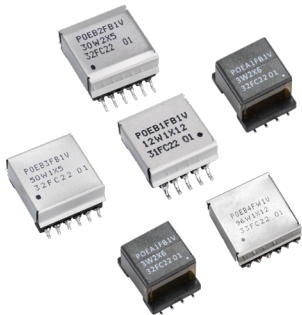


## Eaton Power-over-Ethernet high voltage transformers



# Eaton PoE transformers in flyback and forward designs for PoE applications



Eaton's Power-over-Ethernet high voltage transformers (PoE) are suitable for a wide range of ethernet power devices using IEEE802.3 ethernet protocols.

### Product description

Eaton's Power-over-Ethernet transformers (PoE) are suitable for a wide range of ethernet power devices using IEEE802.3 ethernet protocols. Eaton's PoE transformers support various PoE controllers across many power devices ranging from 3 W to 156 W. Eaton's PoE comes in 6 standard transformer sizes (EP10, EP13, EFD15, EFD20, EFD25, EFD30) and in both flyback and forward topologies. Flyback designs are often used as energy storage while the forward designs provide energy transfer mostly for high power outputs, typically 50 watts and above.

Applications for the PoE transformers include lighting, remote cameras, industrial automation, security systems, Voice over Internet Protocol (VoIP), network access points, chargers, network routers, bluetooth, and network repeaters. They perform reliably in high operating temperatures ranging from - 40° C to + 125° C and up to 1500 V isolation voltage.

### Features and benefits

- Flexible/standard footprint options
- Design flexibility across sizes and electrical performances covering from 3 W to 156 W
- Full PoE transformer line covering IEEE Type 1 (802.3af), Type 2 (802.3at), Type 3 (802.3bt), Type 4 (802.3bt)
- Offered in two popular topologies: flyback and forward designs
- 1500 Vac isolation between primary and secondary
- High operating temperature to - 40° C to + 125° C
- Low leakage inductance for low-loss energy storage

# EATON

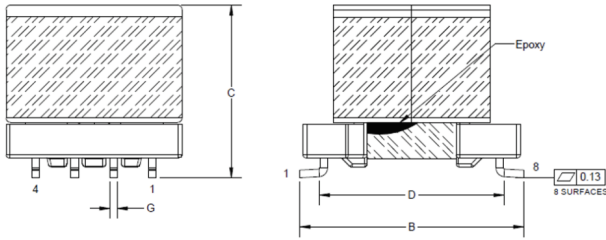
Powering Business Worldwide

## Product specifications

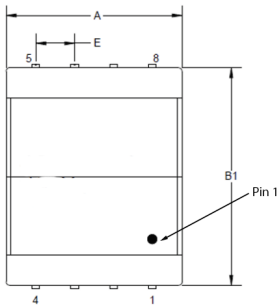
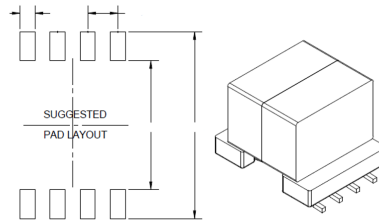
Part number	Output Power (W)	OCL ( $\mu\text{H}$ ) $\pm 10\%$	SCL ( $\mu\text{H}$ ) maximum	$I_{\text{sat}}$ (A)	DCR (m $\Omega$ ) maximum @ +25 °C (Pri)	DCR (m $\Omega$ ) maximum @ +25 °C (Sec 1)	DCR (m $\Omega$ ) maximum @ +25 °C (Sec 2)	DCR (m $\Omega$ ) maximum @ +25 °C (Aux)	Size
POEA1FB	3 to 10	60 to 253	1.7 to 7.5	0.45 to 1.20	130 to 420	16 to 343	150	115 to 822	EP10
POEA2FB	10 to 18	37 to 180	0.56 to 2.5	1 to 2.7	70 to 460	9 to 100	190	94 to 600	EP13
POEB1FB	12 to 18	70 to 155	1.3 to 2.5	1 to 2	260 to 500	30 to 220	16 to 28	200 to 300	EFD15
POEB2FB	24 to 60	11.5 to 100	0.5 to 2	1 to 3	28 to 150	7 to 23	70 to 130	120 to 260	EFD20
POEB3FB	48 to 84	17.5 to 30	1	5 to 22	30 to 85	7 to 50	35	100 to 500	EFD25
POEB3FW	50	162	0.3	-	30	5	-	60	EFD25
POEB4FW	156	100	0.25	-	20	4.25	-	250	EFD30

## Mechanical parameters and pad layout (Representative drawing--see data sheets for dimension details)

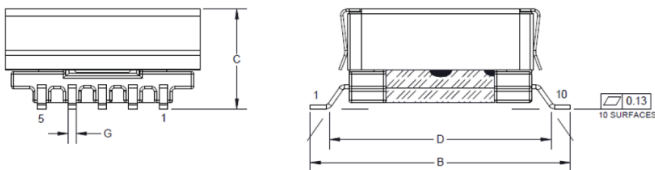
### EP drawing



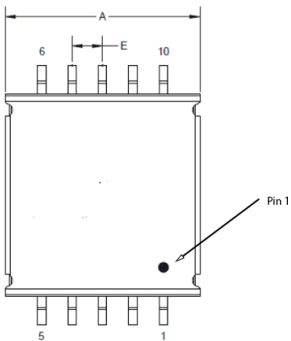
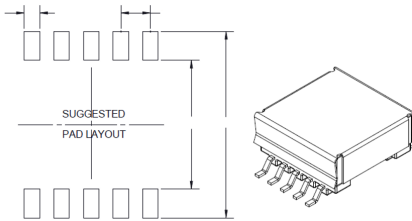
### Recommended PCB Layout



### EFD drawing



### Recommended PCB Layout



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