Digital Isolation Transformer

P520X

Features

∗ Surface Mount
∗ Lead-free (Pb-free)
∗ RoHS compliant
∗ 2.5mm height
∗ IEC 60950 and UL 60950 certified
∗ UL Recognized Component

Applications

∗ Conexant Smart DAA™ Chipsets
∗ Digital Isolation Barrier
∗ Set Top Boxes
∗ Modems

DESCRIPTION

The P520X family comprises a range of transformers, designed for Conexant Smart DAA™ chipsets. They are intended, as part of the Digital Isolation Barrier, for coupling clock signals and power between chips on either side of the safety barrier.

The P520X family provides Supplementary Insulation for a primary circuit at a working voltage of 250Vrms and is compliant with IEC 60950, and UL 60950. The family members are UL Recognized Components and are supported by an IEC CB certificate.

The P520X family is compliant with RoHS Directive 2002/95/EC, and suitable for lead-free and conventional placement and reflow.
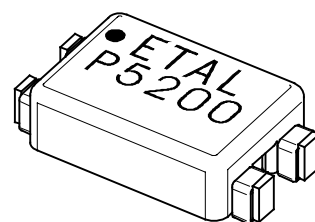
SPECIFICATIONS

Electrical

Typical values at T = 25ºC, unless otherwise stated.

Parameter	Conditions	P5200	P5201	P5202	P5203	P5204	P5205	Units
Shunt Inductance Lp (min)	10kHz, 100mV	30	30	30	40	40	30	µH
Leakage inductance (max)	100kHz, 100mV	160	200	200	200	200	200	nH
Interwinding capacitance (typ)	100kHz, 100mV	3	3	3	3	3	3	pF
DC resistance (1-2) (max)	-	0.225	0.225	0.225	0.225	0.225	0.225	Ω
DC resistance (4-3) (max)	-	0.325	0.325	0.325	0.325	0.325	0.325	Ω
Dielectric Rating (min)	-	2000	2000	2000	2000	2000	2000	Vrms
Turns ratio, N	4-3 : 1-2	1.67	1.5	2.4	2.6	2.0	1.0	-

CONSTRUCTION

Dimensions
Fig. 1

Connections
Fig. 2

Tolerance ±0.3mm (±0.012inch)
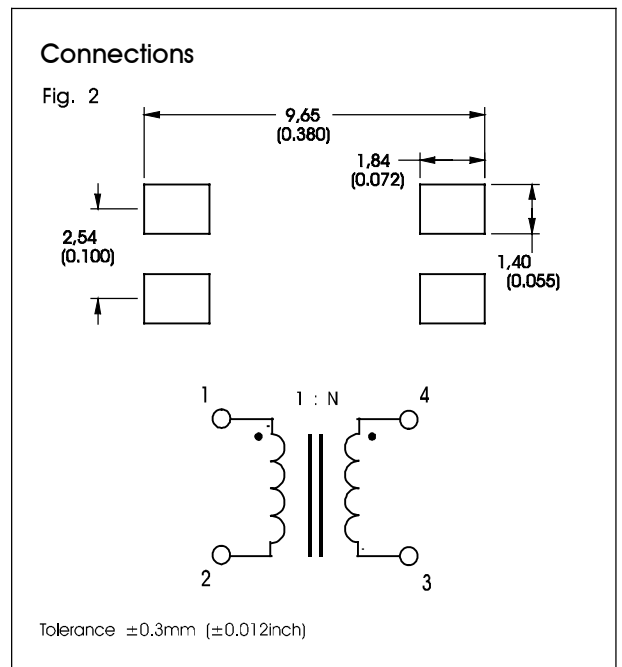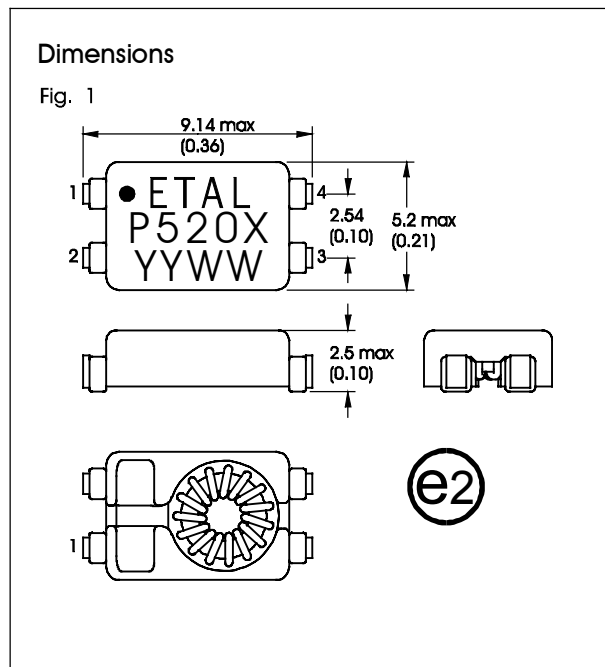
Dimensions shown are in millimetres (inches).
Terminal plating JESD97 category = e2.
Recommended reflow solder profile: 2 minutes @ 150-200ºC, 10 seconds @ 260ºC; time above 217ºC 60 seconds maximum.

P520X

SAFETY

Manufactured from materials conforming to flammability requirements of UL94V-0.
Construction complies with IEC 60950-1, EN 60950-1 and UL 60950-1, supplementary insulation for a primary circuit, 250Vrms maximum working voltage.

CERTIFICATION

Certified by UL International Demko to IEC 60950-1:2001 (IEC CB Test Certificate No. DK-7305) for a maximum working voltage of 250Vrms, nominal mains supply voltage not exceeding 250Vrms and a maximum operating temperature of +85ºC in Pollution Degree 2 environment, supplementary insulation for a primary circuit.

Recognized under the Component Recognition Program of Underwriters Laboratories Inc. to US and Canadian requirements CAN/CSA C22.2 No. 60950-1-03/UL60950-1, First Edition, based on IEC 60950-1, First Edition, maximum working voltage 250Vrms, Pollution Degree 2, supplementary insulation.

UL File number E203175.

Profec Technologies certifies all transformers as providing voltage isolation of 2.12kVrms, 3kV DC minimum. All shipments are supported by a Certificate of Conformity to current applicable safety standards.

ABSOLUTE MAXIMUM RATINGS

(Ratings of components independent of circuit).

Short term isolation voltage (1s)	2.0kVrms, 2.8kVDC
Storage temperature	-40ºC to +100ºC
Operating temperature	-25ºC to +85ºC
Soldering temperature Profile peak -	260ºC 10s

Handle in accordance with IPC/JEDEC J-STD-033 procedure for components classified as IPC/JEDEC J-STD-020 Moisture Sensitivity Level 2.

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ORDERING CODE

P520☐TR
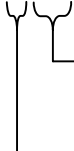
TR = Tape and Reel
(Blank) = Bulk in tubes.

Turns ratio variant:
0 = 1.67:1
1 = 1.5:1
2 = 2.4:1
3 = 2.6:1
4 = 2:1
5= 1:1

Carrier tape width 16mm,
2500 parts per 13" reel.

E203175

PRØFEC
TRANSFORMING THE FUTURE

ISO 9001
FM 25326

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