

Specification Details:

Specification: MIL-PRF-38534
Title: Hybrid Microcircuits
Federal Supply Class (FSC): 5962
Conventional: No
Specification contains quality assurance program: Yes
MIL-STD-790 Established Reliability & High Reliability: No
MIL-STD-690 Failure Rate Sampling Plans & Procedures: No
Weibull Graded: No
Specification contains space level reliability requirements: Yes
Specification allows test optimization: Yes

Contact Information:

Office of Primary Involvement: Hybrid Devices Branch, DLA Land and Maritime - VQH
Primary Qualifying Activity Contact: 614-692-2908, e-mail: vqh.dm@dla.mil
Secondary Qualifying Activity Contact: 614-692-0582, e-mail: vqh.esr@dla.mil

Notes:

In order for a manufacturer to have test data considered for qualification, the manufacturer must perform all required qualification tests; produce the qualification sample with DLA Land and Maritime-VQ certified materials and manufacturing construction techniques; and comply with the requirements specified in MIL-PRF-38534.

Custom hybrid microcircuit materials and manufacturing construction techniques in this listing applies only to products produced on the MIL-PRF-38534 certified line(s) at the plant(s) specified in this listing.

Custom hybrid microcircuits manufactured, assembled, and tested in accordance with MIL-PRF-38534 shall bear the "certification mark" for SMD controlled hybrid Microcircuits, or the "compliant hybrid" certification mark for non-SMD controlled hybrid microcircuits as follows:

SMD product, for all classes, shall have the certification mark "QML" or "Q" for small devices.
Non-SMD product dated after MIL-PRF-38534D, for Class K shall have the certification mark "CK."
Non-SMD product dated after MIL-PRF-38534D, for Class H shall have the certification mark "CH."
Non-SMD product dated after MIL-PRF-38534D, for Class G shall have the certification mark "CG."
Non-SMD product dated after MIL-PRF-38534D, for Class E shall have the certification mark "CE."
Non-SMD product dated after MIL-PRF-38534D, for Class D shall have the certification mark "CD."
Non-SMD dated prior to MIL-PRF-38534D, for all classes, shall have the certification mark "CH" or "C" for small devices.

These certification marks or the abbreviations "Q" or "C" shall not be used on product that does not meet all requirements of MIL-PRF-38534 except as allowed in 3.7.5 of MIL-PRF-38534.

Products manufactured, assembled, and tested for Class K, Class H, Class G, Class E, or Class D, with all the provisions of MIL-PRF-38534, and with DLA Land and Maritime-VQ qualified materials and manufacturing construction techniques, can be represented as being compliant to the appropriate product assurance levels as listed herein. The information contained in this listing reflects the general material and manufacturing techniques of the particular test sample(s). In order to protect the manufacturers' proprietary processes and materials, only the generic process and material are listed. The user must contact the manufacturer for any detail information on specific materials (i.e., such as epoxy, getter, solder-type), or process details. Processes and materials, not listed, may be considered qualified by similarity to those demonstrated for the qualification (e.g., different wire, package, or die sizes). See Appendix E of MIL-PRF-38534, Class I, major changes paragraph, for a baseline of qualification limits.

Any product represented as being compliant to MIL-PRF-38534 must be built using qualified processes and materials. The user shall be responsible for determining if the qualification baseline for a given class level is adequate to demonstrate capability for the intended application.

To obtain MIL-PRF-38534 qualified hybrid microcircuits, the user should specify in the procurement document that the product be manufactured to MIL-PRF-38534, and be comprised of materials and manufacturing construction techniques listed herein. Acquisition requirements are contained in paragraph 6.2 of MIL-PRF-38534. Microcircuit devices represented as being built, tested and shipped under the QML provision of MIL-PRF-38534 must be built using qualified manufacturing materials and construction in this listing.

Contractor acquiring activities, military program offices, and other government representatives can determine if hybrid microcircuits meet the requirements of MIL-PRF-38534 by:

- a. For SMD controlled product: Product listed in the product eligibility section herein and marked with "QML" or "Q".
- b. For non-SMD controlled Product: The part will not be listed herein. However, the part will be marked with "C" plus the Class Level designator".

WARNING! If products were not purchased to, and identified as MIL-PRF-38534 compliant, do not assume they have been manufactured on the DLA Land and Maritime-VQ certified line, with qualified materials and processes, or that all other MIL-PRF-38534 requirements were performed. To determine whether new SMD controlled products are in accordance with MIL-PRF-38534, or to verify any new process/material qualifications, you may call the qualifying activity (DLA Land and Maritime-VQ).

DLA Land and Maritime-VQ ISO Registrations are also listed herein. However, QML listed manufacturers may have ISO registrations from other registrars.

1/ This listing can be expanded provided appropriate qualification testing is performed and passed. Therefore the manufacturer may accept an order for compliant product not covered by his listing, but shall not ship the compliant product until the testing has been successfully completed.

2/ Package seal perimeter is listed by largest perimeter successfully tested in inches.

3/ Package lead counts are listed by maximum number of leads covered by qualification.

4/ Caution. Do not use this number for item acquisition. Item acquired to this number may not satisfy the performance requirements of the listed SMD.

5/ Inactive for new design, no longer available from manufacturer.

6/ Class E devices are devices which meet all of the requirements of one of the other classes (K, H, or G), with some exceptions taken. Therefore any manufacturer qualified to G, H or K is eligible to produce and mark product as compliant to class E.

Part Configuration:

Standardized Microcircuit Drawing (SMD)

5962	99616	01	H	X	A
Federal Stock Class	SMD Number	Device Number	Class	Package Type	Lead Finish

Process/Material Listings:

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Analog Devices Incorporated (CAGE Code: 24355)

Assembled Products Division, 1 Analog Way, Wilmington, MA 01887, US

Company Contact: Mr. Harrison Betz, Phone: 360-954-9219, Fax: , E-mail: harrison.betz@analog.com

DSCC Contact: Mr. Dan Miller, Phone: 614-692-2908, Fax: 614-692-6942, E-mail: vqh.dm@dla.mil

Quality Management (QM) Program: TRB

Periodic Inspection System: Option 1

Approved ISO 9000 System: No

Technologies: AD/DA Converters, Buffer, Op-Amp, Track and Hold, Voltage Reference, Signal Processor, Data Acquisition Systems, DC/DC Converters

Sub: API Microelectronics Ltd. (Cage: U4388)

Qualification Letters: VQ(VQH-04-006510), VQ(VQH-04-007022), VQ(VQH-04-007023), VQ(VQH-05-008727), VQ(VQH-06-010144), VQ(VQH-09-017847)

Class Level Information: See Note 6/

Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Ceramic Co-fire; Thick Film, 4 Conductor Level(s)

Assembly Information: See Note 1/

Assembly Flows: FCES 6301:15

Substrate Attach: Nonconductive Epoxy

Element Attach: Conductive Epoxy, Nonconductive Epoxy

Add-on Elements: Unpackaged Die, Chip Capacitors, Chip Resistors, Ceramic Tabs, Transformers

Wire Bonding: Gold

Package Information: See Notes 1/ 2/ 3/

Package Information: Ceramic Co-fire Package, Dual-in-line, Seam Weld, 2.53 Inch Seal Perimeter, 24 Leads, Gold Lead Finish; Ceramic Package, Dual-in-line, Seam Weld, 5.38 Inch Seal Perimeter, 32 Leads, Gold Lead Finish; Ceramic Package, Quad Flat Pack, Seam Weld, 3.48 Inch Seal Perimeter, 68 Leads, Gold Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Apex Microtechnology Incorporated (CAGE Code: 60024)

5980 North Shannon Road, Tucson, AZ 85741-5230, US

Company Contact: Mr. Jim Thompson, Phone: 520-690-8676, Fax: 520-888-3329, E-mail: Jim.Thompson@apexanalog.com

DSCC Contact: Mr. Edward Raybould, Phone: 614-692-0582, Fax: 614-692-6942, E-mail: vqh.esr@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Option 1

Approved ISO 9000 System: Yes

Technologies: Power Op-Amp

Qualification Letters: EQ(EQC-91-347), EQ(EQC-92-410), EQ(EQC-92-416), EQ(EQC-93-028), EQ(EQC-93-595), ELS(ELSH-94-0354), ELS(ELSH-95-0070), VQ(VQH-17-030832), VQH-19-033822, VQ(VQH-20-034739), VQ(VQH-21-035839), VQH-23-037859

Class Level Information: See Note 6/

Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: Flow 01

Substrate Fabrication: Thick Film on Beryllia, 1 Conductor Level(s), Resistors

Assembly Information: See Note 1/

Assembly Flows: Flow 10, Flow 99

Substrate Attach: Solder

Element Attach: Conductive Epoxy, Solder

Add-on Elements: Unpackaged Die, Chip Capacitors

Wire Bonding: Aluminum

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, TO can, Projection Weld, 2.67 Inch Seal Perimeter, 8 Leads, Gold/Solder Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Avago Technologies (CAGE Code: 50434)

No. 1 Yishun Avenue 7, Singapore, 768923

Company Contact: Mr. Thomas Falck, Phone: 408-433-7395, Fax: , E-mail: Thomas.Falck@broadcom.com

DSCC Contact: Mr. Dan Miller, Phone: 614-692-2908, Fax: 614-692-6942, E-mail: vqh.dm@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Options 1 and 2

Approved ISO 9000 System: No

Technologies: Optocoupler

Qualification Letters: EQ(EQM-87-2594), EQ(EQM-88-1265), EQ(EQC-90-0754), EQ(EQC-93-271), EQ(EQC-93-591), ELS(ELSH-95-271), VQ(VQH-97-047), VQ(VQH-00-0109), VQ(VQH-01-0164), VQ(VQH-02-000432), VQ(VQH-02-001278), VQ(VQH-04-006618), VQ(VQH-04-006839), VQ(VQH-18-031820), VQH-19-033652, VQH-19-033976, VQH-21-036458, VQH-21-036527, VQH-22-036692, VQH-22-037043, VQH-24-038217, VQH-24-038726, VQH-24-038727

Class Level Information: See Note 6/

Class K, Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Thick Film

Assembly Information: See Note 1/

Assembly Flows: ICPI-9001-3

Substrate Attach: Eutectic, Solder, Silver Glass

Element Attach: Eutectic, Silver Glass

Add-on Elements: Unpackaged Die

Wire Bonding: Gold, Aluminum

Package Information: See Notes 1/ 2/ 3/

Package Information: Ceramic Package, Dual-in-line, Solder Seal, 1.28 Inch Seal Perimeter, 16 Leads, Gold/Solder Lead Finish; Ceramic Package, Leadless Chip Carrier, Solder Seal, .92 Inch Seal Perimeter, 20 Leads, Solder Lead Finish; Ceramic Package, Peripheral Leads, Solder Seal, 1.32 Inch Seal Perimeter, 16 Leads, Gold Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

CMC Electronics Incorporated (CAGE Code: 90073)

600 Dr. Frederik Philips Boulevard, Ville Saint Laurent, Quebec, H4M 2S9, Canada

Company Contact: Mr. Luc-Albert Laroche, Phone: 514-748-3000 x4136, Fax: 514-748-3100, E-mail: Luc-Albert.Laroche@cmcelectronics.ca

DSCC Contact: Ms. Clare Jaquish, Phone: 614-692-6826, Fax: 614-692-6942, E-mail: vqh.cj@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Options 1 and 2

Approved ISO 9000 System: No

Technologies: Voltage Regulator

Qualification Letters: EQ(EQC-91-720), EQ(EQC-92-427), VQ(VQH-98-0133), VQ(VQH-04-005582), VQ(VQH-17-031465)

Class Level Information: See Note 6/

Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: 411-146425-000

Substrate Fabrication: Thick Film on Alumina, 7 Conductor Level(s), Resistors

Assembly Information: See Note 1/

Assembly Flows: 411-146426-000

Substrate Attach: Nonconductive Epoxy, Conductive Epoxy

Element Attach: Conductive Epoxy, Nonconductive Epoxy, Eutectic

Add-on Elements: Unpackaged Die, Chip Capacitors, Chip Resistors

Wire Bonding: Gold

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, Axial Leads, Seam Weld, 3.61 Inch Seal Perimeter, 16 Leads, Gold Lead Finish; Metal Package, Bathtub, Seam Weld, 4.3 Inch Seal Perimeter, 24 Leads, Gold Lead Finish; Metal Package, Flatpack, Seam Weld, 1.56 Inch Seal Perimeter, 44 Leads, Gold Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Cobham Advanced Electronic Solutions Inc. (CAGE Code: 65628)

9404 Chesapeake Drive, San Diego, CA 92123-1388, US

Company Contact: Mr. Jake Michaels, Phone: 888-310-0010, Fax: 858-560-0291, E-mail: Jake.Michaels@CobhamAES.com

DSCC Contact: Ms. Clare Jaquish, Phone: 614-692-6826, Fax: 614-692-6942, E-mail: vqh.cj@dla.mil

Quality Management (QM) Program: TRB

Periodic Inspection System: Option 1

Approved ISO 9000 System: No

Technologies: Microwave Amplifier, Microwave Filter, Microwave Custom (IMAs)

Qualification Letters: ELS(ELSH-94-199), VQ(VQH-96-226), VQ(VQH-96-227), VQ(VQH-97-0180), VQ(VQH-97-0181), VQ(VQH-00-0104)

Class Level Information: See Note 6/

Class H, Class D, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Thin Film; Purchased Duriod; Purchased Polyimide/PWB Copper

Assembly Information: See Note 1/

Assembly Flows: 001775

Substrate Attach: Conductive Epoxy, Eutectic, Solder

Element Attach: Conductive Epoxy, Nonconductive Epoxy, Solder

Add-on Elements: Unpackaged Die, Chip Capacitors, Chip Resistors, Toroids, Coils, Thermcon, Inductors, Attenuators, IC Package

Wire Bonding: Gold, Copper, Ribbon

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, Peripheral Leads, Seam Weld, 4 Inch Seal Perimeter, 16 Leads, Gold Lead Finish; Aluminum/Stainless Steel Package, DC/Microwave Leads, Laser Weld, 12.5 Inch Seal Perimeter, 6 Leads; Aluminum/Stainless Steel Package, DC/Microwave Leads (Dual-Sided, Multi-Cavity), Laser Weld, 24 Inch Seal Perimeter, 4 Leads

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Crane Aerospace and Electronics (CAGE Code: 50821)

No. 198, Xinseng Rd., Qianzhen Dist., Kaohsiung, Taiwan, R.O.C 80672

Company Contact: Mr. Peter Henrich, Phone: 425-895-5034, Fax: 425-743-8113, E-mail: Peter.Henrich@CraneAE.com

DSCC Contact: Ms. Clare Jaquish, Phone: 614-692-6826, Fax: 614-692-6942, E-mail: vqh.cj@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Option 1

Approved ISO 9000 System: No

Technologies: DC-DC Converter, EMI Filters

Qualification Letters: VQ(VQH-97-0266), VQ(VQH-99-0070), VQ(VQH-99-0134), VQ(VQH-99-0175), VQ(VQH-99-0200), VQ(VQH-01-0017), VQ(VQH-01-0060), VQ(VQH-02-001187), VQ(VQH-03-004414), VQ(VQH-04-006128), VQ(VQH-04-006855), VQ(VQH-05-008873), VQ(VQH-06-010206), VQ(VQH-06-011675), VQ(VQH-07-012130), VQ(VQH-07-012468), VQ(VQH-10-019428), VQ(VQH-10-019429), VQ(VQH-10-020020), VQ(VQH-11-021213), VQ(VQH-11-021614), VQ(VQH-11-021809), VQ(VQH-11-021810), VQ(VQH-11-021879), VQ(VQH-11-021880), VQ(VQH-14-028435), VQ(VQH-16-029837), VQ(VQH-16-030733), VQH-19-033616, VQH-19-033939, VQ(VQH-19-034242), VQ(VQH-20-034966), VQ(VQH-20-035363), VQ(VQH-20-035559), VQH-21-035921, VQH-22-036594

Class Level Information: See Note 6/

Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: QA-039

Substrate Fabrication: Thick Film on Alumina, 3 Conductor Level(s), Resistors; Purchased Direct Bonded Copper

Assembly Information: See Note 1/

Assembly Flows: QA-039

Substrate Attach: Solder, Conductive Epoxy

Element Attach: Conductive Epoxy, Nonconductive Epoxy, Solder, Eutectic, Nonconductive RTV

Add-on Elements: Unpackaged Die, Chip Capacitors, Tantalum Capacitors, Tabs, Chip Resistors, Inductors, Toroids, Daughter Board

Wire Bonding: Gold, Aluminum, Copper

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, Axial Leads, Projection Weld, 5.14 Inch Seal Perimeter, 8 Leads, Gold Lead Finish, Getter Qualified; Metal Package, Peripheral Leads, Seam Weld, 8 Inch Seal Perimeter, 20 Leads, Gold Lead Finish, Getter Qualified

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Crane Electronics, Inc. (CAGE Code: 50821)

16700 13th Avenue West, Lynnwood, WA 98037, US

Company Contact: Mr. Peter Henrich, Phone: 425-895-5034, Fax: 425-743-8113, E-mail: Peter.Henrich@CraneAE.com

DSCC Contact: Ms. Clare Jaquish, Phone: 614-692-6826, Fax: 614-692-6942, E-mail: vqh.cj@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Options 1 and 2

Approved ISO 9000 System: No

Technologies: Linear Amplifier, Signal Processor, Data Converters, DC/DC Converters, Analog, Digital, EMI Filters

Qualification Letters: EQ(EQM-87-2838), EQ(EQM-89-0439), EQ(EQC-92-174), EQ(EQC-92-300), EQ(EQC-93-031), EQ(EQC-93-056), EQ(EQC-93-196), EQ(EQC-93-221), EQ(EQC-93-280), EQ(EQC-93-550), EQC-93-624, EQ(EQM-94-043), EQ(EQM-94-0111), ELS(ELSH-94-0297), ELS(ELSH-94-0336), ELS(ELSH-94-0364), ELS(ELSH-95-0036), ELS(ELSH-95-0375), ELS(ELSH-96-0095), ELS(ELSH-96-0139), VQ(VQH-96-0214), VQ(VQH-98-0253), VQ(VQH-99-0013), VQ(VQH-00-0131), VQ(VQH-00-0188), VQ(VQH-03-003336), VQ(VQH-03-003760), VQ(VQH-04-006128), VQ(VQH-05-007236 AMENDED), VQ(VQH-05-008263), VQ(VQH-05-008516), VQ(VQH-05-008820), VQ(VQH-07-012129), VQ(VQH-07-012467), VQ(VQH-07-013397), VQ(VQH-13-026724), VQ(VQH-14-028435), VQ(VQH-16-030645), VQ(VQH-17-030801), VQ(VQH-17-031099), VQ(VQH-17-031269), VQ(VQH-17-031528), VQH-19-033160, VQH-19-033393, VQH-19-033438, VQH-21-035753, VQH-22-036664, VQH-22-037365

Class Level Information: See Note 6/

Class K, Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: QA-039

Substrate Fabrication: Thick Film on Alumina, 3 Conductor Level(s), Resistors; Purchased Direct Bonded Copper

Assembly Information: See Note 1/

Assembly Flows: QA-039

Substrate Attach: Solder, Nonconductive Epoxy, Conductive Epoxy

Element Attach: Conductive Epoxy, Nonconductive Epoxy, Solder, Eutectic, RTV

Add-on Elements: Unpackaged Die, Chip Capacitors, Tantalum Capacitors, Tabs, Chip Resistors, Inductors, Toroids, Daughter Board

Wire Bonding: Gold, Aluminum, Copper

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, Axial Leads, Projection Weld, 4.26 Inch Seal Perimeter, 8 Leads, Gold/Solder Lead Finish, Getter Qualified; Metal Package, Peripheral Leads, Seam Weld, 4 Inch Seal Perimeter, 32 Leads, Gold/Solder Lead Finish, Getter Qualified; Metal Package, Peripheral Leads, Seam Weld, 8.75 Inch Seal Perimeter, 12 Leads, Gold/Solder Lead Finish, Getter Qualified; Metal Package, Axial Leads, Seam Weld, 6.4 Inch Seal Perimeter, 5 Leads, Gold Lead Finish, Getter Qualified; Metal Package, Axial Leads, Seam Weld, 6 Inch Seal Perimeter, 38 Leads, Gold/Solder Lead Finish, Getter Qualified

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Data Device Corporation (CAGE Code: 19645)

105 Wilbur Place, Bohemia, NY 11716-2482, US

Company Contact: Mr. Marshall Maggipinto, Phone: 631-563-5225, Fax: 631-244-8252, E-mail: maggipinto@ddc-web.com

DSCC Contact: Ms. Sema Kazemi, Phone: 614-692-9549, Fax: 614-692-6942, E-mail: vqh.sk@dla.mil

Quality Management (QM) Program: TRB

Periodic Inspection System: Options 1 and 2

Approved ISO 9000 System: No

Technologies: 1553 Bus, Data Converters, Power

Bohemia Line

Qualification Letters: EQ(EQC-90-220), EQ(EQC-90-657), EQ(EQC-91-104), EQ(EQC-91-306), EQ(EQC-91-308), EQ(EQC-91-386), EQ(EQC-91-606), EQ(EQC-91-667), EQ(EQC-93-055), EQ(EQC-93-199), EQ(EQC-93-599), EQ(EQC-93-625), ELS(ELSH-94-0327), ELS(ELSH-94-0392), ELS(ELSH-94-0399), ELS(ELSH-95-0140), ELS(ELSH-95-0266), VQ(VQH-96-0203), VQ(VQH-98-0101), VQ(VQH-99-0033), VQ(VQH-99-0129), VQ(VQH-99-0222), VQ(VQH-02-0969), VQ(VQH-03-3982), VQ(VQH-04-5821), VQ(VQH-04-6876), VQ(VQH-06-010110), VQ(VQH-07-013396), VQ(VQH-10-019748)

Class Level Information: See Note 6/

Class K, Class H, Class D, Class G, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: 41638, 41639, 45552

Substrate Fabrication: Thick Film on Alumina, 4 Conductor Level(s), Resistors; Thin Film on Alumina, 1 Conductor Level(s); Thick Film on Beryllia, 1 Conductor Level(s), Resistors

Assembly Information: See Note 1/

Assembly Flows: 41634, 41635, 45552

Substrate Attach: Nonconductive Epoxy, Solder, Conductive Epoxy

Element Attach: Conductive Epoxy, Nonconductive Epoxy, Solder, Eutectic

Add-on Elements: Unpackaged Die, Chip Capacitors, Tabs, Transformers, Chip Resistors, Tantalum Capacitors, Ceramic Capacitors

Wire Bonding: Gold, Aluminum, Copper/Tin Solder

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, Peripheral Leads, Seam Weld, 8.8 Inch Seal Perimeter, 16 Leads, Gold Lead Finish, Getter Qualified; Metal Package, Axial Leads, Seam Weld, 10.26 Inch Seal Perimeter, 94 Leads, Gold Lead Finish, Getter Qualified; Metal Package, Peripheral Leads, Seam Weld, 7.58 Inch Seal Perimeter, 82 Leads, Gold Lead Finish, Getter Qualified; Ceramic Package, Axial Leads, Seam Weld, 7.34 Inch Seal Perimeter, 78 Leads, Gold Lead Finish, Getter Qualified; Ceramic Package, Axial Leads, Seam Weld, 7.34 Inch Seal Perimeter, 78 Leads, Gold Lead Finish, Getter Qualified; Ceramic Co-fire Package, Axial Leads, Seam Weld, 5.8 Inch Seal Perimeter, 70 Leads, Gold Lead Finish, Getter Qualified; Ceramic Co-fire Package, Axial Leads, Seam Weld, 5.8 Inch Seal Perimeter, 70 Leads, Gold Lead Finish, Getter Qualified; Ceramic Co-fire Package, Peripheral Leads, Seam Weld, 4 Inch Seal Perimeter, 81 Leads, Gold Lead Finish, Getter Qualified; Ceramic Co-fire Package, Peripheral Leads, Seam Weld, 4 Inch Seal Perimeter, 81 Leads, Gold Lead Finish, Getter Qualified; Ceramic Co-fire Package, J-Leads, Solder Seal, 2.12 Inch Seal Perimeter, 40 Leads, Gold Lead Finish, Getter Qualified

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Data Device Corporation (CAGE Code: 19645)

105 Wilbur Place, Bohemia, NY 11716-2482, US

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DSCC Contact: Ms. Sema Kazemi, Phone: 614-692-9549, Fax: 614-692-6942, E-mail: vqh.sk@dla.mil

Quality Management (QM) Program: TRB

Periodic Inspection System: Options 1 and 2

Approved ISO 9000 System: No

Technologies: 1553 Bus, Data Converters, Power

sub: API Technologies Corp. RF2M UK (CAGE: U4388)

Qualification Letters: EQ(EQC-91-835), EQ(EQC-92-084), EQ(EQC-93-139), ELS(ELSH-96-0054), ELS(ELSH-96-0161), VQ(VQH-98-0227), VQ(VQH-99-0192), VQ(VQH-99-0196), VQ(VQH-04-006510), VQ(VQH-04-007022), VQ(VQH-04-007023), VQ(VQH-05-008727), VQ(VQH-05-008978), VQ(VQH-06-010730), VQ(VQH-06-011795), VQ(VQH-09-017847), VQ(VQH-10-020173), VQ(VQH-10-020296), VQ(VQH-13-025883), VQ(VQH-14-028390)

Class Level Information: See Note 6/

Class K, Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: FCES 6301:15

Substrate Fabrication: Purchased Ceramic Co-fire; Thick Film on Alumina, 4 Conductor Level(s), Resistors; Purchased Direct Bonded Copper on Beryllia

Assembly Information: See Note 1/

Assembly Flows: FCES 6301:15

Substrate Attach: Conductive Epoxy, Solder, Nonconductive Epoxy

Element Attach: Conductive Epoxy, Eutectic, Nonconductive Epoxy

Add-on Elements: Chip Capacitors, Ceramic Tabs, Unpackaged Die, Transformers, Chip Resistors

Wire Bonding: Aluminum, Gold, Aluminum Ribbon

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, Axial Leads, Projection Weld, 4.37 Inch Seal Perimeter, 24 Leads, Gold/Solder Lead Finish; Ceramic Co-fire Package, Dual-in-line, Seam Weld, 2.53 Inch Seal Perimeter, 24 Leads, Gold Lead Finish; Ceramic Package, Pin Grid Array, Seam Weld, 5 Inch Seal Perimeter, 101 Leads, Gold Lead Finish; Metal Package, TO can, Projection Weld, 1.13 Inch Seal Perimeter, 10 Leads, Gold/Solder Lead Finish; Ceramic Package, Dual-in-line, Seam Weld, 5.38 Inch Seal Perimeter, 32 Leads, Gold Lead Finish; Metal Package, Peripheral Leads, Seam Weld, 5.3 Inch Seal Perimeter, 36 Leads, Gold/Solder Lead Finish; Metal Package, Peripheral Leads, Seam Weld, 5.3 Inch Seal Perimeter, 36 Leads, Gold/Solder Lead Finish; Ceramic Package, Quad Flat Pack, Seam Weld, 3.48 Inch Seal Perimeter, 68 Leads, Gold Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Frontgrade Technologies Inc. (CAGE Code: 88379)

35 South Service Road, Plainview, NY 11803-4193, US

Company Contact: Mr. Carmine Namorato, Phone: 516-752-5620, Fax: 516-694-6715, E-mail: Carmine.Namorato@Frontgrade.com

DSCC Contact: Ms. Jacqueline Cunningham, Phone: 614-692-0584, Fax: 614-692-6942, E-mail: vqh.jc@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Options 1 and 2

Approved ISO 9000 System: No

Technologies: Linear, Analog, Digital, Power, Voltage Regulator, Databus, Multiplexer

Cirtek Electronics Corp. Philippines Plant

Qualification Letters: VQ(VQH-03-003903), VQ(VQH-03-004625), VQH-23-037584

Class Level Information: See Note 6/

Class H

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: N/A

Assembly Information: See Note 1/

Assembly Flows: QAP21-241

Substrate Attach: Nonconductive Epoxy

Element Attach: Conductive Epoxy, Eutectic, Nonconductive Epoxy

Add-on Elements: Unpackaged Die, Chip Capacitors, Tabs, Chip Resistors

Wire Bonding: Gold

Package Information: See Notes 1/ 2/ 3/

Package Information: N/A

Frontgrade Technologies

Qualification Letters: EQ(EQC-90-616), EQ(EQC-91-896), EQ(EQC-92-001), EQ(EQC-93-019), EQ(EQC-94-032), ELS(ELSH-94-0342), ELS(ELSH-95-0042), ELS(ELSH-95-0395), ELS(ELSH-96-0130), ELS(ELSH-96-176), VQ(VQH-98-0001), VQ(VQH-99-0028), VQ(VQH-01-0070), VQ(VQH-01-0081), VQH-02-000431, VQ(VQH-02-001027), VQ(VQH-04-5086), VQ(VQH-04-005472), VQ(VQH-04-006026), VQ(VQH-04-006367), VQ(VQH-05-008607), VQ(VQH-05-009404), VQ(VQH-06-010542), VQ(VQH-07-012806), VQ(VQH-11-022595), VQ(VQH-13-025566), VQ(VQH-15-029253), VQ(VQH-17-031080), VQ(VQH-17-031572), VQ(VQH-18-032921), VQH-23-037434, VQH-23-037464, VQH-23-037466, VQH-23-037585

Class Level Information: See Note 6/

Class K, Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Thick Film on Beryllia, 1 Conductor Level(s); Purchased Thick Film on Alumina, 7 Conductor Level(s), Resistors

Assembly Information: See Note 1/

Assembly Flows: QAP21-241, QAP21-337

Substrate Attach: Solder, Nonconductive Epoxy, Conductive Epoxy

Element Attach: Conductive Epoxy, Nonconductive Epoxy, Solder, Eutectic

Add-on Elements: Unpackaged Die, Chip Capacitors, Tantalum Capacitors, Tabs, Chip Resistors, Daughter Board, Transformers, Optocoupler Assembly, Inductors

Wire Bonding: Gold, Aluminum

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, Axial Leads, Seam Weld, 7.94 Inch Seal Perimeter, 90 Leads, Gold Lead Finish; Ceramic Package, Dual-in-line, Seam Weld, 3.72 Inch Seal Perimeter, 24 Leads, Gold Lead Finish; Metal Package, Peripheral Leads, Seam Weld, 7.01 Inch Seal Perimeter, 88 Leads, Gold/Solder Lead Finish; Metal Package, Platform, Projection Weld, 3.93 Inch Seal Perimeter, 24 Leads, Gold Lead Finish; Ceramic Co-fire Package, Axial Leads, Seam Weld, 7.66 Inch Seal Perimeter, 90 Leads, Gold Lead Finish; Metal Package, Flatpack, Seam Weld, 5 Inch Seal Perimeter, 96 Leads, Gold Lead Finish; Ceramic Package, Leadless Chip Carrier, Seam Weld, 1.39 Inch Seal Perimeter, 5 Leads, Gold Lead Finish; Metal Package, Flatpack, Seam Weld, 7.4 Inch Seal Perimeter, 12 Leads, Gold Lead Finish, Getter Qualified; Ceramic Co-fire Package, Axial Leads, Solder Seal, 1.43 Inch Seal Perimeter, 16 Leads, Gold Lead Finish; Metal Package, Peripheral Leads, Seam Weld, 11 Inch Seal Perimeter, 30 Leads, Gold Lead Finish, Getter Qualified; Metal Package, Flatpack, Seam Weld, 7.58 Inch Seal Perimeter, 82 Leads, Gold Lead Finish; Ceramic Co-fire Package, Peripheral Leads, Seam Weld, 5.2 Inch Seal Perimeter, 96 Leads, Gold Lead Finish, Getter Qualified

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

IR HiRel an Infineon Technologies Company (CAGE Code: 69210)

205 Crawford Street, Leominster, MA 01453-2353, US

Company Contact: Mr. Paul Hebert, Phone: 978-230-3741, Fax: , E-mail: Paul.Hebert@infineon.com

DSCC Contact: Ms. Cassandra Chalkias, Phone: 614-692-2345, Fax: 614-692-6942, E-mail: vqh.cc@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Options 1 and 2

Approved ISO 9000 System: No

Technologies: Voltage Regulator, Power

Qualification Letters: EQ(EQC-91-408), EQ(EQC-91-807), EQ(EQC-91-838), EQ(EQM-94-0029), ELS(ELSH-94-0388), VQ(VQH-98-0014), VQ(VQH-01-0034), VQ(VQH-03-003838), VQ(VQH-08-016688), VQ(VQH-10-019960), VQ(VQH-10-020180), VQ(VQH-11-022643), VQ(VQH-12-024352), VQ(VQH-13-026659), VQ(VQH-13-026696)

Class Level Information: See Note 6/

Class K, Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: D050015G

Substrate Fabrication: Thick Film on Alumina, 3 Conductor Level(s), Resistors; Thick Film on Beryllia, 3 Conductor Level(s), Resistors

Assembly Information: See Note 1/

Assembly Flows: D050015G

Substrate Attach: Solder, Nonconductive Epoxy

Element Attach: Conductive Epoxy, Nonconductive Epoxy, Solder

Add-on Elements: Unpackaged Die, Chip Capacitors, Tabs, Chip Resistors, Encapsulated Hybrid

Wire Bonding: Gold, Aluminum

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, Peripheral Leads, Seam Weld, 2.47 Inch Seal Perimeter, 8 Leads, Solder Lead Finish; Metal Package, Peripheral Leads, Seam Weld, 8.8 Inch Seal Perimeter, 43 Leads, Gold Lead Finish; Metal Package, Axial Leads, Seam Weld, 4.08 Inch Seal Perimeter, 24 Leads, Gold Lead Finish, Getter Qualified; Ceramic Package, Peripheral Leads, Seam Weld, 2.14 Inch Seal Perimeter, 19 Leads, Gold Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Kyocera International, Inc. (CAGE Code: 59096)

8611 Balboa Avenue, San Diego, CA 92123, US

Company Contact: Mr. Michael Flanders, Phone: 858-576-2669, Fax: , E-mail: Michael.Flanders@kyocera.com

DSCC Contact: Ms. Cassandra Chalkias, Phone: 614-692-2345, Fax: 614-692-6942, E-mail: vqh.cc@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Option 2

Approved ISO 9000 System: No

Technologies: D/A Converter

Qualification Letters: VQ(VQH-22-036804)

Class Level Information: See Note 6/

Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Ceramic co-fire

Assembly Information: See Note 1/

Assembly Flows: WI2401

Substrate Attach: N/A

Element Attach: Nonconductive Epoxy, Conductive Epoxy

Add-on Elements: Unpackaged Die, Chip Capacitors, Chip Resistors

Wire Bonding: Gold

Package Information: See Notes 1/ 2/ 3/

Package Information: Ceramic Co-fire Package, Flatpack, Seam Weld, 4.15 Inch Seal Perimeter, 24 Leads, Gold Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Lockheed Martin Missiles and Fire Control (CAGE Code: 04939)

5600 Sand Lake Road MP189, Orlando, FL 32819-8907, US

Company Contact: Mr. Christopher Adams, Phone: 407-356-0512, Fax: 407-356-6808, E-mail: christopher.adams@lmco.com

DSCC Contact: Ms. Sema Kazemi, Phone: 614-692-9549, Fax: 614-692-6942, E-mail: vqh.sk@dla.mil

Quality Management (QM) Program: TRB

Periodic Inspection System: Option 1

Approved ISO 9000 System: No

Technologies: Digital, Analog

Qualification Letters: EQ(EQC-91-402), EQ(EQC-91-764), EQ(EQC-92-112), EQ(EQC-92-312), EQ(EQC-92-412), VQ(VQH-99-0164), VQ(VQH-10-020356)

Class Level Information: See Note 6/

Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Thick Film

Assembly Information: See Note 1/

Assembly Flows: 72301772

Substrate Attach: Nonconductive Epoxy

Element Attach: Conductive Epoxy, Nonconductive Epoxy, Eutectic

Add-on Elements: Unpackaged Die, Chip Capacitors, Tantalum Capacitors, Chip Resistors, Inductors

Wire Bonding: Gold, Aluminum

Package Information: See Notes 1/ 2/ 3/

Package Information: Ceramic Package, Leadless Chip Carrier, Solder Seal, 3.8 Inch Seal Perimeter, 68 Leads, Gold Lead Finish; Ceramic Package, Dual-in-line, Solder Seal, 2.88 Inch Seal Perimeter, 18 Leads, Gold/Solder Lead Finish; Metal Package, Platform, Projection Weld, 5.76 Inch Seal Perimeter, 44 Leads, Gold Lead Finish; Metal Package, Axial Leads, Seam Weld, 11.8 Inch Seal Perimeter, 140 Leads, Gold Lead Finish

Qualification Letters: VQ(VQH-12-024704)

Class Level Information: See Note 6/

Class D

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Thick Film

Assembly Information: See Note 1/

Assembly Flows: 861 Process Flow

Substrate Attach: Solder

Element Attach: Conductive Epoxy

Add-on Elements: Unpackaged Die, Chip Capacitors

Wire Bonding: Gold

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, Axial Leads, Projection Weld, 1.88 Inch Seal Perimeter, 16 Leads, Gold Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Mercury Corp. - Memory and Storage Solutions (CAGE Code: 54230)

3601 East University Drive, Phoenix, AZ 85034-7217, US

Company Contact: Mr. Charles Mertz, Phone: 602-458-3461, Fax: 602-437-9120, E-mail: Charles.Mertz@mrcy.com

DSCC Contact: Ms. Jacqueline Cunningham, Phone: 614-692-0584, Fax: 614-692-6942, E-mail: vqh.jc@dla.mil

Quality Management (QM) Program: TRB

Periodic Inspection System: Options 1 and 2

Approved ISO 9000 System: No

Technologies: Digital Memory

Qualification Letters: EQ(EQC-90-019), EQ(EQC-92-070), EQ(EQC-92-138), EQC-93-457, EQ(EQC-93-508), ELS(ELSH-94-0256), ELS(ELSH-95-0107), ELS(ELSH-95-0365), ELS(ELSH-96-0014), ELS(ELSH-96-0184), ELS(ELSH-96-0186), VQ(VQH-96-0210), VQ(VQH-96-0211), VQ(VQH-97-0016), VQ(VQH-97-0170), VQ(VQH-98-0172), VQ(VQH-99-0258), VQ(VQH-00-0079)

Class Level Information: See Note 6/

Class K, Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Thick Film; Purchased Ceramic Co-fire

Assembly Information: See Note 1/

Assembly Flows: 035A00001

Substrate Attach: Nonconductive Epoxy

Element Attach: Conductive Epoxy, Nonconductive Epoxy

Add-on Elements: Unpackaged Die, Chip Capacitors, Chip Resistors

Wire Bonding: Gold

Package Information: See Notes 1/ 2/ 3/

Package Information: Ceramic Co-fire Package, Brazed Leads, Seam Weld, 5.36 Inch Seal Perimeter, 68 Leads, Gold/Solder Lead Finish, Getter Qualified; Ceramic Co-fire Package, Axial Leads, Seam Weld, 4.58 Inch Seal Perimeter, 66 Leads, Gold/Solder Lead Finish, Getter Qualified; Ceramic Package, Pin Grid Array, Seam Weld, 4.1 Inch Seal Perimeter, 66 Leads, Gold Lead Finish, Getter Qualified

Amertron Inc. (Philippines)

Qualification Letters: VQ(VQH-12-024754)

Class Level Information: See Note 6/

Class H

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Ceramic Co-fire

Assembly Information: See Note 1/

Assembly Flows: 035A00001

Substrate Attach: N/A

Element Attach: Conductive Epoxy, Nonconductive Epoxy

Add-on Elements: Unpackaged Die, Chip Capacitors

Wire Bonding: N/A

Package Information: See Notes 1/ 2/ 3/

Package Information: Ceramic Co-fire Package, Brazed Leads, Seam Weld, 3.32 Inch Seal Perimeter, 68 Leads, Gold/Solder Lead Finish, Getter Qualified

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Micropac Industries, Incorporated (CAGE Code: 31757)

1655 State Highway 66, Garland, TX 75040, US

Company Contact: Mr. Ken Hall, Phone: 972-272-3571, Fax: 972-494-2281, E-mail: kenhall@micropac.com

DSCC Contact: Mr. Jonathan Stone, Phone: 614-692-1566, Fax: 614-692-6942, E-mail: vqh.js@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Option 1

Approved ISO 9000 System: No

Technologies: Custom, Optocouplers

Qualification Letters: VQ(VQH-23-038051)

Class Level Information: See Note 6/

Class K, Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Thick Film on Alumina, 2 Conductor Level(s), Resistors

Assembly Information: See Note 1/

Assembly Flows: PS 90138

Substrate Attach: Nonconductive Epoxy, Conductive Epoxy

Element Attach: Conductive Epoxy

Add-on Elements: Unpackaged Die

Wire Bonding: Gold

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, TO Can, Projection Weld, 2.26 Inch Seal Perimeter, 10 Leads, Solder Lead Finish, Getter Qualified; Ceramic Package, Dual-in-line, Seam Weld, 1.34 Inch Seal Perimeter, 8 Leads, Solder Lead Finish, Getter Qualified

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Micro-Precision Technologies, Inc. (CAGE Code: 0F962)

10 Manor Parkway, Salem, NH 03079-2841, US

Company Contact: Mr. Gregory Madden, Phone: 603-893-7600, Fax: 603-893-9110, E-mail: gsmadden@micropt.com

DSCC Contact: Ms. Sema Kazemi, Phone: 614-692-9549, Fax: 614-692-6942, E-mail: vqh.sk@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Option 1

Approved ISO 9000 System: Yes

Technologies: Linear, Digital, Analog

Qualification Letters: VQ(VQH-00-0004), VQ(VQH-10-019928)

Class Level Information: See Note 6/

Class H, Class G, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: CP9146-Screening Rev. -

Substrate Fabrication: Thick Film on Alumina, 3 Conductor Level(s), Resistors

Assembly Information: See Note 1/

Assembly Flows: CP9146Q-Assembly Traveler Rev. -

Substrate Attach: Nonconductive Epoxy

Element Attach: Conductive Epoxy, Nonconductive Epoxy, Solder

Add-on Elements: Unpackaged Die, Chip Resistors, Chip Capacitors

Wire Bonding: Gold

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, Peripheral Leads, Seam Weld, 6.32 Inch Seal Perimeter, 65 Leads, Gold Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Microsemi HRG (CAGE Code: 43611)

6 Lake Street, Lawrence, MA 01841, US

Company Contact: Ms. Beth Parker, Phone: 978-620-2636, Fax: 978-774-0939, E-mail: beth.parker@microchip.com

DSCC Contact: Ms. Cassandra Chalkias, Phone: 614-692-2345, Fax: 614-692-6942, E-mail: vqh.cc@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Option 2

Approved ISO 9000 System: No

Technologies: Point of Load Regulator

Qualification Letters: VQ(VQH-12-025103), VQ(VQH-13-027082), VQ(VQH-15-028926), VQ(VQH-15-029474), VQ(VQH-15-029477), VQ(VQH-15-029572), VQ(VQH-16-029949), VQ(VQH-17-031105), VQ(VQH-20-034899)

Class Level Information: See Note 6/

Class K, Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Plated Up Copper on BeO, 1 Conductor Level(s); Purchased Direct Bonded Copper on BeO, 1 Conductor Level(s)

Assembly Information: See Note 1/

Assembly Flows: T3-HPG-FC001

Substrate Attach: Solder

Element Attach: Conductive Epoxy, Solder, Nonconductive Epoxy

Add-on Elements: Chip Capacitors, Unpackaged Die, Chip Resistors, Inductors

Wire Bonding: Aluminum, Gold

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, Flatpack, Seam Weld, 3.64 Inch Seal Perimeter, 16 Leads, Gold Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Micross Components (CAGE Code: 57300)

1810 South Orange Blossom Trail, Apopka, FL 32703, US

Company Contact: Mr. Steven White, Phone: 813-892-1998, Fax: , E-mail: Steven.White@micross.com

DSCC Contact: Ms. Cassandra Chalkias, Phone: 614-692-2345, Fax: 614-692-6942, E-mail: vqh.cc@dla.mil

Quality Management (QM) Program: TRB

Periodic Inspection System: Option 1

Approved ISO 9000 System: No

Technologies: Memory

Apopka (FL) Line

Qualification Letters: VQ(VQH-24-038467)

Class Level Information: See Note 6/

Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Ceramic Co-fire

Assembly Information: See Note 1/

Assembly Flows: AS8F512K32PG

Substrate Attach: N/A

Element Attach: Conductive Epoxy, Nonconductive Epoxy

Add-on Elements: Unpackaged Die, Chip Capacitors

Wire Bonding: Aluminum

Package Information: See Notes 1/ 2/ 3/

Package Information: Ceramic Co-fire Package, Pin Grid Array, Seam Weld, 4.3 Inch Seal Perimeter, 66 Leads, Gold Lead Finish

Microchip Technology (Thailand) Co., Ltd.

Qualification Letters: VQ(VQH-17-031114), VQ(VQH-17-031169), VQ(VQH-17-031290), VQ(VQH-18-032109), VQH-20-035487

Class Level Information: See Note 6/

Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Ceramic Co-fire

Assembly Information: See Note 1/

Assembly Flows: AS8S128K32PN-SAD, AS8S512K32QFP, AS8F128K32Q1

Substrate Attach: N/A

Element Attach: Conductive Epoxy, Nonconductive Epoxy

Add-on Elements: Unpackaged Die, Chip Capacitors

Wire Bonding: Aluminum

Package Information: See Notes 1/ 2/ 3/

Package Information: Ceramic Co-fire Package, Pin Grid Array, Seam Weld, 4.06 Inch Seal Perimeter, 66 Leads, Gold Lead Finish; Ceramic Co-fire Package, Quad Flat Pack, Seam Weld, 3.32 Inch Seal Perimeter, 68 Leads, Gold Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Micross Hi-Rel Power Solutions (CAGE Code: 52467)

2520 Junction Avenue, San Jose, CA 95134-1902, US

Company Contact: Mr. Granville 'Bo' Rains, Phone: 408-310-8640, Fax: , E-mail: Granville.Rains@micross.com

DSCC Contact: Mr. Dan Miller, Phone: 614-692-2908, Fax: 614-692-6942, E-mail: vqh.dm@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Options 1 and 2

Approved ISO 9000 System: No

Technologies: DC/DC Converters

Advanced Semiconductor Engrg Inc, Nantou Branch

Qualification Letters: VQ(VQH-02-1624), VQ(VQH-05-009379)

Class Level Information: See Note 6/

Class K, Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: N/A

Assembly Information: See Note 1/

Assembly Flows: 8002-0044

Substrate Attach: Conductive Epoxy, Nonconductive Epoxy, Solder

Element Attach: Conductive Epoxy, Nonconductive Epoxy, Solder

Add-on Elements: Unpackaged Die, Chip Capacitors, Tantalum Capacitors, Tabs, Chip Resistors, Transformers

Wire Bonding: Gold, Aluminum, Copper

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, Axial Leads, Seam Weld, 6.58 Inch Seal Perimeter, 10 Leads, Gold/Solder Lead Finish

San Jose Facility

Qualification Letters: EQ(EQC-89-065), EQ(EQC-90-652), EQ(EQC-92-103), EQ(EQC-93-204), EQ(EQC-93-403), EQ(EQC-93-553), EQ(EQC-93-658), ELS(ELSH-94-0173), ELS(ELSH-94-0211), ELS(ELSH-94-0212), ELS(ELSH-94-0272), ELS(ELSH-94-0482), ELS(ELSH-94-0483), VQ(VQH-98-0100), VQ(VQH-98-0231), VQ(VQH-03-003517), VQ(VQH-05-9326), VQ(VQH-06-011051), VQ(VQH-07-013935), VQ(VQH-08-015552), VQ(VQH-12-023788), VQ(VQH-13-026800), VQ(VQH-14-027466), VQ(VQH-14-027974), VQ(VQH-15-029435), VQ(VQH-18-032741), VQ(VQH-18-033604), VQ(VQH-19-033816), VQH-19-034319, VQH-19-034320, VQH-19-034346, VQH-21-035754

Class Level Information: See Note 6/

Class K, Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: 8002-0044

Substrate Fabrication: Thick Film on Alumina, 5 Conductor Level(s), Resistors; Thick Film on Beryllia, 4 Conductor Level(s), Resistors; Purchased Direct Bonded Copper

Assembly Information: See Note 1/

Assembly Flows: 8002-0044

Substrate Attach: Conductive Epoxy, Nonconductive Epoxy, Solder

Element Attach: Conductive Epoxy, Nonconductive Epoxy, Solder, RTV, Elastomer

Add-on Elements: Unpackaged Die, Chip Capacitors, Tantalum Capacitors, Tabs, Chip Resistors, Transformers, Inductors, Wires, Terminals

Wire Bonding: Gold, Aluminum, Copper

Package Information: See Notes 1/ 2/ 3/

Package Information: Ceramic Package, Dual-in-line, Seam Weld, 3.69 Inch Seal Perimeter, 24 Leads, Gold/Solder Lead Finish, Getter Qualified; Metal Package, Axial Leads, Seam Weld, 6.58 Inch Seal Perimeter, 10 Leads, Gold/Solder Lead Finish, Getter Qualified; Metal Package, Peripheral Leads, Seam Weld, 10.1 Inch Seal Perimeter, 58 Leads, Gold/Solder Lead Finish, Getter Qualified; Metal Package, Peripheral Leads, Seam Weld, 8 Inch Seal Perimeter, 12 Leads, Gold/Solder Lead Finish, Getter Qualified; Metal Package, Peripheral Leads, Seam Weld, 11 Inch Seal Perimeter, 13 Leads, Gold/Solder Lead Finish, Getter Qualified; Metal Package, Peripheral Leads, Laser Weld, 4.3 Inch Seal Perimeter, 9 Leads, Gold/Solder Lead Finish, Getter Qualified

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Oncore Manufacturing LLC (CAGE Code: 0ANM4)

400 Hot Springs Road, Carson City, NV 89706-1609, US

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DSCC Contact: Mr. Edward Raybould, Phone: 614-692-0582, Fax: 614-692-6942, E-mail: vqh.esr@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Options 1 and 2

Approved ISO 9000 System: No

Technologies: Active Delay Line, Linear, Custom Hybrid

Qualification Letters: EQ(EQC-91-859), EQ(EQM-94-0023), EQ(EQM-94-0102), VQ(VQH-04-006262), VQ(VQH-05-007828), VQ(VQH-06-010743), VQ(VQH-07-012497), VQ(VQH-08-015017), VQ(VQH-08-015553), VQ(VQH-09-016945), VQ(VQH-10-020918), VQ(VQH-14-027901), VQ(VQH-15-029530), VQH-21-035924

Class Level Information: See Note 6/

Class K, Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: RN1005-002, 8111663

Substrate Fabrication: Thick Film on Alumina, 2 Conductor Level(s), Resistors; Thick Film on Beryllia, 1 Conductor Level(s); Thick Film on Ceramic, 7 Conductor Level(s), Resistors

Assembly Information: See Note 1/

Assembly Flows: RN1005-004

Substrate Attach: Nonconductive Epoxy, Conductive Epoxy

Element Attach: Conductive Epoxy, Nonconductive Epoxy, Solder, Eutectic

Add-on Elements: Unpackaged Die, Chip Capacitors, Inductors, Chip Resistors, Tabs, Tantalum Capacitors, Quartz Crystal, Ceramic Stand Off, Daughter Board

Wire Bonding: Gold, Aluminum

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, Platform, Projection Weld, 2.94 Inch Seal Perimeter, 16 Leads, Gold/Solder Lead Finish, Getter Qualified; Metal Package, Axial Leads, Seam Weld, 6.32 Inch Seal Perimeter, 48 Leads, Gold Lead Finish, Getter Qualified; Metal Package, Axial Leads, Seam Weld, 5 Inch Seal Perimeter, 56 Leads, Nickel Lead Finish, Getter Qualified; Ceramic Co-fire Package, Brazed Leads, Seam Weld, 2.47 Inch Seal Perimeter, 11 Leads, Gold Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Robins AFB (CAGE Code: 0RCH2)

402 EMXSS/MXDEAD, 420 Richard Ray Blvd Ste 100, Robins AFB, GA 31098-1640, US

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DSCC Contact: Ms. Cassandra Chalkias, Phone: 614-692-2345, Fax: 614-692-6942, E-mail: vqh.cc@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Option 1

Approved ISO 9000 System: No

Technologies: I/Q Phase Detector, Digibus

Qualification Letters: VQ(VQH-00-0107), VQ(VQH-07-012450), VQ(VQH-13-025669), VQH-19-034149

Class Level Information: See Note 6/

Class H, Class G, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Thick Film on Alumina, 4 Conductor Level(s)

Assembly Information: See Note 1/

Assembly Flows: PCD0200

Substrate Attach: Conductive Epoxy, Nonconductive Epoxy

Element Attach: Conductive Epoxy, Nonconductive Epoxy

Add-on Elements: Unpackaged Die, Chip Capacitors, Chip Resistors

Wire Bonding: Gold

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, Flatpack, Seam Weld, 5.92 Inch Seal Perimeter, 68 Leads, Gold Lead Finish; Ceramic Package, Flatpack, Seam Weld, 4.02 Inch Seal Perimeter, 30 Leads, Gold Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Sensitron Semiconductor (CAGE Code: 13409)

100 Engineers Road, Hauppauge, NY 11788, US

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DSCC Contact: Ms. Sema Kazemi, Phone: 614-692-9549, Fax: 614-692-6942, E-mail: vqh.sk@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Options 1 and 2

Approved ISO 9000 System: No

Technologies: Power, Transistors

Qualification Letters: VQ(VQH-00-0119), VQ(VQH-00-0168), VQ(VQH-00-0169), VQ(VQH-03-002777), VQH-21-036273

Class Level Information: See Note 6/

Class K, Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Aluminum Nitride

Assembly Information: See Note 1/

Assembly Flows: 7710-0582

Substrate Attach: Solder

Element Attach: Conductive Epoxy, Solder, Eutectic

Add-on Elements: Unpackaged Die, Chip Resistors

Wire Bonding: Gold, Aluminum

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, Axial Leads, Seam Weld, 4 Inch Seal Perimeter, 12 Leads, Gold Lead Finish; Metal Package, Solder Seal, 1.96 Inch Seal Perimeter; Metal Package, TO Can, Projection Weld, 1.13 Inch Seal Perimeter, 8 Leads, Gold Lead Finish

Qualification Letters: N/A

Class Level Information: See Note 6/

Class D

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Beryllia; Purchased Alumina

Assembly Information: See Note 1/

Assembly Flows: 7710-0582

Substrate Attach: Solder

Element Attach: Solder

Add-on Elements: Packaged FET, Chip Resistors, Chip Capacitors

Wire Bonding: Copper

Package Information: See Notes 1/ 2/ 3/

Package Information: Epoxy Package, Axial Leads, Epoxy Seal, 4.64 Inch Seal Perimeter, 16 Leads, Copper Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Solitron Devices, Incorporated (CAGE Code: 21845)

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DSCC Contact: Mr. Jonathan Stone, Phone: 614-692-1566, Fax: 614-692-6942, E-mail: vqh.js@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Option 1

Approved ISO 9000 System: No

Technologies: Linear, Power, Voltage Regulator

Qualification Letters: ELS(ELSH-94-0316), ELS(ELSH-94-0433), ELS(ELSH-95-0079), ELS(ELSH-95-0210), VQ(VQH-99-0180), VQ(VQH-99-0195), VQ(VQH-00-0125), VQ(VQH-03-003255), VQ(VQH-03-004107), VQ(VQH-05-007716), VQ(VQH-14-028224), VQ(VQH-24-038838)

Class Level Information: See Note 6/

Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Thick Film on Beryllia, 1 Conductor Level(s)

Assembly Information: See Note 1/

Assembly Flows: H1040

Substrate Attach: Solder

Element Attach: Eutectic

Add-on Elements: Unpackaged Die, Tabs

Wire Bonding: Gold, Aluminum

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, TO Can, Seam Weld, 2.13 Inch Seal Perimeter, 3 Leads, Gold Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Spectrum Control Ltd. (CAGE Code: U4388)

South Denes, Great Yarmouth, Norfolk, UK

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Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Option 1

Approved ISO 9000 System: No

Technologies: 1553 Transceiver, High Voltage Drivers, Power

Qualification Letters: EQ(EQC-91-835), EQ(EQC-92-084), EQ(EQC-93-139), ELS(ELSH-96-0054), ELS(ELSH-96-0161), VQ(VQH-98-0227), VQ(VQH-99-0192), VQ(VQH-99-0196), VQ(VQH-04-006510), VQ(VQH-04-007022), VQ(VQH-04-007023), VQ(VQH-05-008727), VQ(VQH-05-008978), VQ(VQH-06-010730), VQ(VQH-06-011795), VQ(VQH-09-017847), VQ(VQH-10-020173), VQ(VQH-10-020296), VQ(VQH-13-025883), VQ(VQH-14-028390), VQ(VQH-15-028729), VQH-22-036998

Class Level Information: See Note 6/

Class K, Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: BSM8 Appendix C

Substrate Fabrication: Purchased Ceramic Co-fire; Thick Film on Alumina, 4 Conductor Level(s), Resistors; Purchased Direct Bonded Copper on Beryllia

Assembly Information: See Note 1/

Assembly Flows: BSM8 Appendix C

Substrate Attach: Conductive Epoxy, Nonconductive Epoxy, Solder

Element Attach: Conductive Epoxy, Nonconductive Epoxy, Eutectic

Add-on Elements: Unpackaged Die, Chip Capacitors, Chip Resistors, Transformers, Ceramic Tabs

Wire Bonding: Gold, Aluminum, Aluminum Ribbon

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, Axial Leads, Seam Weld, 5.3 Inch Seal Perimeter, 36 Leads, Gold/Solder Lead Finish; Metal Package, Axial Leads, Seam Weld, 5.3 Inch Seal Perimeter, 36 Leads, Gold/Solder Lead Finish; Metal Package, Axial Leads, Projection Weld, 4.37 Inch Seal Perimeter, 24 Leads, Gold/Solder Lead Finish; Ceramic Package, Pin Grid Array, Seam Weld, 5 Inch Seal Perimeter, 101 Leads, Gold Lead Finish; Metal Package, TO can, Projection Weld, 1.13 Inch Seal Perimeter, 10 Leads, Gold/Solder Lead Finish; Ceramic Co-fire Package, Dual-in-line, Seam Weld, 2.53 Inch Seal Perimeter, 24 Leads, Gold Lead Finish; Ceramic Package, Dual-in-line, Seam Weld, 5.38 Inch Seal Perimeter, 32 Leads, Gold Lead Finish; Ceramic Package, Quad Flat Pack, Seam Weld, 3.48 Inch Seal Perimeter, 68 Leads, Gold Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Spectrum Control, Inc. (CAGE Code: 07180)

400 Nickerson Road, Marlborough, MA 01752, US

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DSCC Contact: Mr. Edward Raybould, Phone: 614-692-0582, Fax: 614-692-6942, E-mail: vqh.esr@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Options 1 and 2

Approved ISO 9000 System: No

Technologies: Low Power, Data Converters, Track and Hold Amp, Analog, Voltage Reference, Direct Bond Copper Hybrid

Marlborough Plant

Qualification Letters: EQ(EQM-88-0709), EQ(EQC-89-421), EQ(EQC-91-235), EQ(EQC-91-894), EQ(EQC-92-062), EQ(EQC-93-162), EQ(EQC-94-008), ELS(ELSH-94-0252), ELS(ELSH-94-0253), ELS(ELSH-94-0254), ELS(ELSH-95-0183), ELS(ELSH-95-0269), VQ(VQH-98-0177), VQ(VQH-98-0232), VQ(VQH-99-0176), VQ(VQH-99-0204), VQ(VQH-01-0102), VQ(VQH-01-0104), VQ(VQH-03-004619), VQ(VQH-04-004898), VQ(VQH-04-005172), VQ(VQH-06-010485), VQ(VQH-06-011842), VQ(VQH-07-013689), VQ(VQH-08-014380)

Class Level Information: See Note 6/

Class K, Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: 52-0059

Substrate Fabrication: Thin Film on Alumina, 1 Conductor Level(s); Thin Film on Beryllia, 1 Conductor Level(s); Purchased Direct Bonded Copper on Alumina Nitride, 2 Conductor Level(s); Ceramic Co-fire; Purchased Thick Film on Alumina, 5 Conductor Level(s)

Assembly Information: See Note 1/

Assembly Flows: 12-0902, FC-25

Substrate Attach: Nonconductive Epoxy, Solder

Element Attach: Conductive Epoxy, Solder, Nonconductive Epoxy, Eutectic

Add-on Elements: Unpackaged Die, Chip Resistors, Chip Capacitors

Wire Bonding: Gold, Aluminum

Package Information: See Notes 1/ 2/ 3/

Package Information: Ceramic Package, Dual-in-line, Seam Weld, 7.48 Inch Seal Perimeter, 62 Leads, Gold/Solder Lead Finish; Ceramic Package, Leadless Chip Carrier, Solder Seal, 1.13 Inch Seal Perimeter, 22 Leads, Solder Lead Finish; Metal Package, Peripheral Leads, Seam Weld, 3.58 Inch Seal Perimeter, 16 Leads, Gold Lead Finish, Getter Qualified; Metal Package, TO can, Projection Weld, 1.65 Inch Seal Perimeter, 12 Leads, Gold Lead Finish, Getter Qualified; Metal Package, TO can, Projection Weld, 6 Inch Seal Perimeter, 12 Leads, Nickel Lead Finish, Getter Qualified; Ceramic Package, Dual-in-line, Seam Weld, 2.57 Inch Seal Perimeter, 14 Leads, Gold Lead Finish; Ceramic Package, Leadless Chip Carrier, Seam Weld, 1.62 Inch Seal Perimeter, 28 Leads, Solder Lead Finish; Ceramic Package, Single-in-line, Seam Weld, 2.9 Inch Seal Perimeter, 10 Leads, Gold Lead Finish; Copper Package, Single-in-line, Seam Weld, 4.9 Inch Seal Perimeter, 17 Leads, Nickel Lead Finish; Ceramic Package, Quad Flat Pack, Seam Weld, 6.2 Inch Seal Perimeter, 136 Leads, Gold Lead Finish

Millenium Microtech Thailand Plant

Qualification Letters: VQ(VQH-16-030502)

Class Level Information: See Note 6/

Class H

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: 5366-10

Substrate Fabrication: Thin Film on Alumina, 2 Conductor Level(s), Resistors

Assembly Information: See Note 1/

Assembly Flows: 5366-2

Substrate Attach: Non-conductive Epoxy

Element Attach: Conductive Epoxy

Add-on Elements: Unpackaged Die, Chip Resistors

Wire Bonding: Gold

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, TO Can, Projection Weld, 1.16 Inch Seal Perimeter, 8 Leads, Gold Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Teledyne Advanced Electronic Solutions (CAGE Code: 26687)

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Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Options 1 and 2

Approved ISO 9000 System: No

Technologies: Data Converters, Linear, Microwave, Custom, Power, RF Microwave

Qualification Letters: VQ(VQH-14-027666), VQ(VQH-14-027714), VQ(VQH-18-031968), VQ(VQH-23-037800)

Class Level Information: See Note 6/

Class K, Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Thin Film on Alumina, 3 Conductor Level(s), Resistors

Assembly Information: See Note 1/

Assembly Flows: 7700530

Substrate Attach: Conductive Epoxy

Element Attach: Conductive Epoxy, Nonconductive Epoxy

Add-on Elements: Unpackaged Die, Chip Resistors, Chip Capacitors

Wire Bonding: Gold, Aluminum, Ribbon

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal/Ceramic Co-Fire Package, Peripheral Leads, Seam Weld, 3.94 Inch Seal Perimeter, 40 Leads, Gold Lead Finish, Getter Qualified; Metal Package, Dual-in-Line, Seam Weld, 2.6 Inch Seal Perimeter, 14 Leads, Gold Lead Finish, Getter Qualified

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Teledyne e2V Hirel Electronics (CAGE Code: 0C7V7)

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Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Option 1

Approved ISO 9000 System: No

Technologies: Semiconductor Dual High Performance Op Amp

Teledyne e2V HIREL - TN (Lewisburg)

Qualification Letters: VQ(VQH-20-035131), VQ(VQH-24-038373)

Class Level Information: See Note 6/

Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Thin Film on Alumina, 3 Conductor Level(s), Resistors

Assembly Information: See Note 1/

Assembly Flows: 00-SB15-016 revision C

Substrate Attach: Non-Conductive Epoxy

Element Attach: Conductive Epoxy, Nonconductive Epoxy, Eutectic

Add-on Elements: Unpackaged Die, Daughter Board, Chip Capacitors, Tabs

Wire Bonding: Gold, Aluminum, Ribbon

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package Package, Flatpack, Seam Seal, 2.58 Inch Seal Perimeter, 14 Leads, Gold Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Teledyne Microwave Solutions (CAGE Code: 24022)

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Quality Management (QM) Program: TRB

Periodic Inspection System: Option 1

Approved ISO 9000 System: No

Technologies: RF Cascadable Amplifier, Microwave Cascadable Amplifier, Mixers, Attenuators, Limiters, Switches, Multi-function

Qualification Letters: VQ(VQH-00-0037), VQ(VQH-01-0128), VQ(VQH-13-026904)

Class Level Information: See Note 6/

Class K, Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: N/A

Substrate Fabrication: Purchased Thin Film

Assembly Information: See Note 1/

Assembly Flows: 351393

Substrate Attach: Solder

Element Attach: Conductive Epoxy, Nonconductive Epoxy, Solder, Eutectic

Add-on Elements: Unpackaged Die, Chip Capacitors, Inductors

Wire Bonding: Gold, Copper

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, TO Can, Projection Weld, 1.37 Inch Seal Perimeter, 4 Leads, Gold Lead Finish; Metal Package, Flatpack, Seam Weld, 2.13 Inch Seal Perimeter, 4 Leads, Gold Lead Finish; Metal/Ceramic Package, SMT0, Seam Weld, 2.13 Inch Seal Perimeter, 4 Leads, Gold Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

Teledyne Relays (CAGE Code: 11532)

12525 Daphne Avenue, Hawthorne, CA 90250, US

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DSCC Contact: Ms. Clare Jaquish, Phone: 614-692-6826, Fax: 614-692-6942, E-mail: vqh.cj@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Option 1

Approved ISO 9000 System: No

Technologies: Power

Qualification Letters: VQ(VQH-16-030111), VQH-24-038672

Class Level Information: See Note 6/

Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: 2296959

Substrate Fabrication: Thick Film on Beryllia, 4 Conductor Level(s)

Assembly Information: See Note 1/

Assembly Flows: 2296955-2

Substrate Attach: Solder

Element Attach: Conductive Epoxy, Nonconductive Epoxy, Eutectic Solder, Solder

Add-on Elements: Unpackaged Die, Chip Resistors, Chip Capacitors, Molytabs

Wire Bonding: Gold, Aluminum, Gold Ribbon

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, Peripheral Leads, Seam Weld, 6 Inch Seal Perimeter, 12 Leads, Gold/Solder Lead Finish

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

TTM Technologies, Inc. (CAGE Code: 31597)

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Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Options 1 and 2

Approved ISO 9000 System: No

Technologies: High Power Amplifiers, Amplifiers, PWB H-Bridge, Custom Hybrids/MCMs, Voltage Regulator, Switching Regulator, RAD HARD Hybrids, Motor Controllers, Linear Regulators, DC/DC Converters, Filters, Video Amplifiers

Qualification Letters: EQ(EQC-90-451), EQ(EQC-90-507), EQ(EQC-92-417), EQ(EQC-93-141), EQ(EQC-93-242), EQ(EQC-93-346), EQ(EQC-93-488), EQ(EQC-93-554), EQ(EQC-93-682), EQ(EQC-93-687), EQ(EQM-94-084), EQ(EQM-94-093), ELS(ELSH-94-0400), ELS(ELSH-94-0401), ELS(ELSH-94-0402), ELS(ELSH-94-0470), ELS(ELSH-95-0020), ELS(ELSH-95-0216), ELS(ELSH-95-0304), ELS(ELSH-96-0073), ELS(ELSH-96-0086), VQ(VQH-96-0206), VQ(VQH-97-0046), VQ(VQH-97-0073), VQ(VQH-97-0089), VQ(VQH-97-0223), VQ(VQH-97-0228), VQ(VQH-97-0238), VQ(VQH-97-0243), VQ(VQH-98-0246), VQ(VQH-99-0145), VQ(VQH-00-0023), VQ(VQH-00-0242), VQ(VQH-01-0065), VQ(VQH-01-0075), VQ(VQH-02-000095), VQ(VQH-03-002841), VQ(VQH-03-003922), VQ(VQH-03-004192), VQ(VQH-03-004194), VQ(VQH-04-005084), VQ(VQH-04-005148), VQ(VQH-04-005646), VQ(VQH-04-006786), VQ(VQH-04-006941), VQ(VQH-04-007061), VQ(VQH-04-007098), VQ(VQH-05-008546), VQ(VQH-05-008816), VQ(VQH-05-008994), VQ(VQH-05-008995), VQ(VQH-06-009631), VQ(VQH-06-009683), VQ(VQH-06-009742), VQ(VQH-06-010016), VQ(VQH-06-010082), VQ(VQH-06-010086), VQ(VQH-06-010359), VQ(VQH-06-010509), VQ(VQH-06-010846), VQ(VQH-06-011516), VQ(VQH-07-012278), VQ(VQH-07-012548), VQ(VQH-07-013658), VQ(VQH-08-014579), VQ(VQH-08-014909), VQ(VQH-09-016693), VQ(VQH-09-018310), VQ(VQH-09-018313), VQ(VQH-09-018466), VQ(VQH-09-018978), VQ(VQH-10-021073), VQ(VQH-11-022826), VQ(VQH-11-022827), VQ(VQH-11-022828), VQ(VQH-11-023107), VQ(VQH-11-023174), VQ(VQH-11-023234), VQ(VQH-12-024146), VQ(VQH-13-025668), VQ(VQH-13-026264), VQ(VQH-14-027599), VQ(VQH-14-027663), VQ(VQH-15-028968), VQ(VQH-15-029048), VQ(VQH-18-032808), VQ(VQH-20-034693), VQ(VQH-20-034863), VQH-21-035585, VQH-22-036671, VQH-22-036908

Class Level Information: See Note 6/

Class K, Class H, Class G, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: 2422-1563

Substrate Fabrication: Thick Film on Alumina, 2 Conductor Level(s), Resistors; Thick Film on Alumina, 2 Conductor Level(s), Resistors; Purchased Alumina/Copper; Thick Film on Beryllia, 3 Conductor Level(s), Resistors; Thick Film on Beryllia, 3 Conductor Level(s), Resistors; Purchased Alumina

Assembly Information: See Note 1/

Assembly Flows: 2422-1518

Substrate Attach: Conductive Epoxy, Nonconductive Epoxy, Solder

Element Attach: Solder, Conductive Epoxy, Nonconductive Epoxy, Eutectic

Add-on Elements: Unpackaged Die, Chip Capacitors, Tabs, Chip Resistors, Inductors, Bonding Block, Daughter Board, Crystal, Ceramic Posts

Wire Bonding: Gold, Aluminum

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, TO Can, Projection Weld, 3.14 Inch Seal Perimeter, 12 Leads, Gold Lead Finish, Getter Qualified; Metal Package, Platform, Projection Weld, 2.6 Inch Seal Perimeter, 14 Leads, Gold Lead Finish, Getter Qualified; Metal Package, Axial Leads, Seam Weld, 5 Inch Seal Perimeter, 44 Leads, Gold Lead Finish, Getter Qualified; Metal Package, Peripheral Leads, Seam Weld, 6.95 Inch Seal Perimeter, 82 Leads, Gold Lead Finish, Getter Qualified; Metal Package, Peripheral Leads, Seam Weld, 6 Inch Seal Perimeter, 12 Leads, Gold Lead Finish, Getter Qualified; Ceramic Package, Brazed Leads, Solder Seal, 2.06 Inch Seal Perimeter, 28 Leads, Gold Lead Finish, Getter Qualified; Metal Package, Surface Mount, Seam Weld, 2.15 Inch Seal Perimeter, 3 Leads, Gold Lead Finish, Getter Qualified; Ceramic Package, Peripheral Leads, Seam Weld, 4.79 Inch Seal Perimeter, 10 Leads, Gold Lead Finish, Getter Qualified; Ceramic Package, Flatpack, Seam Weld, 2.38 Inch Seal Perimeter, 10 Leads, Gold Lead Finish, Getter Qualified; Metal Package, Flatpack, Seam Weld, 5.98 Inch Seal Perimeter, 196 Leads, Gold Lead Finish, Getter Qualified; Metal Package, Flatpack, Solder Seal, 1.33 Inch Seal Perimeter, 14 Leads, Gold Lead Finish, Getter Qualified; Metal Package, Bathhtub, Seam Weld, 2.45 Inch Seal Perimeter, 5 Leads, Gold Lead Finish, Getter Qualified; Ceramic Package, LCC, Solder Seal, 1.4 Inch Seal Perimeter, 20 Leads, Gold Lead Finish, Getter Qualified; Ceramic Package, LCC, Seam Weld, 2.16 Inch Seal Perimeter, 3 Leads, Gold Lead Finish, Getter Qualified

Sourcing and Qualification Unit, Hybrid Devices Team, DSCC-VQH

DLA Land and Maritime - VQ

MIL-PRF-38534 QML Program Status

VPT Inc/Delta Electronics (CAGE Code: 0ZBZ6)

1971 Kraft Dr Ste 1000, Blacksburg, VA 24060, US

Company Contact: Mr. Shawn Graham, Phone: 540-552-5000 x7566, Fax: 540-552-5003, E-mail: sgraham@vptpower.com

DSCC Contact: Mr. Edward Raybould, Phone: 614-692-0582, Fax: 614-692-6942, E-mail: vqh.esr@dla.mil

Quality Management (QM) Program: Non-TRB

Periodic Inspection System: Option 1

Approved ISO 9000 System: No

Technologies: DC/DC Converters, Filters

Delta Electronics, Inc Taoyuan Shien, Taiwan Plant

Qualification Letters: VQ(VQH-03-3408), VQ(VQH-05-007383), VQ(VQH-06-009911), VQ(VQH-06-010083), VQ(VQH-06-010462), VQ(VQH-06-010463), VQ(VQH-06-010748), VQ(VQH-07-012667), VQ(VQH-08-014580), VQ(VQH-09-017993), VQ(VQH-09-017994), VQ(VQH-11-022477), VQ(VQH-11-022562), VQ(VQH-12-024201), VQ(VQH-12-024839), VQ(VQH-13-025426), VQ(VQH-13-025533), VQ(VQH-13-025534), VQ(VQH-13-025667), VQ(VQH-13-025769), VQ(VQH-13-025866), VQ(VQH-13-025867), VQ(VQH-13-026652), VQ(VQH-13-026658), VQ(VQH-13-026974), VQ(VQH-13-026992), VQ(VQH-14-027651), VQ(VQH-14-027888), VQ(VQH-14-027889), VQ(VQH-14-027890), VQ(VQH-14-027891), VQ(VQH-14-028197), VQ(VQH-14-028377), VQ(VQH-15-028923), VQ(VQH-15-029046), VQ(VQH-15-029047), VQ(VQH-15-029182), VQ(VQH-15-029183), VQ(VQH-15-029184), VQ(VQH-15-029549), VQ(VQH-15-029618), VQ(VQH-15-029619), VQ(VQH-16-029891), VQ(VQH-16-030701), VQ(VQH-16-030703), VQ(VQH-16-030704), VQ(VQH-16-030705), VQ(VQH-17-030840), VQ(VQH-17-031299), VQ(VQH-17-031392), VQ(VQH-17-031586), VQ(VQH-17-031587), VQ(VQH-18-032807), VQ(VQH-18-032928), VQ(VQH-18-032929), VQ(VQH-19-033315), VQ(VQH-19-034028), VQ(VQH-20-034635), VQH-21-036456, VQH-21-036530, VQH-22-036661, VQH-22-036665, VQH-22-036681, VQH-22-036709, VQH-22-036728, VQH-22-036738, VQH-22-036745, VQH-22-036818, VQH-22-036846, VQH-22-037285, VQ(VQH-23-037987), VQ(VQH-23-038075), VQH-24-038225, VQH-24-038226, VQH-24-038371, VQH-24-038588, VQH-24-038694, VQH-24-038850, VQH-24-038851

Class Level Information: See Note 6/

Class K, Class H, Class E

Substrate Fabrication Information: See Note 1/

Substrate Fabrication Flows: MFG-001

Substrate Fabrication: Thick Film on Alumina, 4 Conductor Level(s), Resistors; Thick Film on Alumina, 4 Conductor Level(s), Resistors; Thick Film on Alumina, 4 Conductor Level(s), Resistors

Assembly Information: See Note 1/

Assembly Flows: MFG-001

Substrate Attach: Solder

Element Attach: Conductive Epoxy, Solder, Nonconductive Epoxy, RTV

Add-on Elements: Unpackaged Die, Chip Capacitors, Chip Resistors, Magnetics, Bonding Chip, Copper Straps, Flexible Circuits, Wirewound Resistor

Wire Bonding: Aluminum, Gold

Package Information: See Notes 1/ 2/ 3/

Package Information: Metal Package, Dual-in-line, Projection Weld, 5.14 Inch Seal Perimeter, 9 Leads, Gold Lead Finish; Metal Package, Dual-in-line, Bathtub, Seam Weld, 6.44 Inch Seal Perimeter, 10 Leads, Gold Lead Finish; Metal Package, Peripheral Leads, Bathtub, Seam Weld, 8 Inch Seal Perimeter, 12 Leads, Gold Lead Finish; Metal Package, Dual-in-line, Projection Weld, 5.14 Inch Seal Perimeter, 10 Leads, Gold Lead Finish; Metal Package, Peripheral Leads, Bathtub, Seam Weld, 4.44 Inch Seal Perimeter, 20 Leads, Gold Lead Finish

Standardized Microcircuit Drawing (SMD) Approved Sources are available at the following web pages:
Qualification Part Search: <http://www.landandmaritime.dla.mil/programs/psearch/>
Standard Microcircuit Cross-Reference: <http://www.landandmaritime.dla.mil/Programs/Smcr/>
Qualified Products Database: <http://qpldocs.dla.mil/search/parts.aspx?qpl=1116>