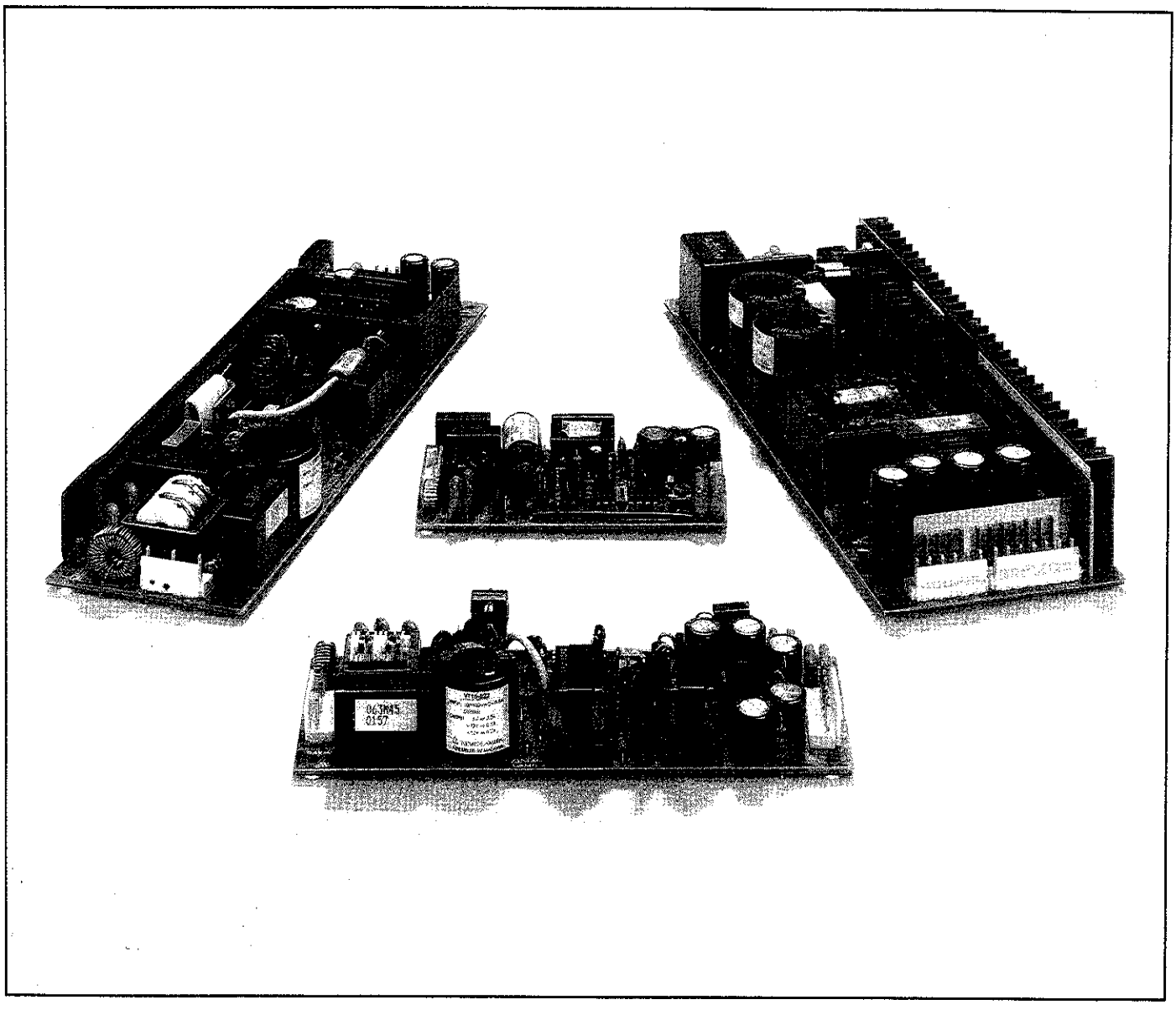
LAMBDA'S COMMERCIAL V SERIES



LOW COST POWER FOR NORTH AMERICA AND THE PACIFIC RIM

The requirements for reliability and cost effectiveness can seem mutually exclusive when looking for a large quantity of power supplies for office automation, point of sale equipment and other high volume applications. This is no longer the case with Lambda's introduction of the new V Series which provides high quality, reliable power at a low, low cost. The 85–132VAC input makes these units the power supplies of choice for applications in North America and the Pacific Rim. With single output models from 15W to 150W and triples from 15W to 60W, Lambda can simultaneously meet your needs for high quality and low price.

- ☐ Low cost models from $19.00.
- ☐ Single output models from 15W to 150W.
- ☐ Triple output models from 15W to 60W.
- ☐ UL recognized, CSA approvals.
- ☐ Integral EMI filtering.
- ☐ 85–132VAC input.
- ☐ In stock for immediate delivery.
- ☐ Grade 4 design.

PART IA—AC-TO-DC SWITCHING POWER SUPPLIES

LAMBDA'S COMMERCIAL V SERIES

DC OUTPUT
Output range shown in tables.

REGULATED VOLTAGE
regulation, line ..... 0.4% maximum on main 5V output of VT Series and VS Series. 0.4% on CH2 of VT15. 1% on all other auxiliary outputs of VT Series.

regulation, load ..... 0.625% on 48V models of VS Series. 0.8% on all other VS Series models; CH1 of VT Series; CH2 of VT30, 60. 0.1% on all other outputs of VT Series.

ripple and noise (pk-pk) ..... 0.1% on VS Series. 120mV on 5V outputs of VT Series; 150mV on 12V and 15V outputs of VT Series.

AC INPUT
line ..... 85 to 132VAC (47-440 Hz).

DC INPUT
line ..... 110-175VDC.

EFFICIENCY (TYPICAL)

Package Model	Efficiency
VT15	63%
VT30, 60, VS15	71%
VS10-5, -12	72%
VS10-15, -24	73%
VS30-5	75%
VS30-12	77%
VS30-15, VS50-5, VS150-5	78%
VS30-24, VS50-12, VS75-5	79%
VS100-5, VS150-12	
VS30-48, VS50-15, 24, 48	80%
VS75-12, 15, VS100-12, 15, VS150-15, 24	
VS75-48, VS100-24, 48, VS150-48	81%

OPERATING TEMPERATURE RANGE
−10°C to +60°C for PCB models; −10°C to +50°C for /S2 models. Ratings are as follows (%):

	30°C	40°C	50°C	60°C
VT Series, VS10 (/S2)	100 (100)	100 (100)	100 (70)	70 (−)
VS15, 30 (/S2)	100 (100)	100 (100)	100 (80)	70 (−)
VS50, 75, 100 (/S2)	100 (100)	100 (80)	100 (70)	70 (−)
	25°C	35°C	50°C	60°C
VS150	100	90	80	70

STORAGE TEMPERATURE
−30°C to +85°C.

OVERLOAD PROTECTION
Automatic current limiting is provided on all sets. Avoid operation in an overcurrent or short circuit condition for greater than 30 seconds.

OVERVOLTAGE PROTECTION
Overvoltage protection is provided on all VS units and CH1 of VT Series. Automatic shutdown mechanism requires recycling of input for reset. Zener diode clamping mechanism only on VS10.

PRE-LOAD REQUIREMENTS
All VT units require a 10% preload on CH1 for operation within published specifications.

IN-RUSH CURRENT LIMITING
The typical turn-on in-rush current is 30A for the VT Series, VS10, 30, 50 and 75. 20A on the VS100 and 150.

COOLING
All units are convection cooled and require no fans or blowers.

CONNECTIONS
All input and output connections are via Molex type connectors.

MOUNTING
Ratings are for horizontal mounting, component side up. For other mounting configurations, consult factory for rating information.

ISOLATION RATING
2000VAC input to output.
2000VAC input to ground.
500VAC output to ground.

CONSTRUCTION
Some VS models are available as PCB construction or with chassis and covers. The units with chassis and cover are denoted by suffix "S2". Units without S2 suffix are PCB construction.

EMI
Conducted EMI on the input of the VT Series conforms to FCC docket 20780 Class B VICCI-II. Class A and VICCI-I on VS Series.

PHYSICAL DATA

Package Model	Lbs. Net	Lbs. Ship	Construction	Size Inches
VS10	.17	.50	PCB	1.93 × .67 × 3.70
VS10S2	.37	.70	Enclosed	2.20 × .98 × 4.90
VS15	.22	.60	PCB	1.97 × .67 × 4.53
VS15S2	.44	.80	Enclosed	2.20 × .98 × 5.73
VS30	.29	.60	PCB	1.97 × .98 × 5.22
VS30S2	.64	.95	Enclosed	2.22 × 1.30 × 6.42
VS50	.44	.80	PCB	1.97 × .98 × 7.68
VS50S2	.90	1.30	Enclosed	2.22 × 1.30 × 8.86
VS75	.77	1.00	PCB	1.97 × 1.26 × 8.74
VS100	.92	1.30	PCB	2.44 × 1.26 × 8.74
VS150	1.21	1.50	PCB	2.95 × 1.42 × 8.74
VT15	.33	.70	PCB	2.17 × .98 × 5.70
VT30	.46	.80	PCB	2.17 × .98 × 7.01
VT60	.62	.95	PCB	2.36 × .98 × 8.66

/CSA
Under evaluation.
UL-# E122103 & CSA LR66945 — VS30 ?

Guarantee
90 day guarantee includes parts as well as labor.

PART IA—AC-TO-DC SWITCHING POWER SUPPLIES

COMMERCIAL SWITCHING SELECTOR GUIDE

110VAC Input. Single Output.

V_o ADJ. RANGE	MAX CURRENT AT OPERATING TEMPERATURE OF 25°C	40°C*	50°C	60°C	COMPLETE ELEC. SPEC. PG.	COMPLETE MECH. SPEC. PG.	DIMENSIONS (inches)	PRICE QTY. 1	QTY. 10	QTY. 25	QTY. 100	QTY. 250	QTY. 1000	MODEL
5V ADJ.														
±10%	2.00	2.00	1.40	—	65	178	.98 × 2.20 × 4.90	$ 33	$ 30	$28	$25	$23	$22	VS10-5/S2
±10%	2.00	2.00	2.00	1.40	65	177	.67 × 1.93 × 3.70	27	25	23	21	20	19	VS10-5
±10%	3.00	3.00	2.10	—	65	178	.98 × 2.20 × 5.73	38	36	34	28	25	24	VS15-5/S2
±10%	3.00	3.00	3.00	2.10	65	177	.67 × 1.97 × 4.53	32	31	29	24	22	21	VS15-5
±10%	6.00	6.00	4.80	—	65	178	1.30 × 2.22 × 6.42	47	44	41	33	30	28	VS30-5/S2
±10%	6.00	6.00	6.00	4.20	65	177	.98 × 1.97 × 5.22	41	39	36	29	27	25	VS30-5
±10%	10.00	8.00	7.00	—	65	178	1.30 × 2.22 × 8.86	58	54	50	40	37	34	VS50-5/S2
±10%	10.00	10.00	10.00	7.00	65	177	.98 × 1.97 × 7.68	52	49	45	36	34	30	VS50-5
±10%	15.00	15.00	15.00	10.50	65	177	1.26 × 1.97 × 8.74	66	63	58	46	42	38	VS75-5
±10%	20.00	20.00	20.00	14.00	65	177	1.26 × 2.44 × 8.74	81	77	71	57	53	46	VS100-5
±10%	30.00	27.00	24.00	21.00	65	177	1.42 × 2.95 × 8.74	112	107	99	79	73	53	VS150-5
12V ADJ.														
±10%	.85	.85	.60	—	65	178	.98 × 2.20 × 4.90	33	30	28	25	23	22	VS10-12/S2
±10%	.85	.85	.85	.60	65	177	.67 × 1.93 × 3.70	27	25	23	21	20	19	VS10-12
±10%	1.25	1.25	.88	—	65	178	.98 × 2.20 × 5.73	38	36	34	28	25	24	VS15-12/S2
±10%	1.25	1.25	1.25	.88	65	177	.67 × 1.97 × 4.53	32	31	29	24	22	21	VS15-12
±10%	2.50	2.50	2.00	—	65	178	1.30 × 2.22 × 6.42	47	44	41	33	30	28	VS30-12/S2
±10%	2.50	2.50	2.50	1.75	65	177	.98 × 1.97 × 5.22	41	39	36	29	27	25	VS30-12
±10%	4.30	3.44	3.01	—	65	178	1.30 × 2.22 × 8.86	58	54	50	40	37	34	VS50-12/S2
±10%	4.30	4.30	4.30	3.01	65	177	.98 × 1.97 × 7.68	52	49	45	36	34	30	VS50-12
±10%	6.30	6.30	6.30	4.41	65	177	1.26 × 1.97 × 8.74	66	63	58	46	42	38	VS75-12
±10%	8.50	8.50	8.50	5.95	65	177	1.26 × 2.44 × 8.74	81	77	71	57	53	46	VS100-12
±10%	12.50	11.25	10.00	8.75	65	177	1.42 × 2.95 × 8.74	112	107	99	79	73	53	VS150-12
15V ADJ.														
±10%	.70	.70	.49	—	65	178	.98 × 2.20 × 4.90	33	30	28	25	23	22	VS10-15/S2
±10%	.70	.70	.70	.49	65	177	.67 × 1.93 × 3.70	27	25	23	21	20	19	VS10-15
±10%	1.00	1.00	.70	—	65	178	.98 × 2.20 × 5.73	38	36	34	28	25	24	VS15-15/S2
±10%	1.00	1.00	1.00	.70	65	177	.67 × 1.97 × 4.53	32	31	29	24	22	21	VS15-15
±10%	2.00	2.00	1.60	—	65	178	1.30 × 2.22 × 6.42	47	44	41	33	30	28	VS30-15/S2
±10%	2.00	2.00	2.00	1.40	65	177	.98 × 1.97 × 5.22	41	39	36	29	27	25	VS30-15
±10%	3.50	2.80	2.45	—	65	178	1.30 × 2.22 × 8.86	58	54	50	40	37	34	VS50-15/S2
±10%	3.50	3.50	3.50	2.45	65	177	.98 × 1.97 × 7.68	52	49	45	36	34	30	VS50-15
±10%	5.00	5.00	5.00	3.50	65	177	1.26 × 1.97 × 8.74	66	63	58	46	42	38	VS75-15
±10%	7.00	7.00	7.00	4.90	65	177	1.26 × 2.44 × 8.74	81	77	71	57	53	46	VS100-15
±10%	10.00	9.00	8.00	7.00	65	177	1.42 × 2.95 × 8.74	112	107	99	79	73	53	VS150-15

*Rating is for 35°C for VS150
For exact input voltage range, see electrical specifications pages.
Continued on next page.

PART IA—AC-TO-DC SWITCHING POWER SUPPLIES

COMMERCIAL SWITCHING SELECTOR GUIDE

110VAC Input. Single Output.

V_o ADJ. RANGE	MAX CURRENT AT OPERATING TEMPERATURE OF 25°C	40°C*	50°C	60°C	COMPLETE ELEC. SPEC. PG.	COMPLETE MECH. SPEC. PG.	DIMENSIONS (inches)	PRICE QTY. 1	QTY. 10	QTY. 25	QTY. 100	QTY. 250	QTY. 1000	MODEL
24V ADJ.														
±10%	.45	.45	.32	—	65	178	.98 × 2.20 × 4.90	$ 33	$ 30	$ 28	$ 25	$ 23	$22	VS10-24/S2
±10%	.45	.45	.45	.32	65	177	.67 × 1.93 × 3.70	27	25	23	21	20	19	VS10-24
±10%	.65	.65	.46	—	65	178	.98 × 2.20 × 5.73	38	36	34	28	25	24	VS15-24/S2
±10%	.65	.65	.65	.46	65	177	.67 × 1.97 × 4.53	32	31	29	24	22	21	VS15-24
±10%	1.30	1.30	1.04	—	65	178	1.30 × 2.22 × 6.42	47	44	41	33	30	28	VS30-24/S2
±10%	1.30	1.30	1.30	.91	65	177	.98 × 1.97 × 5.22	41	39	36	29	27	25	VS30-24
±10%	2.10	1.68	1.47	—	65	178	1.30 × 2.22 × 8.86	58	54	50	40	37	34	VS50-24/S2
±10%	2.50	2.50	2.50	1.75	65	177	.98 × 1.97 × 7.68	52	49	45	36	34	30	VS50-24
±10%	3.20	3.20	3.20	2.24	65	177	1.26 × 1.97 × 8.74	66	63	58	46	42	38	VS75-24
±10%	4.30	4.30	4.30	3.01	65	177	1.26 × 2.44 × 8.74	81	77	71	57	53	46	VS100-24
±10%	6.30	5.67	5.04	4.41	65	177	1.42 × 2.95 × 8.74	112	107	99	79	73	53	VS150-24
48V ADJ.														
±10%	.70	.70	.56	—	65	178	1.30 × 2.22 × 6.42	47	44	41	33	30	28	VS30-48/S2
±10%	.70	.70	.70	.49	65	177	.98 × 1.97 × 5.22	41	39	36	29	27	25	VS30-48
±10%	1.10	.88	.77	—	65	178	1.30 × 2.22 × 8.86	58	54	50	40	37	34	VS50-48/S2
±10%	1.30	1.30	1.30	.91	65	177	.98 × 1.97 × 7.68	52	49	45	36	34	30	VS50-48
±10%	1.60	1.60	1.60	1.12	65	177	1.26 × 1.97 × 8.74	66	63	58	46	42	38	VS75-48
±10%	2.20	2.20	2.20	1.54	65	177	1.26 × 2.44 × 8.74	81	77	71	57	53	46	VS100-48
±10%	3.20	2.88	2.56	2.24	65	177	1.42 × 2.95 × 8.74	112	107	99	79	73	53	VS150-48

*Rating is for 35°C for VS150
For exact input voltage range, see electrical specifications page.

Triple Output.

VOLT V_o	MAX CURRENT AT OPERATING TEMPERATURE OF 25°C	40°C	50°C	60°C	MAX POWER AT OPERATING TEMPERATURE OF 25°C	40°C	50°C	60°C	COMPLETE ELEC. SPEC. PG.	COMPLETE MECH. SPEC. PG.	DIMENSIONS (inches)	PRICE QTY. 1	QTY. 10	QTY. 25	QTY. 100	QTY. 250	QTY. 1000	MODEL
5V, +12V, −12V																		
+5	2.00	2.00	2.00	1.40	16.00	16.00	16.00	11.20	65	177	.98 × 2.17 × 5.70	45	40	38	30	28	24	VT15-522
+12	.30	.30	.30	.21														
−12	.20	.20	.20	.14														
+5	3.00	3.00	3.00	2.10	33.00	33.00	33.00	23.10	65	177	.98 × 2.17 × 7.01	56	53	49	39	36	32	VT30-522
+12	1.20	1.20	1.20	.84														
−12	.30	.30	.30	.21														
+5	5.00	5.00	5.00	3.50	55.00	55.00	55.00	38.50	65	177	.98 × 2.36 × 8.66	70	67	62	50	46	41	VT60-522
+12	2.00	2.00	2.00	1.40														
−12	.50	.50	.50	.35														
5V +15V, −15V																		
+5	2.00	2.00	2.00	1.40	17.50	17.50	17.50	12.25	65	177	.98 × 2.17 × 5.70	45	40	38	30	28	24	VT15-5FF
+15	.30	.30	.30	.21														
−15	.20	.20	.20	.14														
+5	3.00	3.00	3.00	2.10	34.50	34.50	34.50	24.15	65	177	.98 × 2.17 × 7.01	56	53	49	39	36	32	VT30-5FF
+15	1.00	1.00	1.00	.70														
−15	.30	.30	.30	.21														
+5	5.00	5.00	5.00	3.50	56.50	56.50	56.50	39.55	65	177	.98 × 2.36 × 8.66	70	67	62	50	46	41	VT60-5FF
+15	1.60	1.60	1.60	1.12														
−15	.50	.50	.50	.35														

*Ratings for ZT-170 Series apply when operated with forced air cooling. Consult factory for applicable ratings without forced air cooling.

PART IA—AC-TO-DC SWITCHING POWER SUPPLIES

COMMERCIAL SWITCHING SELECTOR GUIDE

Triple Output.

VOLT V_o	MAX CURRENT AT OPERATING TEMPERATURE OF 25°C	40°C	50°C	60°C	MAX POWER AT OPERATING TEMPERATURE OF 25°C	40°C	50°C	60°C	COMPLETE ELEC. SPEC. PG.	COMPLETE MECH. SPEC. PG.	DIMENSIONS (inches)	PRICE QTY. 1	QTY. 10	QTY. 25	QTY. 100	QTY. 250	QTY. 1000	MODEL
5V, +12V, −5V																		
+5	2.00	2.00	2.00	1.40	14.60	14.60	14.60	10.22	65	177	.98 × 2.17 × 5.70	$45	$40	$38	$30	$28	$24	VT15-525
+12	.30	.30	.30	.21														
−5	.20	.20	.20	.14														
+5	3.00	3.00	3.00	2.10	30.90	30.90	30.90	21.63	65	177	.98 × 2.17 × 7.01	56	53	49	39	36	32	VT30-525
+12	1.20	1.20	1.20	.84														
−5	.30	.30	.30	.21														
+5	5.00	5.00	5.00	3.50	51.50	51.50	51.50	36.05	65	177	.98 × 2.36 × 8.66	70	67	62	50	46	41	VT60-525
+12	2.00	2.00	2.00	1.40														
−5	.50	.50	.50	.35														

V SERIES AND Z SERIES

TABLE I DIMENSIONS ARE IN INCHES / (MM) SEE FIGURE 1

	MODEL \ DIM	A	B	C	D	E	F	G	H	J	K	L	M	N
VS-SERIES	VS10	1.93 (49)	1.654 (42)	.138 (3.5)	3.425 (87)			.51 (13)	.67 (17)	.28 (7.0)	.85 (21.5)	3.70 (94)	1.02 (26)	
	VS15	1.97 (50)	1.693 (43)	.138 (3.5)	4.252 (108)			.55 (14)	.67 (17)	.37 (9.5)	1.39 (35.25)	4.53 (115)	1.22 (31)	
	VS30	1.97 (50)	1.576 (40)	.197 (5)	4.823 (122.5)			.55 (14)	.98 (25)	.85 (21.5)	1.18 (30)	5.22 (132.5)	1.02 (26)	
	VS50	1.97 (50)	1.576 (40)	.197 (5)	7.283 (185)	1.102 (28)	4.843 (123)	.43 (11)	.98 (25)	1.06 (27)	.67 (17)	7.68 (195)	1.10 (28)	
	VS75	1.97 (50)	1.576 (40)	.197 (5)	8.346 (212)	1.280 (32.5)	5.335 (135.5)	.51 (13)	1.26 (32)	.02 (.5)	1.06 (27)	8.74 (222)	.85 (21.5)	
	VS100	2.44 (62)	2.047 (52)	.197 (5)	8.346 (212)	1.673 (42.5)	4.705 (119.5)	1.18 (30)	1.26 (32)	.37 (9.5)	1.22 (31)	8.74 (222)	.98 (25)	
	VS150	2.95 (75)	2.560 (65)	.197 (5)	8.346 (212)	2.165 (55)	4.961 (126)	1.10 (28)	1.42 (36)	.02 (.5)	.85 (21.7)	8.74 (222)	1.81 (46)	1.91 (48.5)
VT-SERIES	VT15	2.17 (55)	1.773 (45)	.197 (5)	5.315 (135)			4.57 (116)	.98 (25)	1.69 (43)	.81 (20.5)	5.71 (145)	.85 (21.5)	
	VT30	2.17 (55)	1.773 (45)	.197 (5)	6.614 (168)			5.59 (142)	.98 (25)	1.44 (36.5)	1.26 (32)	7.01 (178)	.85 (21.5)	
	VT60	2.36 60	1.969 (50)	.197 (5)	8.268 (210)	1.673 (42.5)	4.331 (110)	6.44 (163.5)	.98 (25)	.06 (1.5)	1.04 (26.5)	8.66 (220)	.93 (23.5)	

PART V—MECHANICAL DRAWINGS

VS SERIES AND ZS SERIES

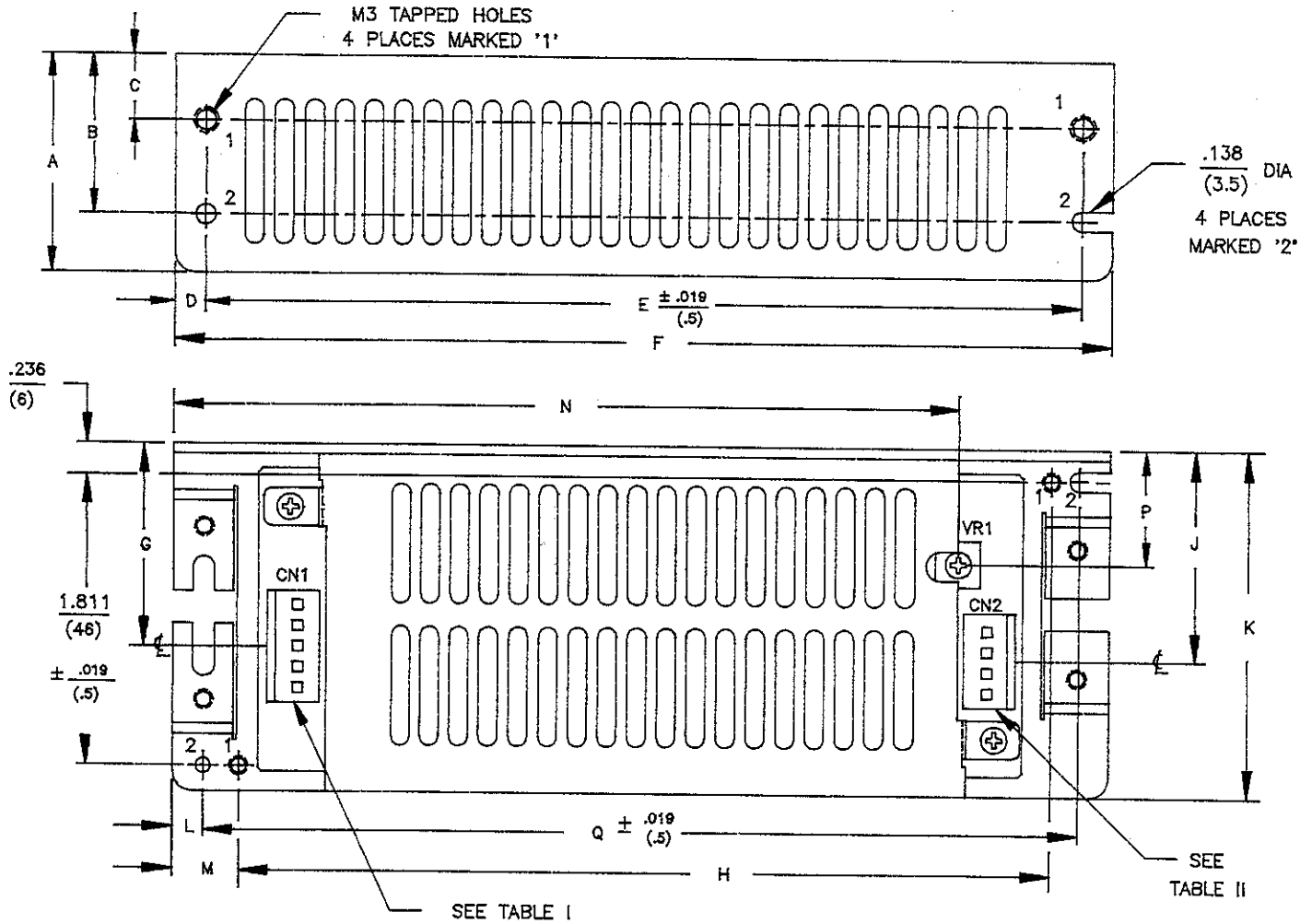


TABLE I

VS30/S2 VS50/S2	VS10/S2 VS15/S2
CN1 FG 5 N 3 INPUT L 1	CN1 L 1 INPUT N 4 FG 7

TABLE II

VS10/S2	VS15/S2	VS30/S2 VS50/S2
CN2 2 +V 1 –V OUTPUT	4]+V 3 2]–V 1 OUTPUT CN2	1]–V 2 3]+V 4 OUTPUT CN2

TABLE III DIMENSIONS ARE IN INCHES (MM)

MODEL \ DIM	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
VS10/S2	.98 (25)	.71 (18)	.39 (10)	.24 (6)	4.452 (113)	4.90 (124.5)	1.08 (27.5)	4.077 (103.5)	1.26 (32)	2.21 (56)	.16 (4)	.39 (10)	3.78 (96)	1.69 (43)	4.590 (116.5)
VS15/S2	.98 (25)	.71 (18)	.39 (10)	.24 (6)	5.280 (134)	5.73 (145.5)	.93 (23.5)	4.900 (124.5)	.76 (19.25)	2.21 (56)	.16 (4)	.39 (10)	4.61 (117)	1.63 (41.5)	5.417 (137.5)
VS30/S2	1.30 33	.96 (24)	.51 (13)	.28 (7)	5.910 (150)	6.42 (163)	1.12 (28.5)	5.513 (140)	.97 (24.5)	2.22 (56.5)	.20 (5)	.47 (12)	5.24 (133)	1.02 (26)	6.603 (154)
VS50/S2	1.30 33	.96 (24)	.51 (13)	.28 (7)	8.353 (212)	8.87 (225)	1.04 (26.5)	7.913 (201)	1.48 (37.5)	2.22 (56.5)	.20 (5)	.47 (12)	7.815 (198.5)	.89 (22.5)	8.504 (216)

NOTE: UNLESS OTHERWISE SPECIFIED TOLERANCE IS .039 INCHES , (1MM).