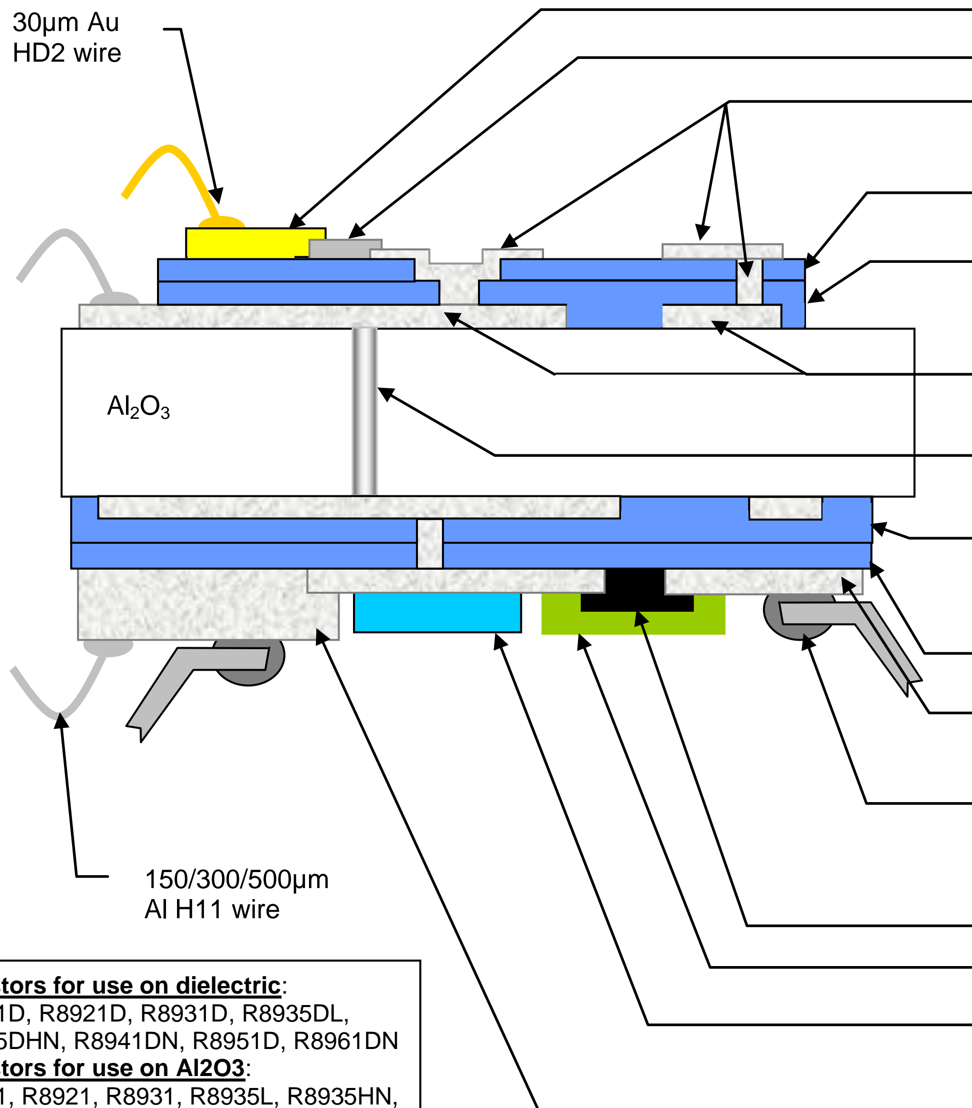
Hybrid

System

Schematics and Details for Lead Free Hybrid Build-Up

Standard Hybrid Double Sided Mixed Metal:



Au: C 5729 (Pb free)

AgPd: C2180 (Pb free)

AgPt: C 4729 (Pb free)
Ag: C 8728 (Pb free)

Dielectric: IP 9227 (Pb free)*

Dielectric inner layer:
IP 9227 (Pb free)
or IP 9228 (Pb free) **

AgPt: C 4729/C4727 (Pb free)
Ag: C 8728 (Pb free)

AgPt: C 4729 (Pb free)
Ag: C 8728 (Pb free) ***

Dielectric inner layer:
IP 9227 (Pb free)
or IP 9228 (Pb free) **

Dielectric: IP 9227 (Pb free) *

AgPt: C 4727/C4729 (Pb free)
Ag: C 8728 (Pb free)

SAC: F 645 (halide free, Pb free)

ICA: PC 3000 series
(Ag conductive adhesive)

R 8900D series (RoHS ✓)

IP 9036 A (600°C) (Pb free)

IP 9036 A, 600°C (Pb free)
(IP 9037, 850°C (Pb free))

Ag: C 8717 B (Pb free)
Al Wire or Ribbon;
also solderable

Resistors for use on dielectric:
R8911D, R8921D, R8931D, R8935DL, R8935DHN, R8941DN, R8951D, R8961DN
Resistors for use on Al2O3:
R8911, R8921, R8931, R8935L, R8935HN, R8941N, R8951N, R8961N

* optimized for 2 layer build-up and stabilizes resistors when trimmed on dielectric
** IP9228 for increased BDV as inner layer only
*** Ag conductor for punched holes only; for laser drilled through holes the use of C4729 is recommended

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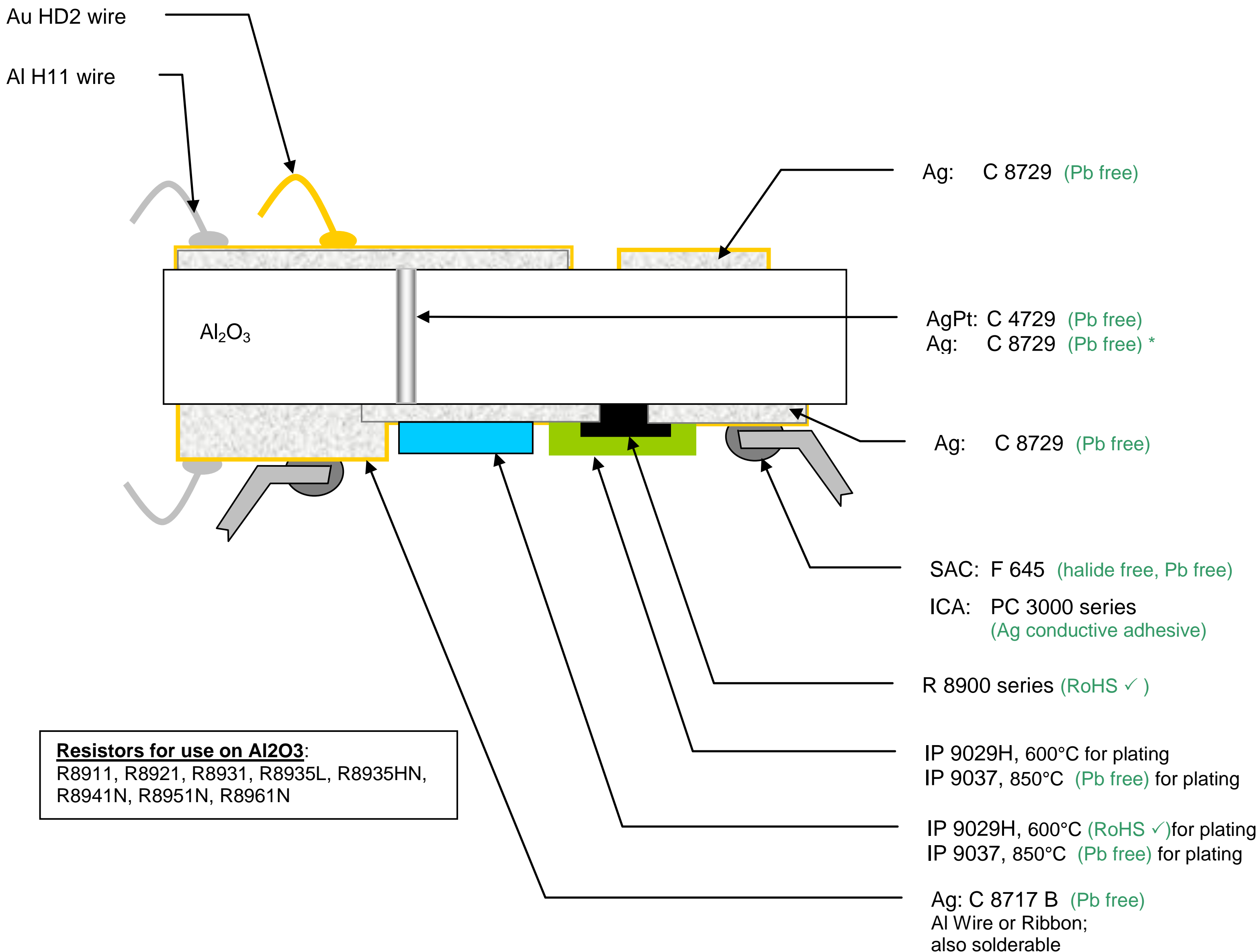
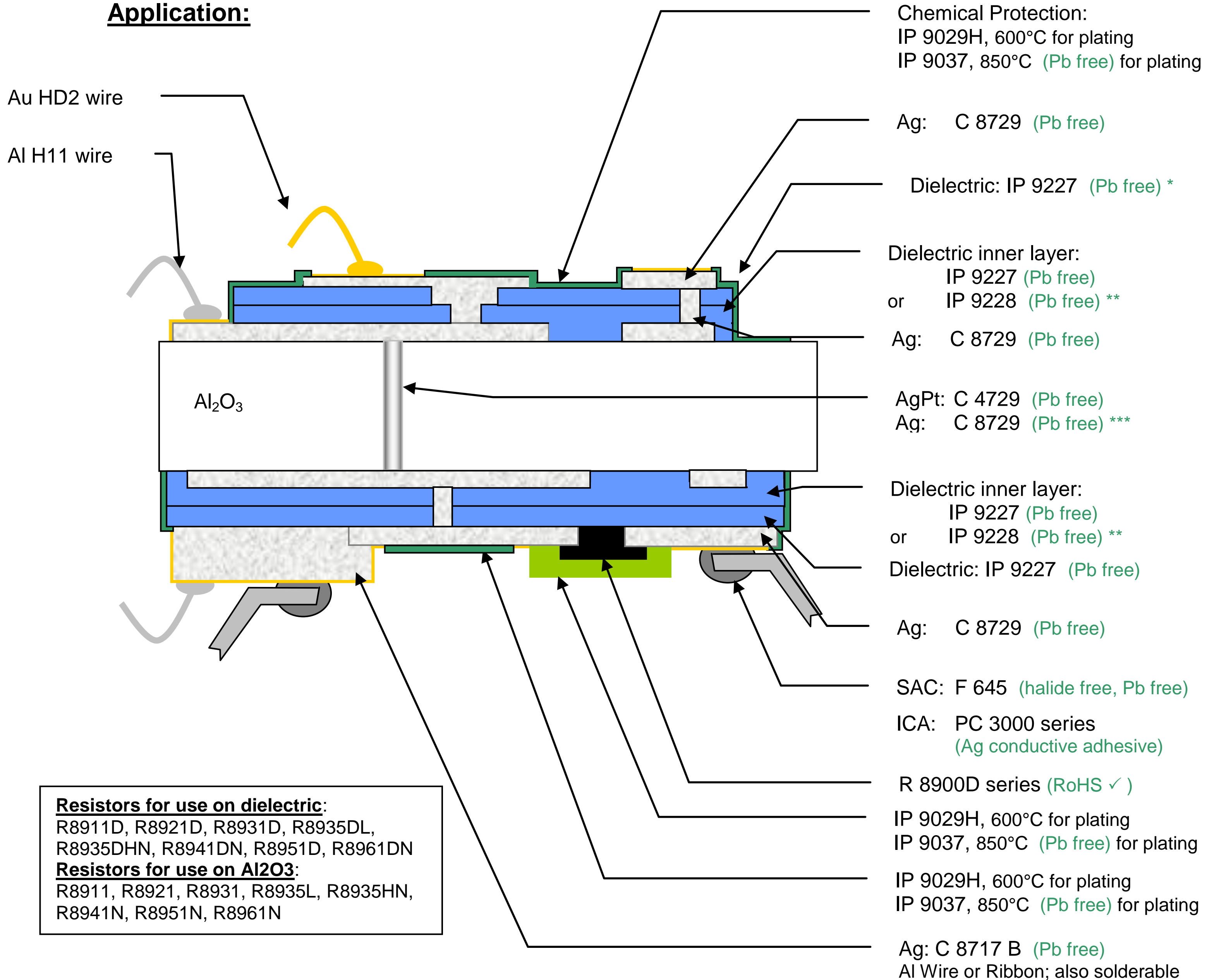
Double Sided Hybrid for Plating Application:



* Ag conductor for punched holes only; for laser drilled through holes the use of C4729 is recommended

Schematics and Details for Lead Free Hybrid Build-Up

Double Sided Multilayer Hybrid for Plating Application:



* optimized for 2 layer build-up and stabilizes resistors when trimmed on dielectric
** IP9228 for increased BDV as inner layer only
*** Ag conductor for punched holes only; for laser drilled through holes the use of C4729 is recommended

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Gas-proof Sealing of Through Holes:

Significant overlap in mm for hermetic sealing is recommended
to avoid diffusion through conductors

Dielectric IP 9227 (Pb free)

Al_2O_3

AgPt: C 4729 (Pb free)

IP 9036 A (600°C) (Pb free)
IP 9029H, 600°C for plating
IP 9037, 850°C (Pb free) for plating

The descriptions and engineering data shown here have been compiled by Heraeus using commonly-accepted procedures, in conjunction with modern testing equipment, and have been compiled as according to the latest factual knowledge in our possession. The information was up-to date on the date this document was printed (latest versions can always be supplied upon request). Although the data is considered accurate, we cannot guarantee accuracy, the results obtained from its use, or any patent infringement resulting from its use (unless this is contractually and explicitly agreed in writing, in advance). The data is supplied on the condition that the user shall conduct tests to determine materials suitability for a particular application.

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