

PECO2-x-xxxxE/Z2:1(H35)(M)LF



PECO-SERIES

Rev.02-2010

- ✓ 2 Watt
- ✓ **2:1** Wide Input
- ✓ **Reg. Single and Dual Output**
- ✓ **1.5 – 3.5 kV DC I/O Isolation**
- ✓ **DIP24 Plastic or Metal Case**
- ✓ Continuous Short Circuit Prot.
- ✓ Full SMD Technology

The PECO-Line combine 1.5W up to 6W output power with 2:1 or 4:1 wide input and regulated output. The converters are available in plastic or optional metal DIP24 case with standard 1.5kV Isolation or optional 3.5kV isolation. You can choose between 3 Pinnings.

All specifications typical at Ta=25°C, nominal input voltage and full load unless otherwise specified

Input Specifications

Voltage Range	2:1 Wide Input
Input Filter	Pi Type
Input Reflected Ripple Current ¹	35 mA pk-pk

Output Specifications

Voltage Accuracy	± 1%
Short Circuit Protection	Continuous (automatic recovery)
Line Regulation	± 0.5%
Load Regulation	± 0.5%
Ripple and Noise (20Mhz bandwidth)	60 mV pk-pk
Temperature Coefficient	± 0.02% / °C

General Specifications

Efficiency	See Table
I/O Isolation Voltage (3 sec.)	1500 VDC 3500 VDC (optional - please add "H35")
I/O Isolation Capacity	60 pF, typ.
I/O Isolation Resistance	1000 M Ohm
Switching Frequency (typical)	100 - 400 kHz
Humidity	95% rel H
Reliability Calculated MTBF (MIL-HDBK-217F)	> 2.199 Mhrs

Physical Specifications

Case Material	Non Conductive Black Plastic (UL94V-0 rated) <i>Nickel Coated Copper</i> (optional – please add "M")
Potting Material	Epoxy (UL94V-0 rated)
Weight	~12.5g, typ. (Plastic case - standard) ~15g, typ. (Metal case - optional)

Environment Specifications

Operating Temperature	-40 to +85 °C (ambient)
Maximum Case Temperature	100 °C
Storage Temperature	-40 to +125 °C
Cooling	Free Air Convection (10mm distance required)
RoHS Conform	Soldering 260 °C, max. (1.5mm from case 10s.)

PECO-Series – PECO2-x-xxxxE/Z2:1(H35)(M)LF – Single/Dual Output – DIP24 – Plastic/Metal Case
Specification can change without a notice – We accept no liability for any inaccuracy or printing errors.

Selection Guide

Single Output

Order #	Input Voltage (VDC)	Input Current No Load (mA)	Input Current Full Load (mA)	Output Voltage (VDC)	Output Current Min. Load (mA)	Output Current Full Load (mA)	Efficiency (%)	Capacitor Load (uF) ²
SINGLE OUTPUT - standard (1.5kV, plastic case)								
PECO2-x-0505E2:1LF	4.5-9	40	588	5	100	400	68	2200
PECO2-x-0509E2:1LF	4.5-9	40	571	9	55.5	222	70	470
PECO2-x-0512E2:1LF	4.5-9	40	571	12	42.8	167	70	470
PECO2-x-0515E2:1LF	4.5-9	40	571	15	33.3	133	70	470
PECO2-x-0524E2:1LF	4.5-9	40	579	24	20.8	83	69	220
PECO2-x-1205E2:1LF	9-18	20	222	5	100	400	75	2200
PECO2-x-1209E2:1LF	9-18	20	213	9	55.5	222	78	470
PECO2-x-1212E2:1LF	9-18	20	213	12	42.8	167	78	470
PECO2-x-1215E2:1LF	9-18	20	213	15	33.3	133	78	470
PECO2-x-1224E2:1LF	9-18	20	210	24	20.8	83	79	220
PECO2-x-2405E2:1LF	18-36	12	106	5	100	400	78	2200
PECO2-x-2409E2:1LF	18-36	12	104	9	55.5	222	80	470
PECO2-x-2412E2:1LF	18-36	12	105	12	42.8	167	79	470
PECO2-x-2415E2:1LF	18-36	12	106	15	33.3	133	78	470
PECO2-x-2424E2:1LF	18-36	12	104	24	20.8	83	80	220
PECO2-x-4805E2:1LF	36-72	8	55.5	5	100	400	75	2200
PECO2-x-4809E2:1LF	36-72	8	53	9	55.5	222	78	470
PECO2-x-4812E2:1LF	36-72	8	52	12	42.8	167	79	470
PECO2-x-4815E2:1LF	36-72	8	52	15	33.3	133	80	470
PECO2-x-4824E2:1LF	36-72	8	52	24	20.8	83	80	220

If you need other specifications, please enquire.

*OPTIONS:

PINNING "A" / "B" / "C"	Please see table on page 3 and choose your pinning. (PECO2- <u>A</u> -2412E2:1LF for Pinning "A")
3.5 kV I/O Isolation	For optional 3.5kV DC I/O Isolation, please add "H35" before (M)LF! (PECO2-A-2412E2:1 <u>H35</u> LF)
Metal case	For optional Metal case, please add "M" before LF! (PECO2-A-2412E2:1H35 <u>M</u> LF)

Selection Guide

Dual Output

Order #	Input Voltage (VDC)	Input Current No Load (mA)	Input Current Full Load (mA)	Output Voltage (VDC)	Output Current Min. Load (mA)	Output Current Full Load (mA)	Efficiency (%)	Capacitor Load (uF) ²
DUAL OUTPUT - standard (1.5kV, plastic case)								
PECO2-x-0505Z2:1LF	4.5-9	40	588	± 5	± 50	± 200	68	± 1000
PECO2-x-0509Z2:1LF	4.5-9	40	571	± 9	± 27.8	± 111	70	± 220
PECO2-x-0512Z2:1LF	4.5-9	40	571	± 12	± 20.8	± 83	70	± 220
PECO2-x-0515Z2:1LF	4.5-9	40	571	± 15	± 16.8	± 67	70	± 220
PECO2-x-0524Z2:1LF	4.5-9	40	579	± 24	± 10.5	± 42	69	± 100
PECO2-x-1205Z2:1LF	9-18	20	225	± 5	± 50	± 200	74	± 1000
PECO2-x-1209Z2:1LF	9-18	20	225	± 9	± 27.8	± 111	74	± 220
PECO2-x-1212Z2:1LF	9-18	20	219	± 12	± 20.8	± 83	76	± 220
PECO2-x-1215Z2:1LF	9-18	20	216	± 15	± 16.8	± 67	77	± 220
PECO2-x-1224Z2:1LF	9-18	20	219	± 24	± 10.5	± 42	76	± 100
PECO2-x-2405Z2:1LF	18-36	12	111	± 5	± 50	± 200	75	± 1000
PECO2-x-2409Z2:1LF	18-36	12	111	± 9	± 27.8	± 111	75	± 220
PECO2-x-2412Z2:1LF	18-36	12	105	± 12	± 20.8	± 83	79	± 220
PECO2-x-2415Z2:1LF	18-36	12	105	± 15	± 16.8	± 67	79	± 220
PECO2-x-2424Z2:1LF	18-36	12	106	± 24	± 10.5	± 42	78	± 100
PECO2-x-4805Z2:1LF	36-72	8	56	± 5	± 50	± 200	74	± 1000
PECO2-x-4809Z2:1LF	36-72	8	55.5	± 9	± 27.8	± 111	75	± 220
PECO2-x-4812Z2:1LF	36-72	8	53	± 12	± 20.8	± 83	78	± 220
PECO2-x-4815Z2:1LF	36-72	8	53	± 15	± 16.8	± 67	78	± 220
PECO2-x-4824Z2:1LF	36-72	8	53	± 24	± 10.5	± 42	79	± 100

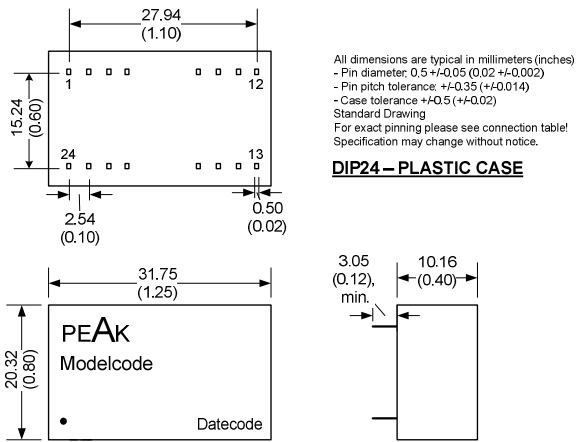
If you need other specifications, please enquire.

*OPTIONS:

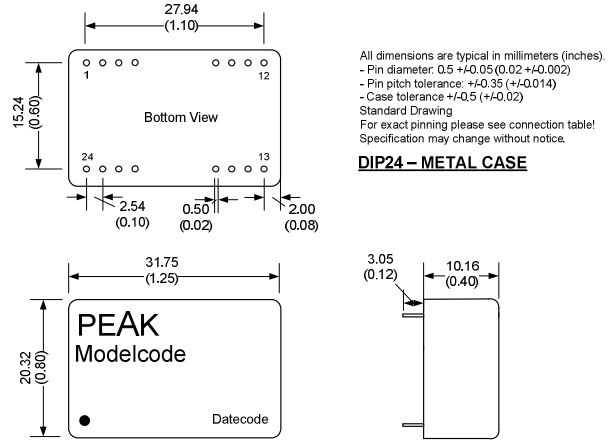
PINNING "A" / "B" / "C"	Please see table on page 3 and choose your pinning. (PECO2- A -2412Z2:1LF for Pinning "A")
3.5 kV I/O Isolation	For optional 3.5kV DC I/O Isolation, please add "H35" before (M)LF! (PECO2-A-2412Z2:1 H35 LF)
Metal case	For optional Metal case, please add "M" before LF! (PECO2-A-2412Z2:1H35 MLF)

Package / Pinning / Derating

Standard



Optional: Please add „M“ before LF



PINNING "A"		
#	Single	Dual
2	- Vin	- Vin
3	- Vin	- Vin
9	Omitted	Common
11	N.C.	- Vout
14	+ Vout	+Vout
16	- Vout	Common
22	+Vin	+Vin
23	+Vin	+Vin

Same pinning for 3.5kV models!

PINNING "B"		
#	Single 1.5kV	Dual 1.5kV
1	+Vin	+Vin
2	N.C.	- Vout
3	N.C.	Common
9	Omitted	Omitted
10	- Vout	Common
11	+Vout	+Vout
12	- Vin	- Vin
13	- Vin	- Vin
14	+Vout	+Vout
15	- Vout	Common
16	Omitted	Omitted
22	N.C.	Common
23	N.C.	- Vout
24	+Vin	+Vin

Only 1.5 kV isolation for pinning "B" available!

PINNING "C"		
#	Single	Dual
1	+Vin	+Vin
2	+Vin	+Vin
10	N.C.	Common
11	N.C.	Common
12	- Vout	N.C.
13	+Vout	- Vout
15	N.C.	+Vout
23	- Vin	- Vin
24	- Vin	- Vin

Same pinning for 3.5kV models!

App Notes:

¹ = Measured Input reflected ripple current with a simulated source inductance of 12uH.

² = Tested by nominal Vin and constant resistor load.

- Operation under no-load conditions will not damage these devices, but they will not observe the listed specifications.

Example: Pinning "C", single output, metal case

PECO	2	- C -	12	05	E	2:1	M	LF
Series	2 Watt	Pinning "C"	Input voltage	Output voltage	single output	2:1 wide input	Metal case	RoHS

Example: Pinning "A", dual output, plastic case, 3.5kV isolation

PECO	2	- A -	24	12	Z	2:1	H35	LF
Series	2 Watt	Pinning "A"	Input voltage	Output voltage	dual output	2:1 wide input	3.5kV isolation	RoHS

TEMPERATURE DERATING GRAPH

