

# Surface Mount Power Transformer

## Features of the EFD20-6 Series

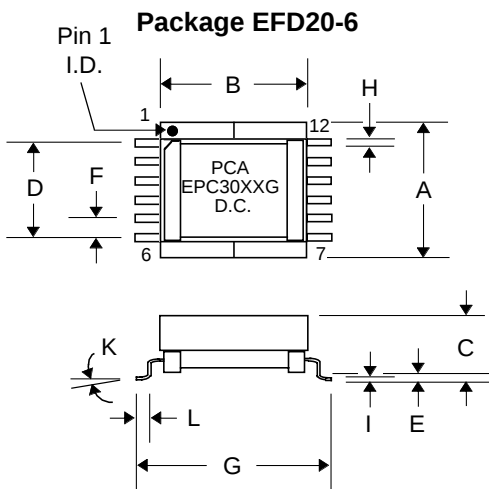
- Low Loss Material ensures operation in High Frequency Switching Converters such as Flyback, Buck, Boost Topology or as Coupled Inductors†
- Selected models can be used in Forward, Push-Pull or Half & Full Bridge Topology††
- 500 Vrms Isolations •
- Very Low Leakage Inductance •

## Primary Specification : †For Flyback, Buck, Boost Topolgy or as Coupled Inductors

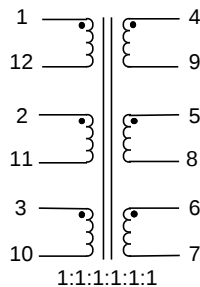
| Part Number | Connection | DCR (Ω Max.) | Idc (Amps) | Inductance (μH ± 20%) @ 0 Adc | Inductance Change @ Idc (Typ.) | Vt 1 (V-μSec. Max.) | Temp. Rise @ Idc (°C Typ.) |
|-------------|------------|--------------|------------|-------------------------------|--------------------------------|---------------------|----------------------------|
| EPC3030G    | Series     | .071 xNs     | 6.1 /Ks    | 22.3 x(Ns) <sup>2</sup>       | 27%                            | 98 xNs              | 39                         |
|             | Parallel   | .071 /Np     | 6.1 /Kp    | 22.3                          | 27%                            | 98                  | 39                         |
|             | Single Wdg | .071         | 2.5        | 22.3                          | 7.5%                           | 98                  | 39                         |
| EPC3031G    | Series     | .047xNs      | 7.5 /Ks    | 9.9 x(Ns) <sup>2</sup>        | 21%                            | 65.3 xNs            | 39                         |
|             | Parallel   | .047 /Np     | 7.5 /Kp    | 9.9                           | 21%                            | 65.3                | 39                         |
|             | Single Wdg | .047         | 3.06       | 9.9                           | 9%                             | 65.3                | 39                         |
| EPC3032G    | Series     | .071 xNs     | 6.1 /Ks    | 12.0 x(Ns) <sup>2</sup>       | 1%                             | 98 xNs              | 39                         |
|             | Parallel   | .071 /Np     | 6.1 /Kp    | 12.0                          | 1%                             | 98                  | 39                         |
|             | Single Wdg | .071         | 2.5        | 12.0                          | 0%                             | 98                  | 39                         |
| EPC3033G    | Series     | .047 xNs     | 7.5 /Ks    | 5.3 x(Ns) <sup>2</sup>        | 0.4%                           | 65.3 xNs            | 39                         |
|             | Parallel   | .047 /Np     | 7.5 /Kp    | 5.3                           | 0.4%                           | 65.3                | 39                         |
|             | Single Wdg | .047         | 3.06       | 5.3                           | 0%                             | 65.3                | 39                         |
| EPC3034G    | Series     | .071 xNs     | 6.1 /Ks    | 9.65 x(Ns) <sup>2</sup>       | 0%                             | 98 xNs              | 39                         |
|             | Parallel   | .071 /Np     | 6.1 /Kp    | 9.65                          | 0%                             | 98                  | 39                         |
|             | Single Wdg | .071         | 2.5        | 9.65                          | 0%                             | 98                  | 39                         |
| EPC3035G    | Series     | .047 xNs     | 7.5 /Ks    | 4.3 x(Ns) <sup>2</sup>        | 0%                             | 65.3 xNs            | 39                         |
|             | Parallel   | .047 /Np     | 7.5 /Kp    | 4.3                           | 0%                             | 65.3                | 39                         |
|             | Single Wdg | .047         | 3.06       | 4.3                           | 0%                             | 65.3                | 39                         |

### Notes :

1. Ns = Number of series connections
2. Np = Number of parallel connections
3. Ks =  $Ns \times \sqrt{6/Ns}$
4. Kp =  $\sqrt{6/Np}$



### Schematic



### Dimensions

| Dim. | (Inches) |      |       | (Millimeters) |       |       |
|------|----------|------|-------|---------------|-------|-------|
|      | Min.     | Max. | Nom.  | Min.          | Max.  | Nom.  |
| A    | ---      | .835 | ---   | ---           | 21.20 | ---   |
| B    | ---      | .854 | ---   | ---           | 21.70 | ---   |
| C    | ---      | .425 | ---   | ---           | 10.80 | ---   |
| D    | ---      | ---  | .591  | ---           | ---   | 15.00 |
| E    | ---      | ---  | .010  | ---           | ---   | .250  |
| F    | ---      | ---  | .118  | ---           | ---   | 3.00  |
| G    | ---      | ---  | 1.128 | ---           | ---   | 28.65 |
| H    | ---      | ---  | .028  | ---           | ---   | .700  |
| I    | ---      | ---  | .016  | ---           | ---   | .400  |
| K    | 0°       | 8°   | ---   | 0°            | 8°    | ---   |
| L    | ---      | ---  | .080  | ---           | ---   | 2.03  |

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- Low Loss Material ensures operation in High Frequency Switching Converters such as Flyback, Buck, Boost Topology or as Coupled Inductors†
- Selected models can be used in Forward, Push-Pull or Half & Full Bridge Topology††
- 500 Vrms Isolations •
- Very Low Leakage Inductance •

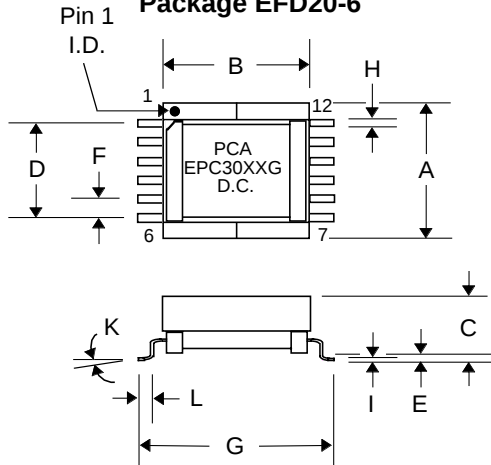
## Primary Specification : †For Flyback, Buck, Boost Topology or as Coupled Inductors

| Part Number | Connection | DCR (Ω Max.) | Idc (Amps) | Inductance (μH ± 20%) @ 0 Adc | Inductance Change @ Idc (Typ.) | Vt 1 (V-μSec. Max.) | Temp. Rise @ Idc (°C Typ.) |
|-------------|------------|--------------|------------|-------------------------------|--------------------------------|---------------------|----------------------------|
| EPC3036G    | Series     | .071 xNs     | 6.1 /Ks    | 7.63 x(Ns) <sup>2</sup>       | 0%                             | 98 xNs              | 39                         |
|             | Parallel   | .071 /Np     | 6.1 /Kp    | 7.63                          | 0%                             | 98                  | 39                         |
|             | Single Wdg | .071         | 2.5        | 7.63                          | 0%                             | 98                  | 39                         |
| EPC3037G    | Series     | .047xNs      | 7.5 /Ks    | 3.4 x(Ns) <sup>2</sup>        | 0%                             | 65.3 xNs            | 39                         |
|             | Parallel   | .047 /Np     | 7.5 /Kp    | 3.4                           | 0%                             | 65.3                | 39                         |
|             | Single Wdg | .047         | 3.06       | 3.4                           | 0%                             | 65.3                | 39                         |
| EPC3055G    | Series     | .081xNs      | 5.2 /Ks    | 27.4 x(Ns) <sup>2</sup>       | 14%                            | 113 xNs             | 34                         |
|             | Parallel   | .081 /Np     | 5.2 /Kp    | 27.4                          | 14%                            | 113                 | 34                         |
|             | Single Wdg | .081         | 2.1        | 27.4                          | 2%                             | 113                 | 34                         |

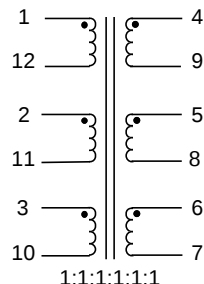
## Primary Specification : ††For Forward, Push-Pull, Half & Full Bridge Topology

| Part Number | Connection | DCR (Ω Max.) | Irms (Amps) | Inductance (μH ± 30%) @ 0 Adc | Inductance Change | Vt 1 (V-μSec. Max.) | Temp. Rise @ Irms (°C Typ.) |
|-------------|------------|--------------|-------------|-------------------------------|-------------------|---------------------|-----------------------------|
| EPC3028G    | Series     | .071 xNs     | 6.1 /Ks     | 173 x(Ns) <sup>2</sup>        | ---               | 98 xNs              | 39                          |
|             | Parallel   | .071 /Np     | 6.1 /Kp     | 173                           | ---               | 98                  | 39                          |
|             | Single Wdg | .071         | 2.5         | 173                           | ---               | 98                  | 39                          |
| EPC3029G    | Series     | .047xNs      | 7.5 /Ks     | 76.8 x(Ns) <sup>2</sup>       | ---               | 65.3 xNs            | 39                          |
|             | Parallel   | .047 /Np     | 7.5 /Kp     | 76.8                          | ---               | 65.3                | 39                          |
|             | Single Wdg | .047         | 3.06        | 76.8                          | ---               | 65.3                | 39                          |

### Package EFD20-6



### Schematic



### Notes :

1. Ns = Number of series connections
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3. Ks =  $Ns \times \sqrt{6/Ns}$
4. Kp =  $\sqrt{6/Np}$

### Dimensions

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| B    | ---      | .854 | ---   | ---           | 21.70 | ---   |
| C    | ---      | .425 | ---   | ---           | 10.80 | ---   |
| D    | ---      | ---  | .591  | ---           | ---   | 15.00 |
| E    | ---      | ---  | .010  | ---           | ---   | .250  |
| F    | ---      | ---  | .118  | ---           | ---   | 3.00  |
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| I    | ---      | ---  | .016  | ---           | ---   | .400  |
| K    | 0°       | 8°   | ---   | 0°            | 8°    | ---   |
| L    | ---      | ---  | .080  | ---           | ---   | 2.03  |