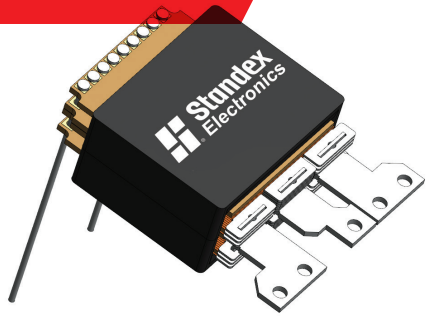
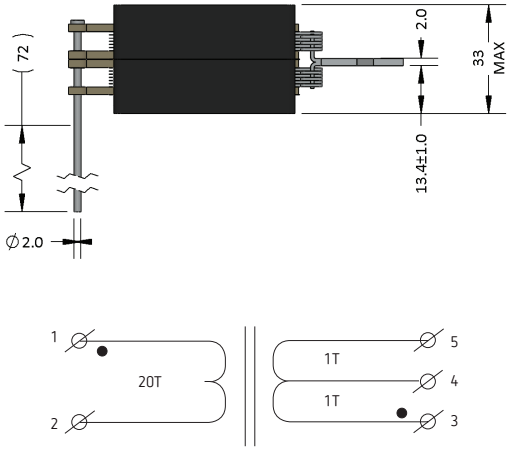
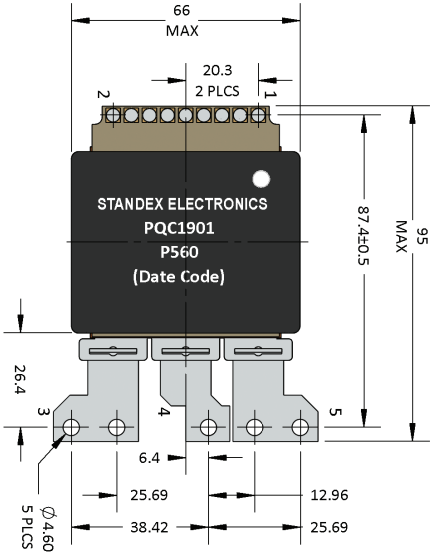
SIZE 560
3kW-10kW

DESIGN EXAMPLE







TRANSFORMER DESIGN | EXAMPLE - PQC1901 (U.S. PAT. 7,460,002)

ELECTRICAL SPECIFICATIONS

Topology	Half Bridge ZVS
Input Voltage	800VDC
Output Power (Output Voltage/Current After Rectification)	6144W Max. (24VDC/256A)
Turns Ratio - Np/Ns	20T/1T + 1T
Switching Frequency	50kHz
Duty Cycle, Max.	100%
Efficiency At Full Power (Calculated)	99.24% (47W Losses)
Ambient Temp. Max. (Transfer clamped to heatsink)	+85°C
*Heatsink Provided By Customer	

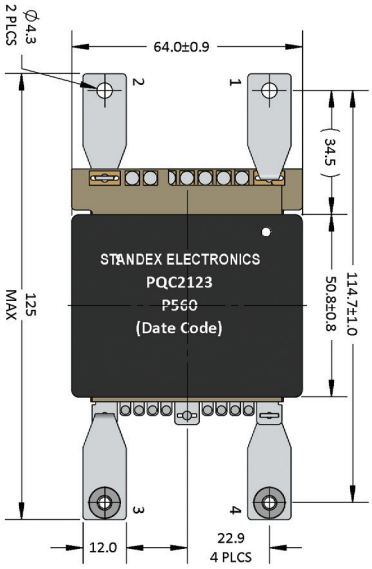
Temperature Rise Hot Spot Heatsink, Max.*	+37.6°C
Minimum Isolation Voltage	
Primary To Secondary And Core	3000VDC
Secondary To Core	500VDC
Primary Inductance, Np, Min.	4000µH
Primary Resistance, Np, Max.	30mOhm
Secondary Resistance, Ns, Max.	0.25mOhm
Leakage Inductance 1-2/3-4-5 Shorted, Typ.	3µH
Weight Range	650-700grams

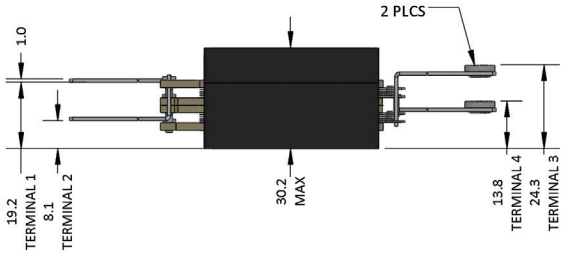
NOTES:

1) FOR OPTIMAL PERFORMANCE A THERMALLY CONDUCTIVE SUBSTRATE BETWEEN FERRITE AND HEATSINK SHOULD BE UTILIZED

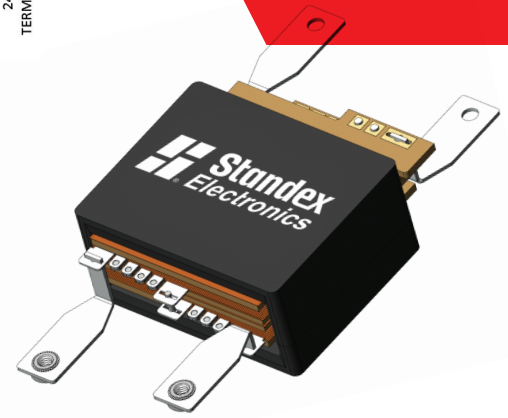
2) PATENTED TERMINALS AVAILABLE FOR SPLIT-TING HIGH CURRENT WINDING

3) CUSTOM TERMINALS CAN BE DESIGNED AND OPTIMIZED





SIZE 560
3kW-10kW
DESIGN EXAMPLE



TRANSFORMER DESIGN | EXAMPLE - PQC2123

ELECTRICAL SPECIFICATIONS

Topology	Full Bridge ZVT
Input Voltage	760-840VDC
Output Power (Output Voltage/Current After Rectification)	12kW max. (500VDC/24ADC)
Output Power (Output Voltage/Current After Rectification)	28.4VDC/83A, 100A Surge
Turns Ratio - Np/Ns	15T/10T
Switching Frequency	100kHz
Duty Cycle At Low Input Voltage Max.	99.0%
Efficiency At Full Power (Calculated)	99.3% (87.4W Losses)
External Heatsink Temperature Max.	+45°C

*Heatsink Provided By Customer

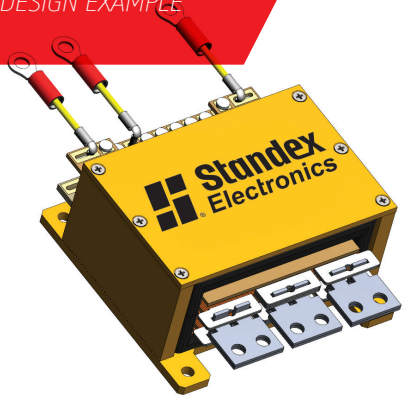
Temp. Rise Hot Spot External Heatsink*, Max.	+69.9°C
Minimum Isolation Voltage	
Primary To Secondary And Core	5700VAC for 1sec
Secondary To Core	2850VAC for 1sec
Primary Inductance, Np, Min.	600µH
Primary Resistance, Rdc, Np, Max.	20mOhm
Secondary Resistance, Rdc, Ns, Max.	18mOhm
Leakage Inductance 1-2/3-4 Shorted, Typ.	1.8µH
Weight Range	300-800grams

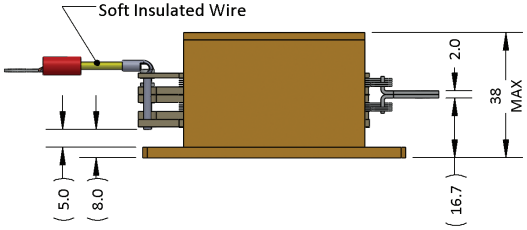
NOTES:

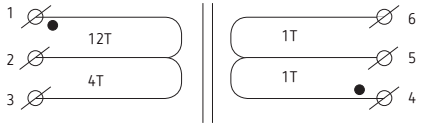
1) FOR OPTIMAL PERFORMANCE A THERMALLY CONDUCTIVE SUBSTRATE BETWEEN FERRITE AND HEATSINK SHOULD BE UTILIZED
2) PATENTED TERMINALS AVAILABLE FOR SPLITTING HIGH CURRENT WINDING
3) CUSTOM TERMINALS CAN BE DESIGNED AND OPTIMIZED

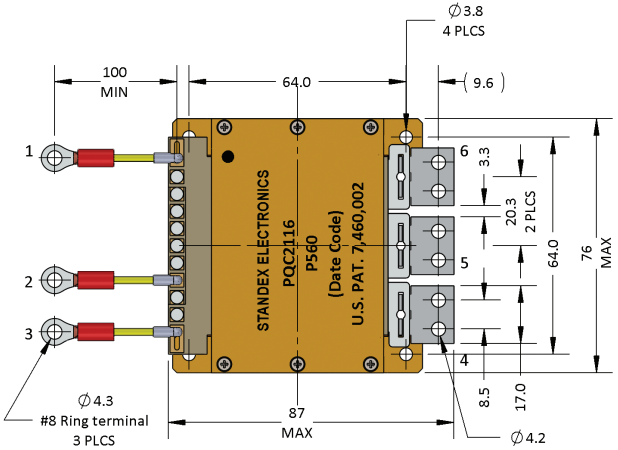
SIZE 560
3kW-10kW

DESIGN EXAMPLE









TRANSFORMER DESIGN | EXAMPLE - PQC2116

ELECTRICAL SPECIFICATIONS

Topology	Full Bridge ZVS
Input Voltage Np1 = 12 Turns (1-2)	350-630VDC
Input Voltage Np2 = 16 Turns (1-3)	500-820VDC
Output Power (Output Voltage/Current After Rectification)	28VDC/250A (7kW)
Turns Ratio - Np1/Np2/Ns1/Ns2	12T/16T/1T/1T
Switching Frequency	100kHz
Duty Cycle, At Vin=350VDC Max.	99%
Efficiency At Full Power (Calculated)	99.2% (55W losses)
External Heatsink Temperature Max.	+65°C
*Transformer Clamped To Heatsink	

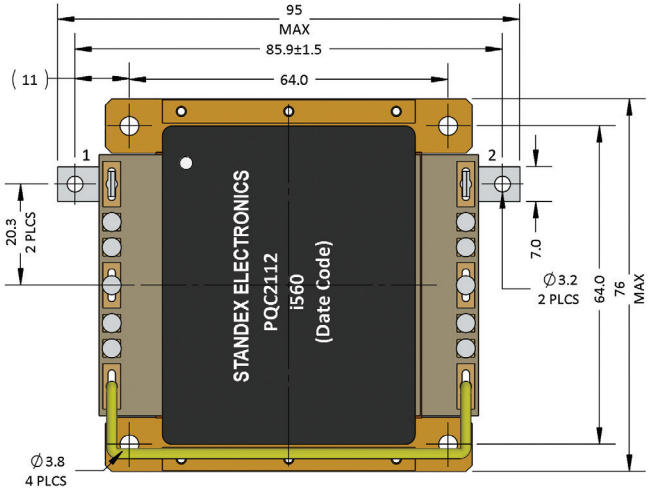
Temp. Rise Hot Spot External Heatsink*, Max.	+44°C
Minimum Isolation Voltage	
Primary To Secondary And Core	2700VAC
Secondary To Core	500VDC
Primary Inductance, Np1 (1-2)/Np2 (1-3), Min.	1440/2560µH
Primary Resistance, Rdc, Np,1 (1-2)/Np2 (1-3), Max.	14/18mOhm
Secondary Resistance, Rdc, Ns1 + Ns2, Max.	0.3mOhm
Leakage Inductance 1-2/Sec. Shorted, Typ.	900nH
Leakage Inductance 1-3/Sec. Shorted, Typ.	1800nH
Weight Range	300-800grams

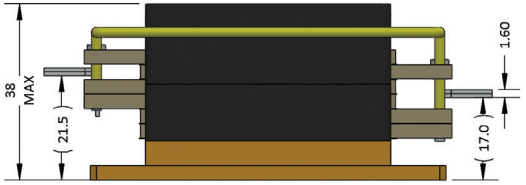
NOTES:

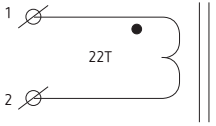
1) FOR OPTIMAL PERFORMANCE A THERMALLY CONDUCTIVE SUBSTRATE BETWEEN FERRITE AND HEATSINK SHOULD BE UTILIZED

2) PATENTED TERMINALS AVAILABLE FOR SPLITTING HIGH CURRENT WINDING

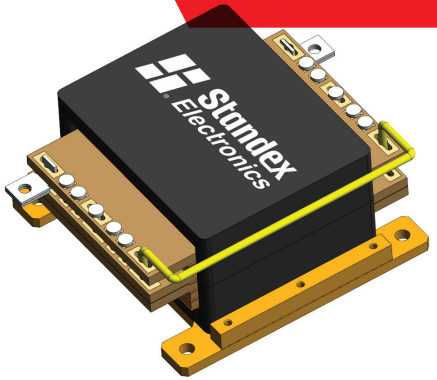
3) CUSTOM TERMINALS CAN BE DESIGNED AND OPTIMIZED







SIZE 560
3kW-10kW
DESIGN EXAMPLE



INDUCTOR DESIGN | EXAMPLE - PQC2112 (U.S. PAT. 7,460,002)

ELECTRICAL SPECIFICATIONS

Inductance At Rated Current	100µH ±10%	Temp. Rise Hot Spot Baseplate, Max.	+46°C
Rated Current (Ave. ±12.5A Ripple)	32ADC +3App	Heatsink Temperature Max.	+55°C
Ripple Frequency	100kHz	Resistance Max.	22mOhm
Minimum Isolation Voltage (Winding To Core)	2500VDC	Total Losses At Max. Current	28.7W

NOTES:

1) FOR OPTIMAL PERFORMANCE A THERMALLY CONDUCTIVE SUBSTRATE BETWEEN FERRITE AND HEATSINK SHOULD BE UTILIZED
2) PATENTED TERMINALS AVAILABLE FOR SPLITTING HIGH CURRENT WINDING
3) CUSTOM TERMINALS CAN BE DESIGNED AND OPTIMIZED