at the terminals of the power supply.*
2. *Ripple and Noise depend upon output voltage as specified par particular model.*
3. *Short Circuit Protection is self-recovering when overcurrent condition is removed.*
4. *Isolation for up to 1 minute duration.*
5. *Specified for free-air convection cooling.*
6. *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.*
7. *Load regulation measured from 20% to FL.*
8. *Line regulation measured from 90 VAC to 264 VAC.*
9. *Preset accuracy measured at nominal load, 120 VAC input.*
10. *O/P noise measured directly at pins/terminals at nom. load, 0.1uF bypass, pk-pk @20MHz bandwidth.*
11. *Cross Reg.: Measured output (5V for Triples) at nominal load with the other output(s) varied between 60% to 100% load.*
12. *100% Production Tested.*

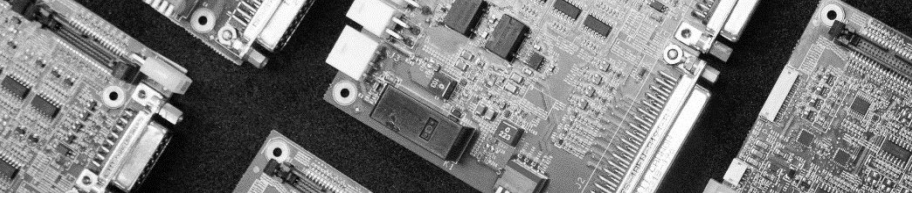
All specifications are typical at nominal input, full load, and 25ºC unless other wise noted.



ECA5

5W ULTRAMINIATURE ENCAPSULATED SWITCHING POWER SUPPLIES

MODEL NUMBER	OUTPUT VOLTAGE	OUTPUT AMPS FL	RIPPLE/NOISE	EFFICIENCY TYP AT NOM. INPUT
SINGLE OUTPUT – PCB Mount				
ESCA-5000	3.3VDC	1.25A	150mV pk-pk	65%
ESCA-5001	5VDC	1A	150mV pk-pk	67%
ESCA-5022	9VDC	0.55A	150mV pk-pk	70%
ESCA-5002	12VDC	0.42A	150mV pk-pk	70%
ESCA-5003	15VDC	0.33A	150mV pk-pk	72%
ESCA-5018	18VDC	0.27A	150mV pk-pk	70%
ESCA-5005	24VDC	0.23A	150mV pk-pk	72%
SINGLE OUTPUT – Chassis Mount				
ESCC-5000	3.3VDC	1.25A	150mV pk-pk	65%
ESCC-5001	5VDC	1A	150mV pk-pk	67%
ESCC-5022	9VDC	0.55A	150mV pk-pk	70%
ESCC-5002	12VDC	0.42A	150mV pk-pk	70%
ESCC-5003	15VDC	0.33A	150mV pk-pk	72%
ESCC-5018	18VDC	0.27A	150mV pk-pk	70%
ESCC-5005	24VDC	0.23A	150mV pk-pk	72%
SINGLE OUTPUT – DIN Rail Mount				
ESCC-5000/DRL	3.3VDC	1.25A	150mV pk-pk	66%
ESCC-5001/DRL	5VDC	1A	150mV pk-pk	67%
ESCC-5022/DRL	9VDC	0.55A	150mV pk-pk	70%
ESCC-5002/DRL	12VDC	0.42A	150mV pk-pk	70%
ESCC-5003/DRL	15VDC	0.33A	150mV pk-pk	72%
ESCC-5018/DRL	18VDC	0.27A	150mV pk-pk	70%
ESCC-5005/DRL	24VDC	0.23A	150mV pk-pk	72%

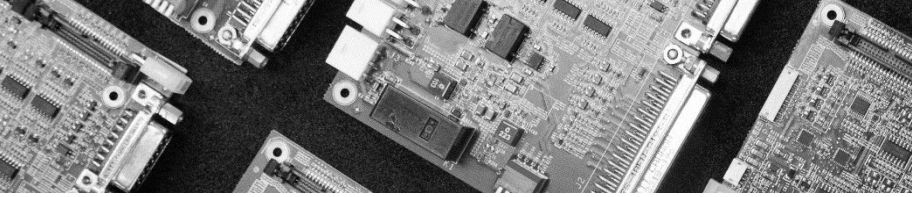


ECA5

5W ULTRAMINIATURE ENCAPSULATED SWITCHING POWER SUPPLIES

MODEL NUMBER	OUTPUT VOLTAGE	OUTPUT AMPS FL	RIPPLE/NOISE	EFFICIENCY TYP AT NOM. INPUT
DUAL OUTPUT – PCB Mount				
EDCA-5006	±12VDC	±0.21A	±150mV pk-pk	71%
EDCA-5007	±15VDC	±0.17A	±150mV pk-pk	71%
DUAL OUTPUT – Chassis Mount				
EDCC-5006	±12VDC	±0.21A	±150mV pk-pk	71%
EDCC-5007	±15VDC	±0.17A	±150mV pk-pk	71%
DUAL OUTPUT – DIN Rail Mount				
EDCC-5006/DRL	±12VDC	±0.21A	±150mV pk-pk	71%
EDCC-5007/DRL	±15VDC	±0.17A	±150mV pk-pk	71%
TRIPLE OUTPUT – PCB Mount				
ETCA-5009	5 ±12VDC	0.53 ± 0.21A	75 ± 100mV pk-pk	63%
ETCA-5011	5 ±15VDC	0.41 ± 0.1A	75 ± 100mV pk-pk	61%
TRIPLE OUTPUT – Chassis Mount				
ETCC-5009	5 ±12VDC	0.53 ± 0.21A	75 ± 100mV pk-pk	63%
ETCC-5011	5 ±15VDC	0.41 ± 0.1A	75 ± 100mV pk-pk	61%
TRIPLE OUTPUT – DIN Rail Mount				
ETCC-5009/DRL	5 ±12VDC	0.53 ± 0.21A	75 ± 100mV pk-pk	63%
ETCC-5011/DRL	5 ±15VDC	0.41 ± 0.1A	75 ± 100mV pk-pk	61%

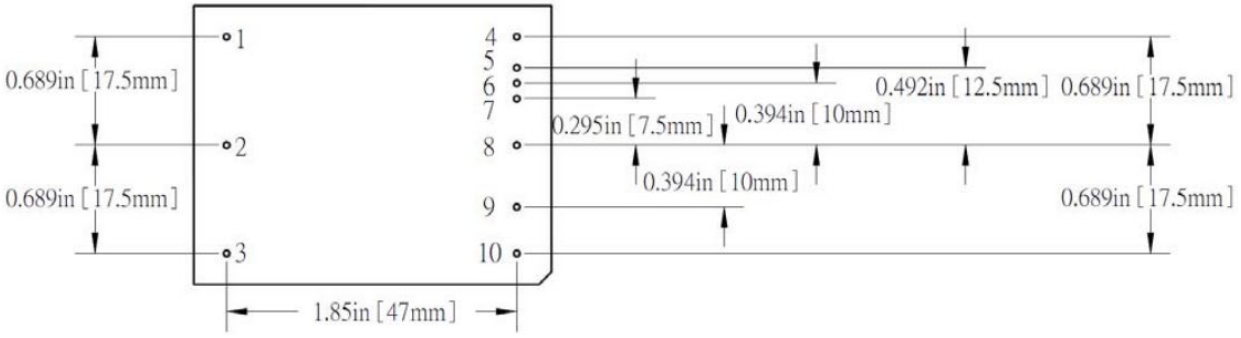
These Specifications are subject to change at any time without prior notification
All specifications are typical at nominal input, full load, and 25DegC unless otherwise noted
**These are stress ratings. Exposure of the devices to any of these conditions may adversely affect long-term reliability. Proper operation under conditions other than the standard operating conditions is neither warranted nor implied.*



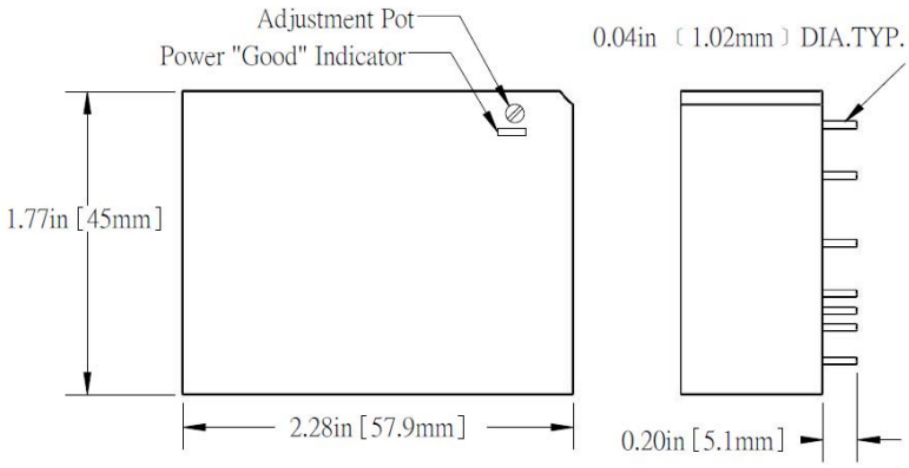
ECA5

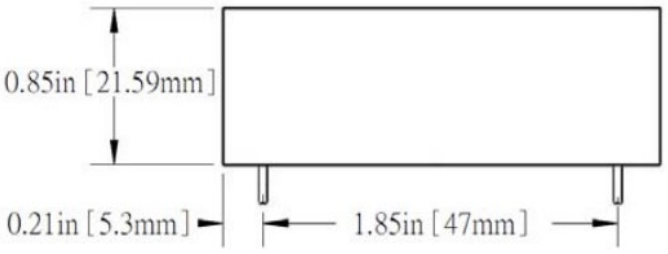
5W ULTRAMINIATURE ENCAPSULATED SWITCHING POWER SUPPLIES

MECHANICAL DIMENSION- PCB MOUNT



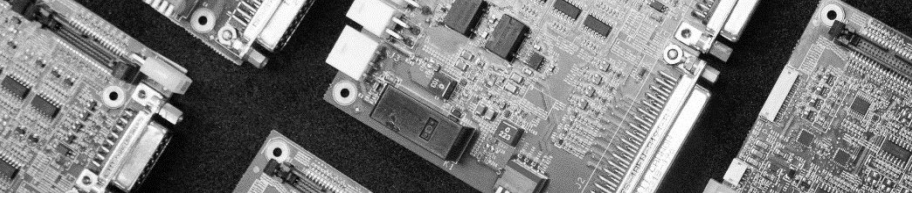
PIN-OUT VIEWED FROM BOTTOM





Model Type / Pin#	Single	Dual	Unmatched Dual	Triple
1	AC HI	AC HI	AC HI	AC HI
2	AC LO	AC LO	AC LO	AC LO
3	GND	GND	GND	GND
4	No Pin	No Pin	No Pin	+Vout
5	No Pin	No Pin	No Pin	Out Com
6	+Vout	+Vout	+12Vout	No Pin
7	No Pin	No Pin	No Pin	-Vout
8	No Pin	Out Com	+5Vout	+5Vout
9	-Vout	-Vout	Out Com	5V Ret
10	Ctrl	Ctrl	Ctrl	Ctrl

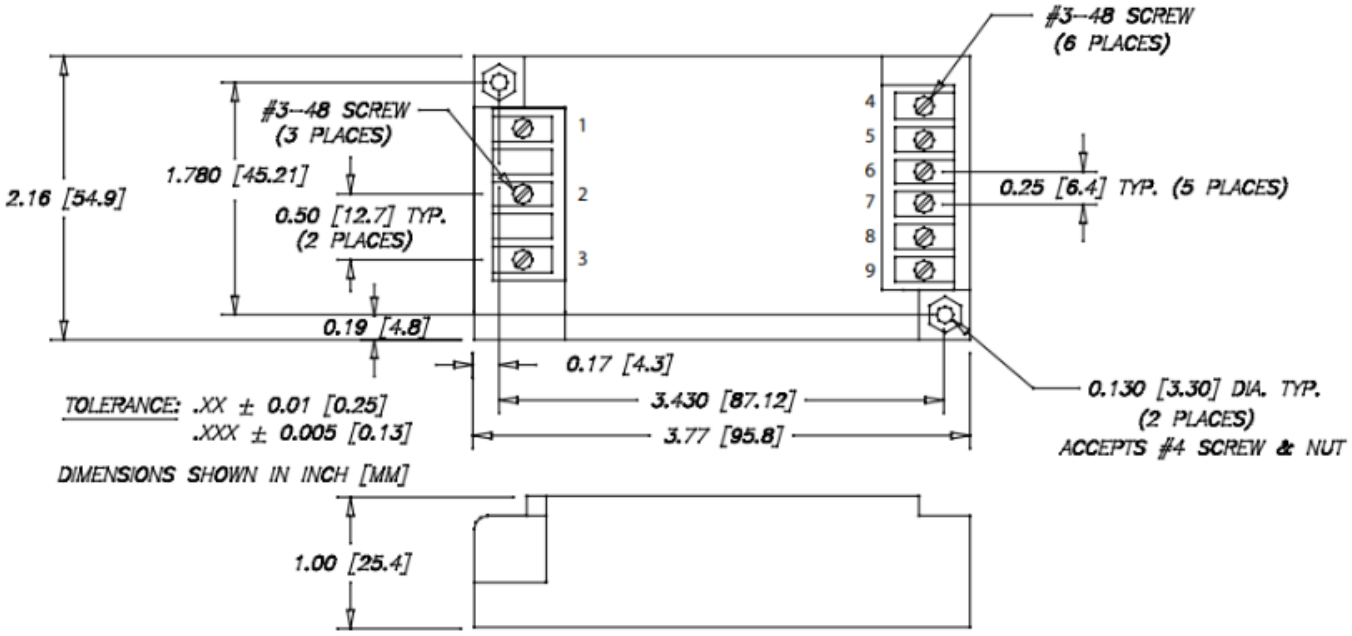
Tolerance : .XX ± 0.02 (0.508)
.XXX ± 0.01 (0.254)
Dimensions shown in inch (mm)



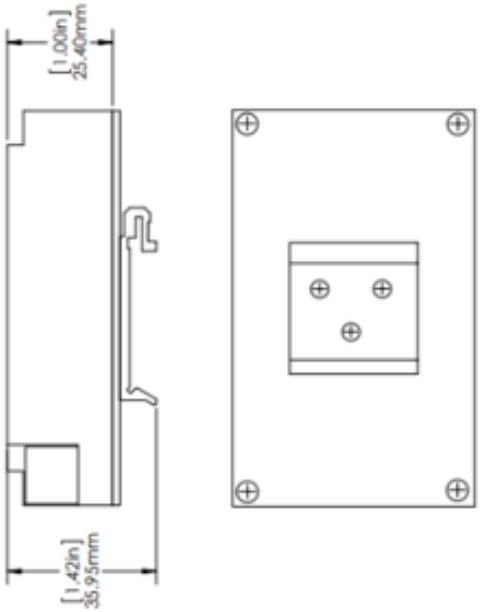
ECA5

5W ULTRAMINIATURE ENCAPSULATED SWITCHING POWER SUPPLIES

MECHANICAL DIMENSION- CHASSIS MOUNT

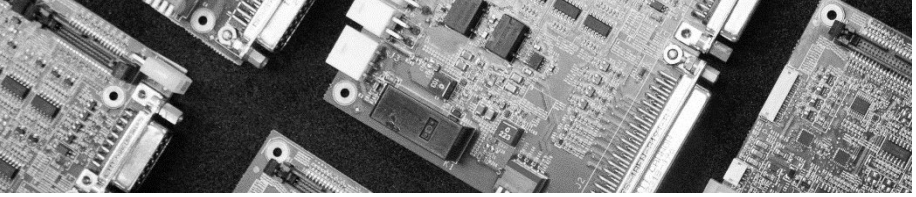


MECHANICAL DIMENSION- DIN RAIL



Model Type / Pin#	Single	Dual	Triple
1	ACN	ACN	ACN
2	N/C	N/C	N/C
3	ACL	ACL	ACL
4	N/C	N/C	N/C
5	-Vout	-Vout	+5VRTN
6	-Vout	Com	+5Vout
7	+Vout	Com	-Vout
8	+Vout	+Vout	Com
9	N/C	N/C	+Vout

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



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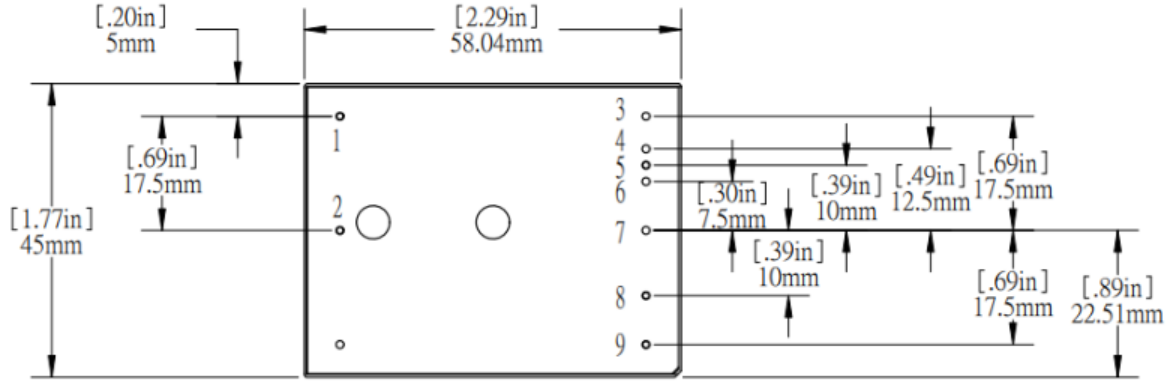
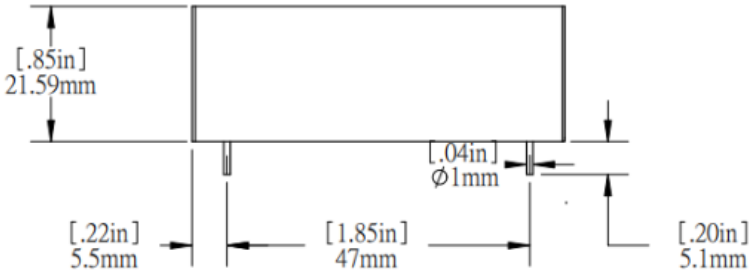
5W ULTRAMINIATURE ENCAPSULATED SWITCHING POWER SUPPLIES

MECHANICAL DIMENSION



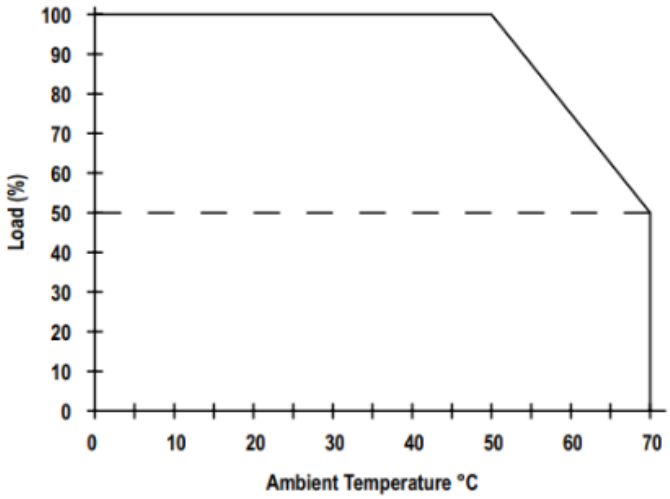
PIN-OUT VIEWED FROM BOTTOM

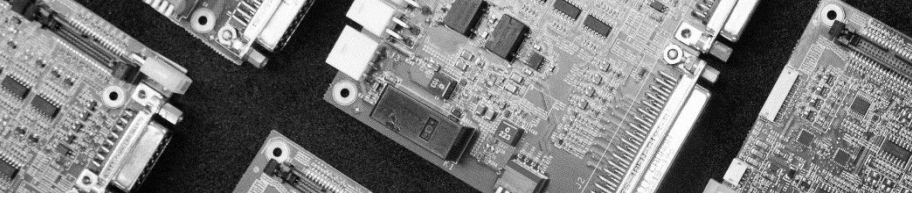


Tolerance : .XX ± 0.508mm [0.02in]
.XXX ± 0.254mm [0.01in]

Model Type/Pin#	Single	Dual	Triple
1	ACL	ACL	ACL
2	ACN	ACN	ACN
3	No Pin	No Pin	+Vout
4	No Pin	No Pin	Com
5	+Vout	+Vout	No Pin
6	No Pin	No Pin	-Vout
7	No Pin	Com	+5Vout
8	-Vout	-Vout	+5VRTN
9	No Pin	No Pin	No Pin

DERATE CURVE



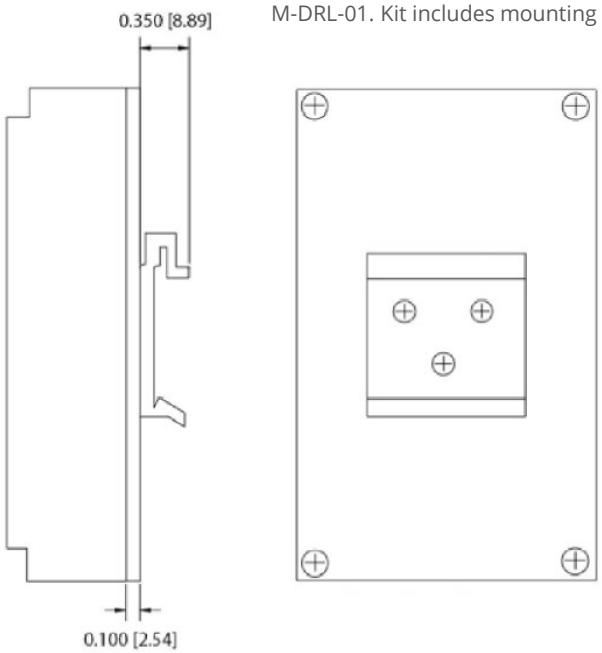


ECA5

5W ULTRAMINIATURE ENCAPSULATED SWITCHING POWER SUPPLIES

MECHANICAL DIMENSION- DIN RAIL

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



DERATE CURVE