AMETEK®
MATERIALS ANALYSIS DIVISION

SCREENING OPTIONS FOR HYBRIDS

STANDARD: "AMPTEK HIGH RELIABILITY SCREENING"

-Nondestructive Bond Pull (100%), MIL-STD-883, Method 2023
-Precap Visual: MIL-STD-883, Method 2017, Condition H, low magnification, high magnification
-Sealing: Welded, Hermetic Seal
-Marking: Date Code and Serial Number
-Stabilization Bake: MIL-STD-883, Method 1008, Condition C. +150 ºC, 24 hours minimum
-Temperature Cycle: MIL-STD-883, Method 1010, Condition C. Min. T = -65 ºC to +150 ºC, 10 minutes each extreme, 5 minutes maximum transfer time, 10 cycles
-Centrifuge: MIL-STD-883, Method 2001, Condition B. YI axis; 5,000 G's
-Electrical Test: As per Specifications
-Burn-In Test: MIL-STD-883, Method 1015, 160 hours at +125 ºC
-Fine Leak Test: MIL-STD-883, Method 1014, Condition A. Rejection if leak rate in excess of 5×10^{-7} cc/sec.
-Gross Leak Test: MIL-STD-883, Method 1014, Condition C. Perflourocarbon
-Electrical Test: As per Specification
-External Visual: MIL-STD-883, Method 2009

OPTION 1: Includes **STANDARD** Screening plus the following:

-Particle Impact Noise Detection (PIND), MIL-STD-883, Method 2020
-Radiographic, MIL-STD-883, Method 2012
-Final Electrical Tests at +70 ºC and –25 ºC

OPTION 1+ Screening: Includes **STANDARD** Screening, plus **Option 1** plus the following:

-SEM on all active components, MIL-STD-883, Method 2018
-Package evaluation, MIL-STD-883, Sub-Groups 1-4 and 6
-Substrate Evaluation, MIL-PRF-38534 (Appendix C)
-Customer Pre-cap Visual Inspection (Optional)
-Extended Burn-In: MIL-STD-883, Method 1015, Total of 240 hours at +125 °C
-Lot Qualification: RGA, MIL-STD-883, Method 1018 on 1 to 3 pieces
-Lot Qualification: 1,000 hours Steady State Life Test at 125 °C on 4 to 10 pieces

OPTION 2: NASA Goddard Space Flight Center Preferred Parts List (PPL-20), GSFC S-311-P698 includes **STANDARD** Screening, plus **OPTION 1** plus the following:

-Pre-assembly Parts Qualification (Element Evaluation)
-Package Evaluation
-Customer Precap Visual Inspection
-Destructive Bond Pull Test on sample devices
-Die Shear Test on sample devices
-Moisture Test
-Optional extended Burn-In
-Pre and Post Burn-In Deltas
-Additional Quality Control Inspections (QCI)
-Lot Qualification (1,000 hours Steady State Life Test at 125 ºC on sample devices)

OPTION 3: Customer supplied Source Control Document

NOTES:

1) Option 1and Option 1+: 100 piece minimum order for each hybrid type.
2) Option 2 or Option 3: not always available, please contact Sales Office.
3) Price and delivery upon request.

December 12, 2017

AMPTEK, Inc. 14 DeAngelo Drive, Bedford, MA 01730-2204 USA
+1 781 275-2242 Fax: +1 781 275-3470 www.amptek.com sales@amptek.com