PECO6-x-xxxxE/Z2:1(H35)(M)LF

Mainzer Straße 151–153
D-55299 Nackenheim
Tel. +49 6135 7026-0
Fax: +49 6135 931070
www.peak-electronics.de
peak@peak-electronics.de

PECO-SERIES Rev.02-2010

- ✓ 6 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) *Nickel Coated Copper* (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	-25 to +71°C (for 100% load)
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.)

Selection Guide
Single/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]
SINGLE OUTPUT - *standard (1.5kV, plastic case)*								
PECO6-x-1205E2:1LF	9-18	20	649	5	300	1200	77	2200
PECO6-x-1209E2:1LF	9-18	20	649	9	166.5	666	77	470
PECO6-x-1212E2:1LF	9-18	20	625	12	125	500	80	470
PECO6-x-1215E2:1LF	9-18	20	625	15	100	400	80	470
PECO6-x-1224E2:1LF	9-18	20	625	24	62.5	250	80	220
PECO6-x-2405E2:1LF	18-36	12	312	5	300	1200	80	2200
PECO6-x-2409E2:1LF	18-36	12	301	9	166.5	666	83	470
PECO6-x-2412E2:1LF	18-36	12	301	12	125	500	83	470
PECO6-x-2415E2:1LF	18-36	12	301	15	100	400	83	470
PECO6-x-2424E2:1LF	18-36	12	301	24	62.5	250	83	220
PECO6-x-4805E2:1LF	36-72	8	156	5	300	1200	80	2200
PECO6-x-4809E2:1LF	36-72	8	150	9	166.5	666	83	470
PECO6-x-4812E2:1LF	36-72	8	150	12	125	500	83	470
PECO6-x-4815E2:1LF	36-72	8	150	15	100	400	83	470
PECO6-x-4824E2:1LF	36-72	8	150	24	62.5	250	83	220
DUAL OUTPUT - *standard (1.5kV, plastic case)*								
PECO6-x-1205Z2:1LF	9-18	20	649	± 5	± 150	± 600	77	± 1000
PECO6-x-1209Z2:1LF	9-18	20	649	± 9	± 83.3	± 333	77	± 220
PECO6-x-1212Z2:1LF	9-18	20	625	± 12	± 62.5	± 250	80	± 220
PECO6-x-1215Z2:1LF	9-18	20	625	± 15	± 50	± 200	80	± 220
PECO6-x-1224Z2:1LF	9-18	20	625	± 24	± 31.3	± 125	80	± 100
PECO6-x-2405Z2:1LF	18-36	12	312	± 5	± 150	± 600	80	± 1000
PECO6-x-2409Z2:1LF	18-36	12	301	± 9	± 83.3	± 333	83	± 220
PECO6-x-2412Z2:1LF	18-36	12	301	± 12	± 62.5	± 250	83	± 220
PECO6-x-2415Z2:1LF	18-36	12	301	± 15	± 50	± 200	83	± 220
PECO6-x-2424Z2:1LF	18-36	12	301	± 24	± 31.3	± 125	83	± 100
PECO6-x-4805Z2:1LF	36-72	8	156	± 5	± 150	± 600	80	± 1000
PECO6-x-4809Z2:1LF	36-72	8	150	± 9	± 83.3	± 333	83	± 220
PECO6-x-4812Z2:1LF	36-72	8	150	± 12	± 62.5	± 250	83	± 220
PECO6-x-4815Z2:1LF	36-72	8	152	± 15	± 50	± 200	82	± 220
PECO6-x-4824Z2:1LF	36-72	8	152	± 24	± 31.3	± 125	82	± 100

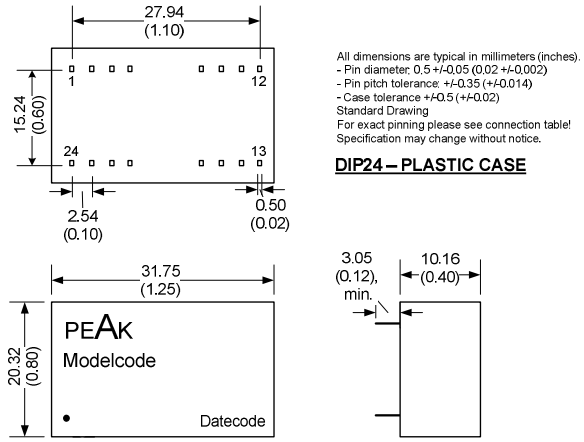
If you need other specifications, please enquire.

***OPTIONS:**

PINNING "A" / "B" / "C"	Please see table on page 3 and choose your pinning. *(PECO6-**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! *(PECO6-A-2412E2:1**H35**LF)*
Metal case	For optional Metal case, please add "M" before LF! *(PECO6-A-2412E2:1H35**M**LF)*

Package / Pinning / Derating

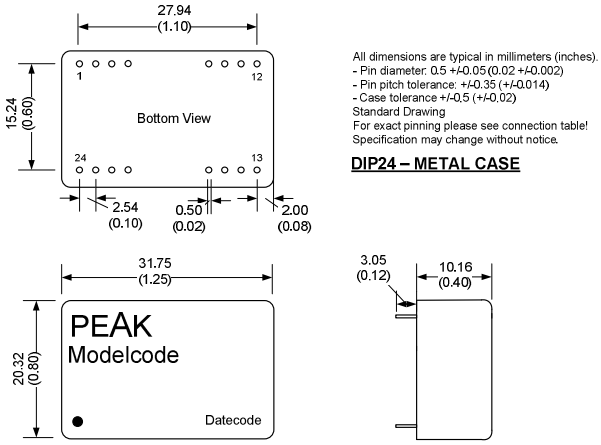
Standard



All dimensions are typical in millimeters (inches).
- Pin diameter: 0.5 +/-0.05 (0.02 +/-0.002)
- Pin pitch tolerance: +/-0.35 (+/-0.014)
- Case tolerance +/-0.5 (+/-0.02)
Standard Drawing
For exact pinning please see connection table!
Specification may change without notice.

DIP24 – PLASTIC CASE

Optional: Please add „M“ before LF



All dimensions are typical in millimeters (inches).
- Pin diameter: 0.5 +/-0.05 (0.02 +/-0.002)
- Pin pitch tolerance: +/-0.35 (+/-0.014)
- Case tolerance +/-0.5 (+/-0.02)
Standard Drawing
For exact pinning please see connection table!
Specification may change without notice.

DIP24 – METAL CASE

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	***6***	***- C -***	***12***	***05***	***E***	***2:1***	***M***	***LF***
Series	*6 Watt*	*Pinning “C”*	*Input voltage*	*Output voltage*	*single output*	*2:1 wide input*	*Metal case*	*Lead free*

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

PECO	***6***	***- A -***	***24***	***12***	***Z***	***2:1***	***H35***	***LF***
Series	*6 Watt*	*Pinning “A”*	*Input voltage*	*Output voltage*	*dual output*	*2:1 wide input*	*3.5kV isolation*	*RoHS*

TEMPERATURE DERATING GRAPH