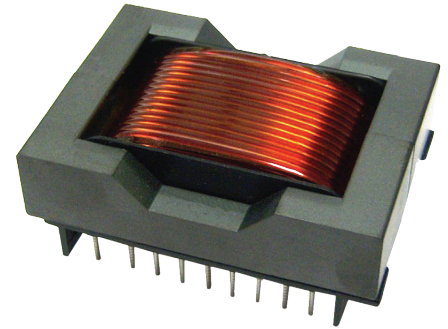


WCM410-88 WCM410-60 WCM410-70 WCM410-50

Switch Mode Transformers

Product Description

West Coast Magnetics' new WCM410-88,-70,-60,-50 series raise the bar for high power switch mode transformers. This new series was designed in order to achieve 50% more power density than other geometries currently available on the market, without sacrificing isolation. The core and bobbin are also suitable for safe UL/CSA/VDE coupling with medical grade isolation standards.



Output Power vs Frequency of Operation (Watts)

Product Code	Frequency	25 kHz	50 kHz	100 kHz	200 kHz	500 kHz	1 MHz
WCM410-88	Power Rating	1.8 kW	2.7 kW	3.7 kW	4.4 kW	5.1 kW	-
WCM410-70	Power Rating	1.1 kW	1.8 kW	2.4 kW	2.8 kW	3.2 kW	-
WCM410-60	Power Rating	-	-	1.0 kW	1.2 kW	1.9 kW	2.2kW
WCM410-50	Power Rating	-	-	550 W	660 W	1.0 kW	1.2 kW

Engineering Data

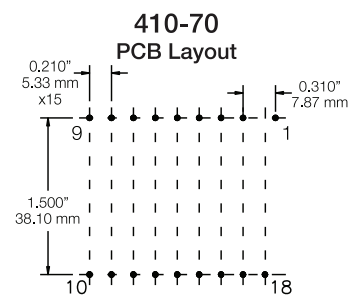
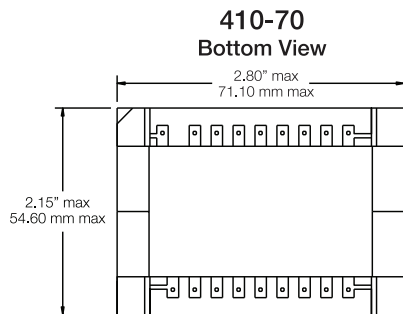
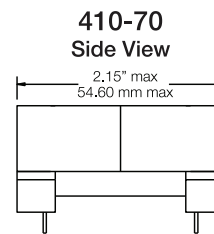
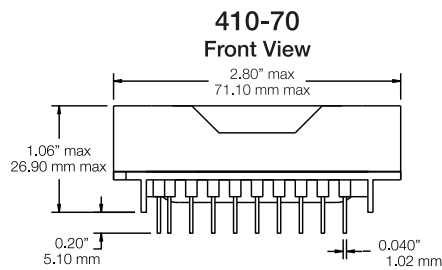
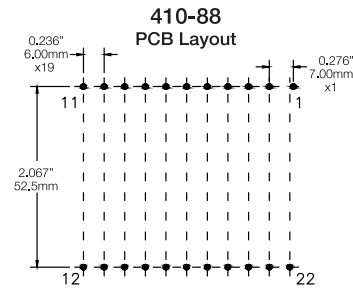
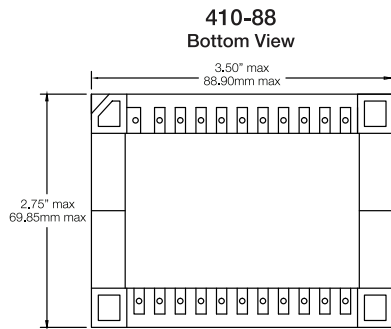
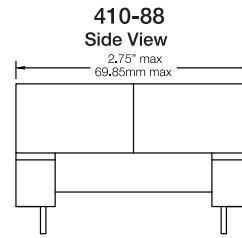
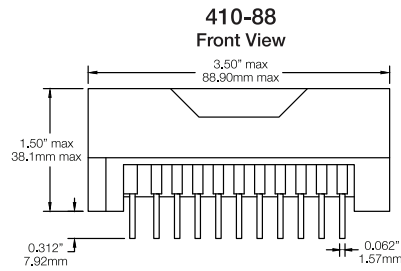
Product Code	Al (ungapped, nH/T ²)	Ae Core Area (mm ²)	Le magnetic path length (mm)	Ve core volume (mm ³)	Wa bobbin winding area (mm ²)	WaAc Core area winding area (mm ⁴)	Bobbin window width (mm)	Bobbin window height (mm)	Mean length per turn (mm)	Core material
WCM410-88	5500	404.0	169.4	69,292	385.2	155,765	45.00	8.56	140.9	WCM-F100
WCM410-70	4400	245.0	129.0	31,600	201.6	49,392	31.75	6.35	108.0	WCM-F100
WCM410-60	3600	158.6	102.6	15,755	137.0	21,728	26.50	5.17	86.1	WCM-F300
WCM410-50	2100	106.7	89.2	9913	112.1	11,958	24.00	4.67	68.0	WCM-F300

Note:

Power rating is based on 40°C Temperature rise, unpotted, no forced air or cold plate cooling. Power rating will increase significantly with potted transformer and external cooling available.

Schematics

WCM410-88 and WCM410-70



Dimensions:

Inches
mm

Tolerance:

Inches

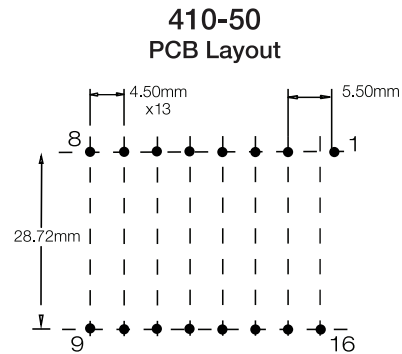
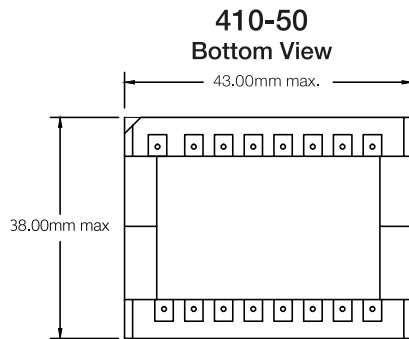
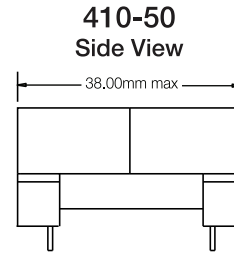
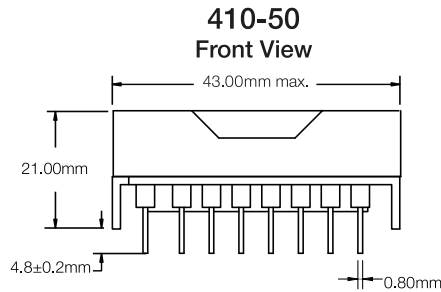
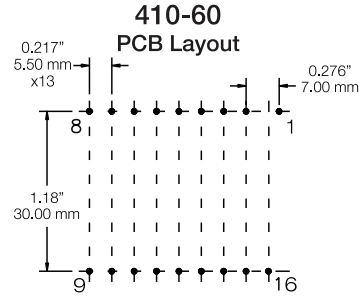
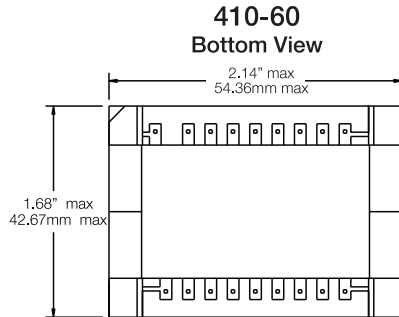
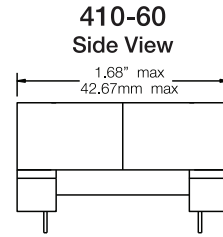
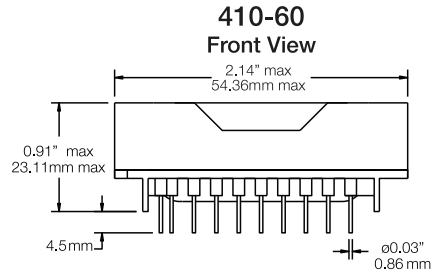
x.xx ± 0.020"
x.xxx ± 0.005"

Millimeters

x.x ± 0.25mm
x.xx ± 0.13mm

Schematics

WCM410-60 and WCM410-50



Dimensions:

Inches
mm

Tolerance:

Inches

x.xx ± 0.020"
x.xxx ± 0.005"

Millimeters

x.x ± 0.25mm
x.xx ± 0.13mm

Material Characteristics

WCM-F100

Characteristics	Symbol	Unit		
Initial Permeability	μ_i	-		2500 ±25%
Saturation Flux Density at 1194 A/m	Bs	mT mT	25°C 100 °C	520 420
Remanence	Br	mT		110
Coercivity	Hc	A/m		13
Power Loss	F=100 kHz B=200 mT Pc	kw/m ³ kw/m ³ kw/m ³	25 °C 80 °C 100 °C	600 310 280
Resistivity	ρ	$\Omega \cdot m$		7
Curie Temperature	Tc	°C		>215
Density	d	kw/m ³ *10 ³		4.9

Graphs
WCM-F100

