

# Reinforced Halogen Free ESS Transformer

UL approved design for residential and commercial Battery Storage Solutions



## Features and Benefits:

- Ⓢ Supports leading vendors silicon for battery (BMS) and energy storage solutions (ESS).
- Ⓢ UL Compliance to IEC/UL62368-1 for Reinforced
- Ⓢ Selection of Working and Breakdown Voltages
- Ⓢ Wide temperature performance from -40 to +125°C
- Ⓢ Automated Winding and Production Process for high reliability

## Applications:

- Ⓢ Energy Storage (ESS), marine or aviation transportation.

### Operating Temperature - see Table Below

Part Number	Inductance (100kHz, 100mVrms)	Turns Ratio	Choke fitted	Isolation breakdown (Pri:Sec)	Working Voltage	Insulation Clearance (mm)	Insulation Creepage (mm)	Insulation Resistance (MegaOhms)
HXE2006HL	150 uH min	1.00 +/- 2%	YES	4300Vrms / 60sec	500VDC	>6.35mm	>6.35mm	400
HXE2007HL	150 uH min	1.00 +/- 2%	YES	4300Vrms / 60sec	800VDC	>6.35mm	>8.00mm	400
HXE2008HL	150 uH min	1.00 +/- 2%	YES	4300Vrms / 60sec	1000VDC	>6.35mm	>10.0mm	400
HXE2009HL	150 uH min	1.00 +/- 1%	YES	4300Vrms / 60sec	1500VDC	>6.35mm	>15.0mm	400
HXE2010HL	150 uH min	1.00 +/- 2%	YES	5000Vrms / 60sec	500VDC	>8.0mm	>8.00mm	400
HXE2011HL	150 uH min	1.00 +/- 2%	YES	5000Vrms / 60sec	800VDC	>8.0mm	>8.00mm	400
HXE2012HL	150 uH min	1.00 +/- 2%	YES	5000Vrms / 60sec	1000VDC	>8.0mm	>10.0mm	400
HXE2013HL	150 uH min	1.00 +/- 2%	YES	5000Vrms / 60sec	1500VDC	>8.0mm	>15.0mm	400
HXE2014HL	150 uH min	1.00 +/- 2%	YES	6000Vrms / 60sec	500VDC	>8.0mm	>8.00mm	400
HXE2015HL	150 uH min	1.00 +/- 2%	YES	6000Vrms / 60sec	800VDC	>8.0mm	>8.00mm	400
HXE2016HL	150 uH min	1.00 +/- 2%	YES	6000Vrms / 60sec	1000VDC	>8.0mm	>10.0mm	400
HXE2017HL	150 uH min	1.00 +/- 2%	YES	6000Vrms / 60sec	1500VDC	>8.0mm	>15.0mm	400

## Additional Electrical performance

### Electrical (Cont...)

Part Number	Leakage Inductance (Max)	Winding DCR (Ω)		Insertion Loss	Return Loss	CMRR	
		PHY Side	Line Side			Z out = 100 Ω	1 - 10MHz
HXE20xxHL	1.0 uH @ 100kHz	0.80 max	1.00 max	-0.50dB max @ 4MHz	-20 dB min @ 4MHz	-35dB	-20dB

#### Notes:

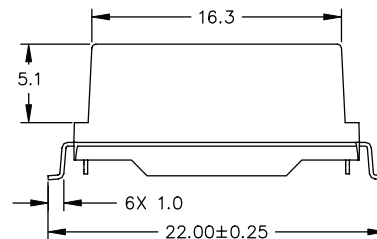
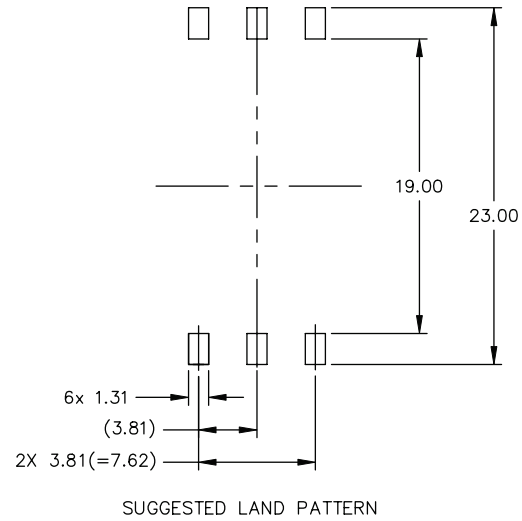
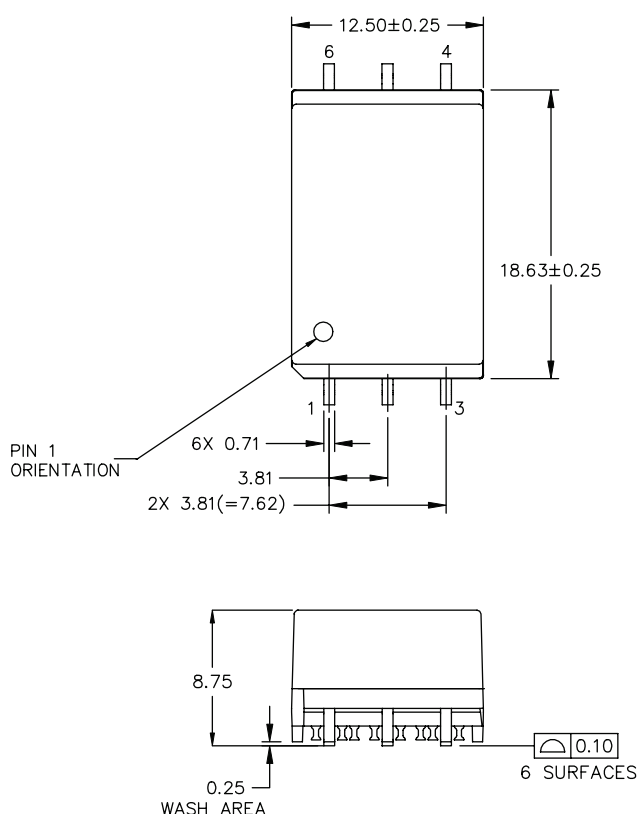
1. Storage Temperature: -50°C to +125°C
2. Compliance to J-STD:
  - A. J-STD-002: Solderability at 245°C Reflow Profile
  - B. J-STD-020: Moisture Sensitive Level 1
  - C. J-STD-075: R7, 245°C Maximum Through Reflow Solder
3. The HL suffix part comes in Tubes with 40pcs per tube. To order tape and reel packaging add a 'T' suffix to the part number (ie: HXE2006HL becomes HXE2006HLT). Quantity per reel is 250pcs/reel.
4. Header: DAP (Diallyl Phthalate) with flammability Rating UL 94V-0 or better
5. Lead Frame: Cooper Alloy  
Under plated: Half Hard Ductile Nickel 50-100" (1.3-2.5um)  
Over plated : 100% Tin electro-deposited per ASTM B545 300 - 50u"(8-13um)  
Finish : Matte finish 100% Tin solder

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## MECHANICALS

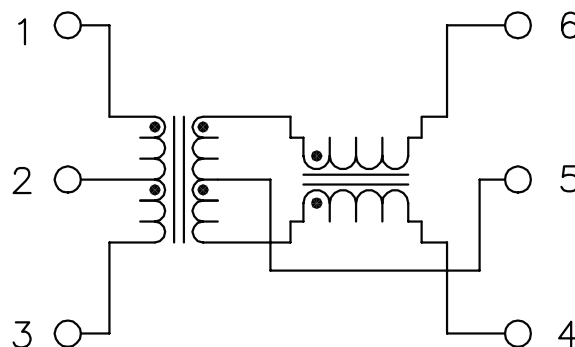
HXE20xxHL



**Dimensions:**  
Unless otherwise specified,  
all tolerances are  $\pm 0,25$

## SCHEMATICS

HXE20xxHL

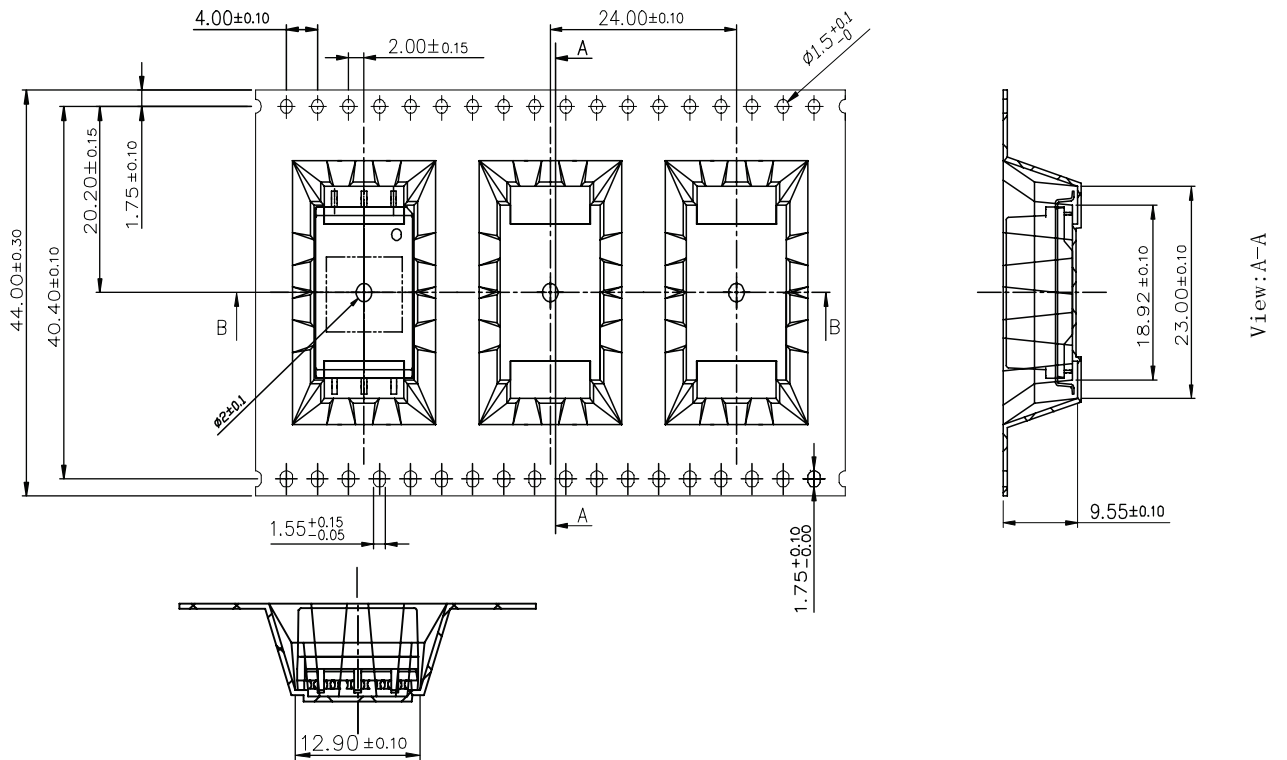


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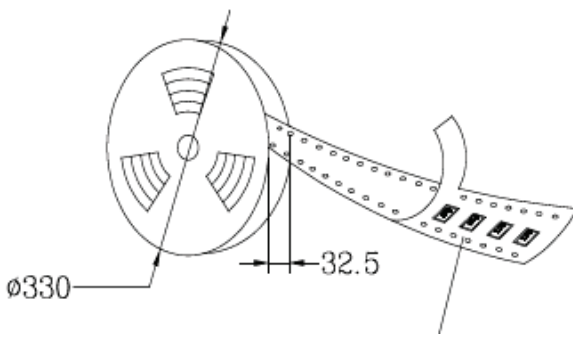
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## TAPE & REEL

HXE20xxHL

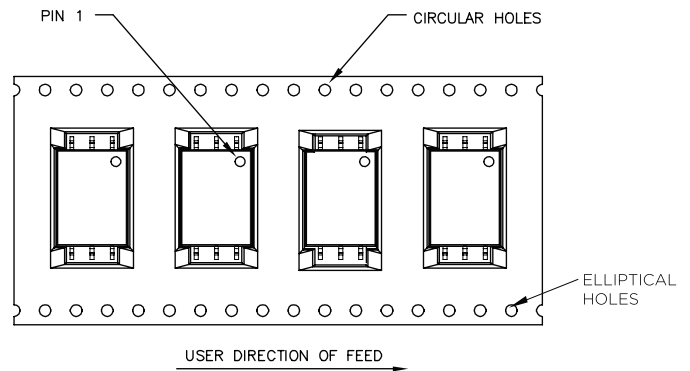


View:B-B



All Dimensions meet EIA-481-D requirements.

Component



1. **Material:** Black Conductive Polystyrene
2. **Components per Reel:** 250 pieces
3. **Quantity per carton:** 4x full reels = 2000 pieces

### For More Information:

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