

Title (en)
MAGNETIC CORE UNIT, CURRENT TRANSFORMER, AND METHODS FOR MANUFACTURING SAME

Title (de)
MAGNETKERNEINHEIT, STROMWANDLER UND VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)
UNITÉ DE NOYAU MAGNÉTIQUE, TRANSFORMATEUR DE COURANT ET LEUR PROCÉDÉ DE FABRICATION

Publication
EP 3588518 B1 20210616 (EN)

Application
EP 18757370 A 20180221

Priority
• JP 2017031112 A 20170222
• JP 2018006308 W 20180221

Abstract (en)
[origin: EP3588518A1] A magnetic core unit includes: a wound magnetic core including a wound nanocrystalline alloy ribbon; a case having a space corresponding to an external shape of the wound magnetic core, the wound magnetic core being stored in the space; and an adhesive agent provided between a bottom surface of the space and a layered surface of the wound magnetic core for adhering the wound magnetic core to the bottom surface, wherein the nanocrystalline alloy ribbon has a saturated magnetostriction of greater than 1 ppm, and magnetic permeability $\mu_{\text{unit}}(25)$ is not less than 400000 and Formula 1 and Formula 2 are satisfied: $-0.28 \leq \mu_{\text{unit}100} - \mu_{\text{unit}25} / \mu_{\text{unit}25} \leq 0.1$ $-0.28 \leq \mu_{\text{unit}25} - \mu_{\text{unit}25} / \mu_{\text{unit}25} \leq 0$ where $\mu_{\text{unit}}(T)$ is a magnetic permeability measured at temperature T °C in the presence of an AC magnetic field of frequency f=50 Hz and amplitude H=1.0 ampere/meter (A/m) applied across the wound magnetic core adhered to the case.

IPC 8 full level
H01F 1/153 (2006.01); **C21D 6/00** (2006.01); **C22C 1/00** (2006.01); **C22C 38/00** (2006.01); **C22C 45/02** (2006.01); **H01F 27/24** (2006.01); **H01F 41/02** (2006.01)

CPC (source: EP)
C21D 6/00 (2013.01); **C22C 1/00** (2013.01); **C22C 38/00** (2013.01); **C22C 45/02** (2013.01); **H01F 1/15308** (2013.01); **H01F 3/04** (2013.01); **H01F 27/25** (2013.01); **H01F 41/0226** (2013.01)

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
EP 3588518 A1 20200101; **EP 3588518 A4 20200422**; **EP 3588518 B1 20210616**; CN 110352464 A 20191018; CN 110352464 B 20210219; JP 6601589 B2 20191106; JP WO2018155514 A1 20200123; WO 2018155514 A1 20180830

DOCDB simple family (application)
EP 18757370 A 20180221; CN 201880013439 A 20180221; JP 2018006308 W 20180221; JP 2019501387 A 20180221