

PECO1-x-xxxxE/Z2:1(H35)(M)LF



PECO-SERIES

Rev.02-2010

- ✓ 1.5 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 – PECO1-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
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SINGLE OUTPUT - standard (1.5kV, plastic case)

PECO1-x-0505E2:1LF	4.5-9	40	461	5	75	300	65	2200
PECO1-x-0509E2:1LF	4.5-9	40	447	9	41.7	167	67	470
PECO1-x-0512E2:1LF	4.5-9	40	428	12	125	125	70	470
PECO1-x-0515E2:1LF	4.5-9	40	447	15	31	100	67	470
PECO1-x-0524E2:1LF	4.5-9	40	454	24	15.6	62.5	66	220
PECO1-x-1205E2:1LF	9-18	20	169	5	75	300	74	2200
PECO1-x-1209E2:1LF	9-18	20	162	9	41.7	167	77	470
PECO1-x-1212E2:1LF	9-18	20	164	12	125	125	76	470
PECO1-x-1215E2:1LF	9-18	20	160	15	31	100	78	470
PECO1-x-1224E2:1LF	9-18	20	160	24	15.6	62.5	78	220
PECO1-x-2405E2:1LF	18-36	12	84.5	5	75	300	74	2200
PECO1-x-2409E2:1LF	18-36	12	84.5	9	41.7	167	74	470
PECO1-x-2412E2:1LF	18-36	12	82	12	125	125	76	470
PECO1-x-2415E2:1LF	18-36	12	82	15	31	100	76	470
PECO1-x-2424E2:1LF	18-36	12	81	24	15.6	62.5	77	220
PECO1-x-4805E2:1LF	36-72	8	43	5	75	300	73	2200
PECO1-x-4809E2:1LF	36-72	8	42	9	41.7	167	75	470
PECO1-x-4812E2:1LF	36-72	8	40.5	12	125	125	77	470
PECO1-x-4815E2:1LF	36-72	8	40.5	15	31	100	77	470
PECO1-x-4824E2:1LF	36-72	8	40	24	15.6	62.5	78	220

If you need other specifications, please enquire.

***OPTIONS:**

PINNING "A" / "B" / "C"	Please see table on page 3 and choose your pinning. (PECO1- A -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! (PECO1-A-2412E2:1 H35 LF)
Metal case	For optional Metal case, please add "M" before LF! (PECO1-A-2412E2:1H35 MLF)

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)								
PECO1-x-0505Z2:1LF	4.5-9	40	461	± 5	± 37.5	± 150	65	± 1000
PECO1-x-0509Z2:1LF	4.5-9	40	447	± 9	± 20.8	± 83.3	67	± 220
PECO1-x-0512Z2:1LF	4.5-9	40	428	± 12	± 15.6	± 62.5	70	± 220
PECO1-x-0515Z2:1LF	4.5-9	40	447	± 15	± 12.5	± 50	67	± 220
PECO1-x-0524Z2:1LF	4.5-9	40	454	± 24	± 7.7	± 31	66	± 100
PECO1-x-1205Z2:1LF	9-18	20	169	± 5	± 37.5	± 150	74	± 1000
PECO1-x-1209Z2:1LF	9-18	20	164	± 9	± 20.8	± 83.3	76	± 220
PECO1-x-1212Z2:1LF	9-18	20	166	± 12	± 15.6	± 62.5	75	± 220
PECO1-x-1215Z2:1LF	9-18	20	160	± 15	± 12.5	± 50	78	± 220
PECO1-x-1224Z2:1LF	9-18	20	160	± 24	± 7.7	± 31	78	± 100
PECO1-x-2405Z2:1LF	18-36	12	83	± 5	± 37.5	± 150	75	± 1000
PECO1-x-2409Z2:1LF	18-36	12	82	± 9	± 20.8	± 83.3	76	± 220
PECO1-x-2412Z2:1LF	18-36	12	81	± 12	± 15.6	± 62.5	77	± 220
PECO1-x-2415Z2:1LF	18-36	12	80	± 15	± 12.5	± 50	78	± 220
PECO1-x-2424Z2:1LF	18-36	12	80	± 24	± 7.7	± 31	78	± 100
PECO1-x-4805Z2:1LF	36-72	8	42	± 5	± 37.5	± 150	74	± 1000
PECO1-x-4809Z2:1LF	36-72	8	42	± 9	± 20.8	± 83.3	75	± 220
PECO1-x-4812Z2:1LF	36-72	8	40.5	± 12	± 15.6	± 62.5	77	± 220
PECO1-x-4815Z2:1LF	36-72	8	40	± 15	± 12.5	± 50	78	± 220
PECO1-x-4824Z2:1LF	36-72	8	40	± 24	± 7.7	± 31	78	± 100

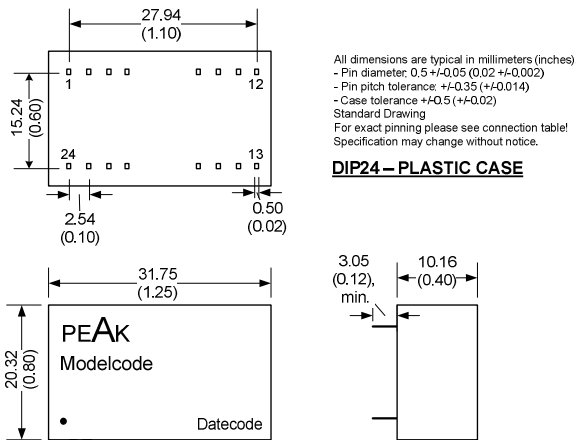
If you need other specifications, please enquire.

***OPTIONS:**

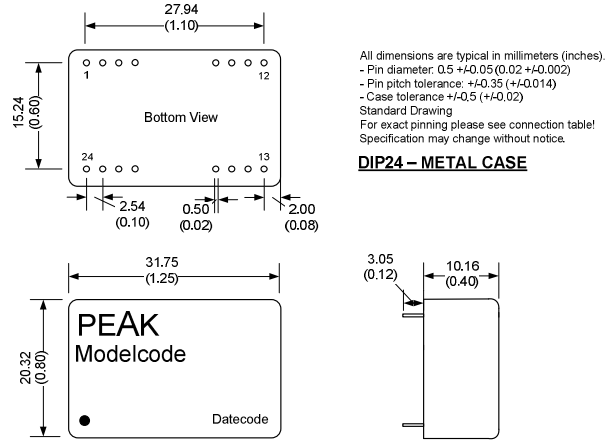
PINNING "A" / "B" / "C"	Please see table on page 3 and choose your pinning. (PECO1- A -2412Z2:1LF for Pinning "A")
3.5 kV I/O Isolation	For optional 3.5kV DC I/O Isolation, please add "H35" before (M)LF! (PECO1-A-2412Z2:1 H35 LF)
Metal case	For optional Metal case, please add "M" before LF! (PECO1-A-2412Z2:1H35 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	1	- C -	12	05	E	2:1	M	LF
Series	1 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	1	- A -	24	12	Z	2:1	H35	LF
Series	1 Watt	Pinning "A"	Input voltage	Output voltage	dual output	2:1 wide input	3.5kV isolation	RoHS

TEMPERATURE DERATING GRAPH

