

Product Analysis Report

Work Order:	216608	Quantity Received:	13
Customer:	OT Components	Quantity Inspected:	13
PO Number:	N/A	Report Date/Time:	7/21/22 4:24 PM
Prepared By:	Xuhua Chen	Approved by:	Dream Hu

PRODUCT INFORMATION

Part Number:	REC6-0505SRW/R10/A	Package Type:	DIP-24
Manufacturer:	Recom Power		
Product Description:	6 Watt DIP24 Reinforced Single & Dual Output		
Datasheet Reference:	https://recom-power.com/pdf/Econoline/REC6-RW_R.pdf		

REPORT SUMMARY

Result:	See Summary	Risk Level:	
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13 pieces of Recom Power REC6-0505SRW/R10/A were received for External Visual Inspection(EVI), including 5 pieces for X-ray analysis and 3 pieces for XRF analysis. Product arrived in tube without appropriate ESD protective packaging

Sample marking are engraved on plastic cap, chemical solution and scrape tests for remarking and resurfacing are not applicable.

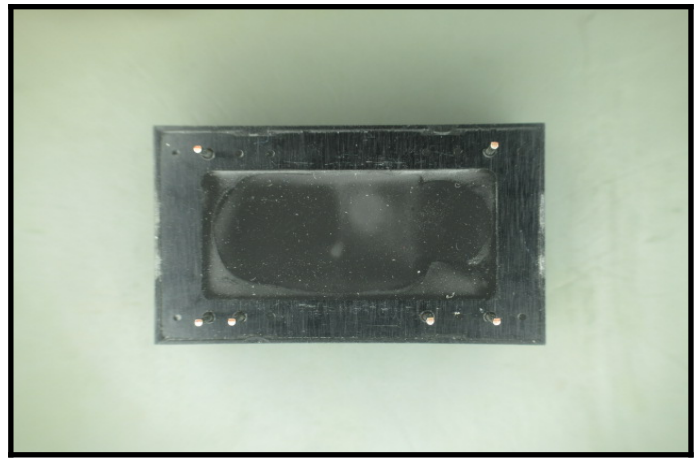
Samples exhibit exposed base metal from trimming, indicating that they are not re-plated. Parts do not exhibit solder remnants or any indication of prior use.

Dimensions D, E, A+A1, A and b were measured and were within manufacturer specification. The devices have the same exterior configuration as shown on the Package Outline Drawing (POD).

XRF reveals the elements in the target area are consistent with the lead-free plating material specification of the manufacturer. The samples pass XRF.

X-ray analysis reveals consistent internal structure. Samples do not exhibit voids or other apparent anomalies inside the component.

The parts are classified as "Unused with consistent internal structure and passed XRF".



Body (top-side)

Body (bottom-side)

EXTERNAL VISUAL INSPECTION

REMARKING / RESURFACING TEST

Pass:	N/A	Fail:	N/A
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MARKING INSPECTION

Pass:	13	Fail:	0	F.A.R.:	0
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BODY INSPECTION

Pass:	13	Fail:	0	F.A.R.:	0
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TERMINAL INSPECTION

Pass:	13	Fail:	0	F.A.R.:	0
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MECHANICAL CHARACTERISTICS INSPECTION

Pass:	13	Fail:	0	F.A.R.:	0
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DOCUMENT AND PACKAGE INSPECTION

Number of Boxes:	1
Document & Labels:	Match
Date Code:	1937
Lot Code:	No available information

GENERAL INSPECTION

Package Carrier:	Tube
ESD Protection:	No
MSL Protection:	MSL1, N/A
Country of Mfg.:	Taiwan

APPENDIXES

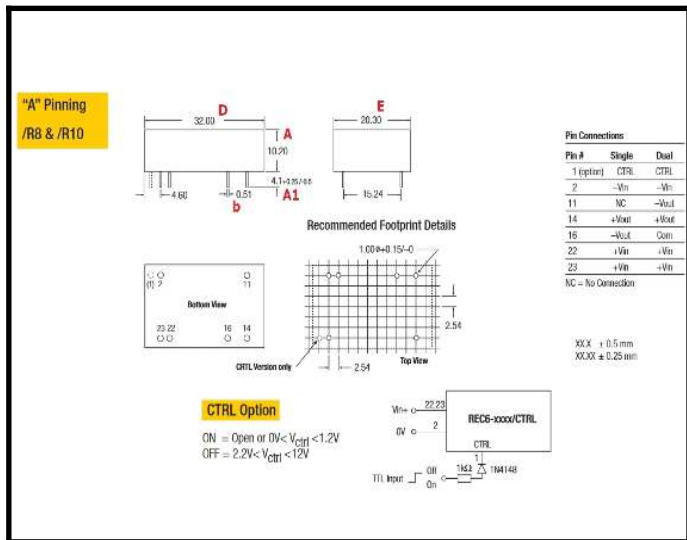
Selection Guide					
Part Number	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)	Max Capacitive Load ⁽¹⁾
REC6-xx05SRW/R*	9 - 18, 18 - 36, 36 - 75 4.5 - 9	5	1000	80, 81, 82 77	6800µF
REC6-xx09SRW/R*	9 - 18, 18 - 36, 36 - 75 4.5 - 9	9	667	81, 82, 83 555	6800µF
REC6-xx12SRW/R*	9 - 18, 18 - 36, 36 - 75 4.5 - 9	12	500	82, 83, 84 417	6800µF
REC6-xx15SRW/R*	9 - 18, 18 - 36, 36 - 75 4.5 - 9	15	400	84, 85, 86 333	6800µF
REC6-xx24SRW/R*	9 - 18, 18 - 36, 36 - 75 4.5 - 9	24	250	83, 84, 85 208	4700µF
REC6-xx05DRW/R*	9 - 18, 18 - 36, 36 - 75 4.5 - 9	±5	±500	80, 81, 82 77	±2200µF
REC6-xx09DRW/R*	9 - 18, 18 - 36, 36 - 75 4.5 - 9	±9	±335	81, 82, 83 ±278	±2200µF
REC6-xx12DRW/R*	9 - 18, 18 - 36, 36 - 75 4.5 - 9	±12	±250	81, 82, 83 ±208	±2200µF
REC6-xx15DRW/R*	9 - 18, 18 - 36, 36 - 75 4.5 - 9	±15	±200	82, 83, 84 ±167	±2200µF

R* = R8 or R10 for 8kVDC or 10kVDC Isolation.
 Note 1: Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter.

* add suffix "A" or "C" for pinning options, see next page for details. (REC6-S_DRW/R8/R10)
 * add suffix "CTRL" for control pin option (A Pinning only) xx = 4.5-9Vin = 05
 * add suffix "X1" for Undervoltage Lockout. xx = 9-18Vin = 12
 xx = 18-36Vin = 24
 xx = 36-75Vin = 48

Ordering Examples:
 REC6-0512DRW/R8/A/CTRL = 5V Vin, ±12V Vout, 8kVDC Isolation, pinout "A", control pin
 REC6-4805SRW/R10/A = 48V Vin, 5V Vout, 10kVDC Isolation, pinout "A"
 REC6-1212DRW/R8/C/X1 = 12V Vin, ±12V Vout, 8kVDC Isolation, pinout "C", UVL
 REC6-0505SRW/R10/A/CTRL/X1 = 5V Vin, 5V Vout, 10kVDC Isolation, pinout "A", control pin, UVL.

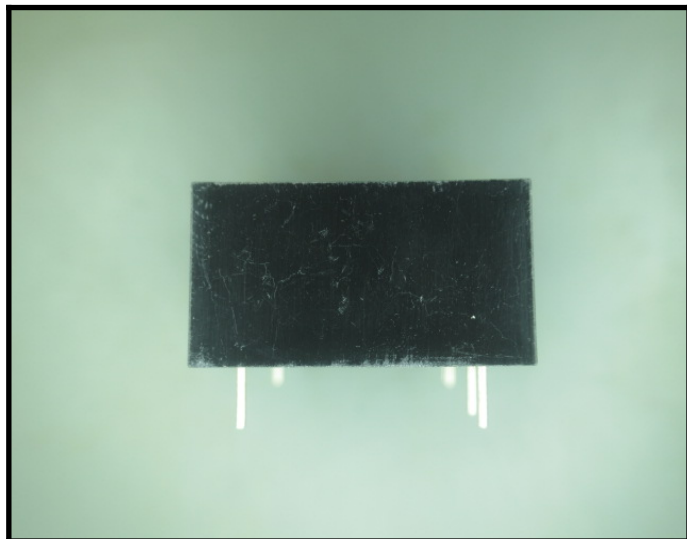
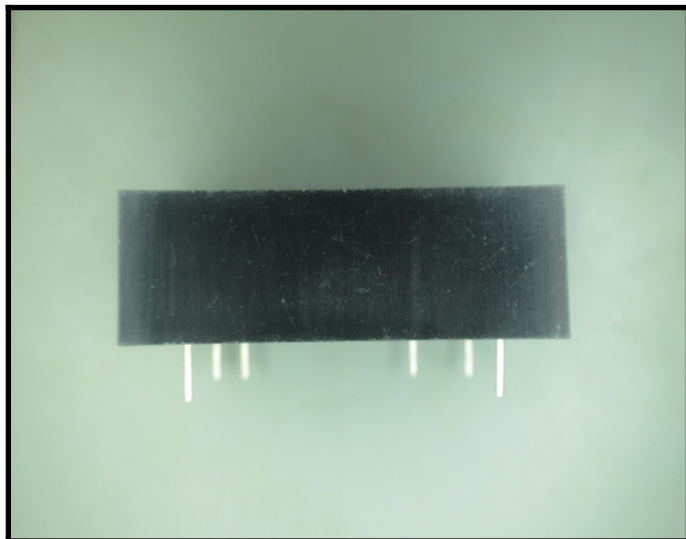
REV. 0/2015



Ordering Information

Mechanical Dimensions

Package Outline Drawing

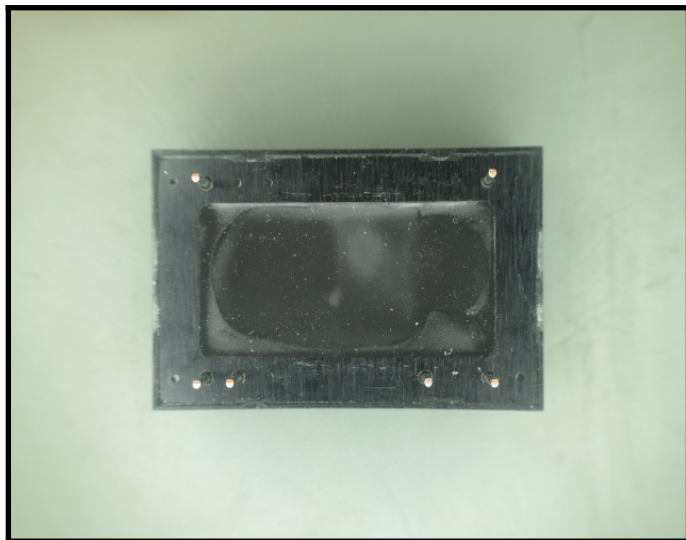


Mechanical Dimensions

Part as shown on POD

Mechanical Dimensions

Part as shown on POD



Mechanical Dimensions

Part as shown on POD

Dimension Measurement

D=31.65 mm, (Pass)

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 86-755-8374-1887

URL:
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Wo Number 216608



Dimension Measurement	E=20.23 mm, (Pass)
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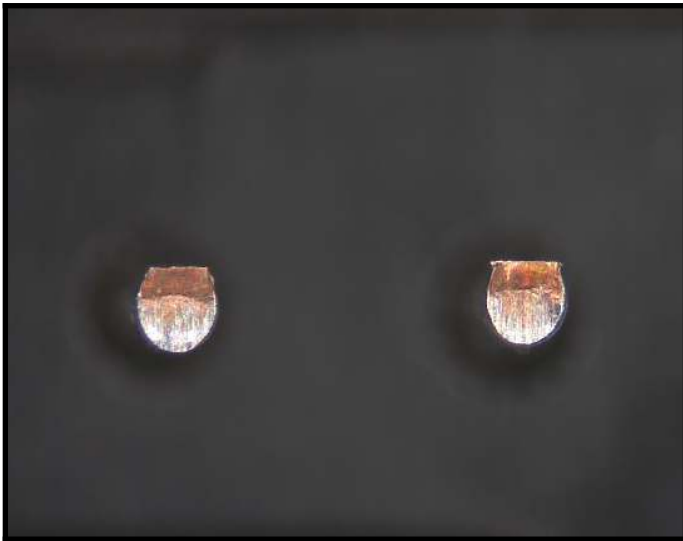
Dimension Measurement	A+A1=14.42 mm, (Pass)
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Dimension Measurement	A=10.40 mm, (Pass)
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Dimension Measurement	b=0.60 mm
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Terminal	Exposed base metal from trimming
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Terminal	
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Packaging (Box)

Box as received



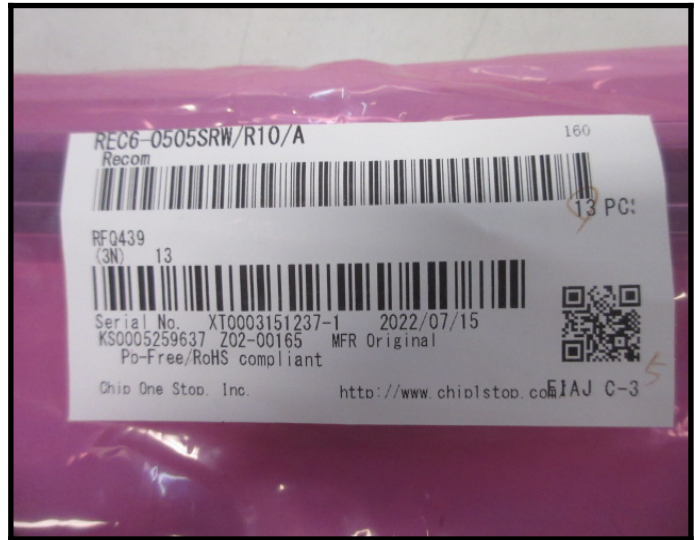
Packaging (Box)

Open box



Packaging (Carrier)

Bag



Packaging (Carrier)

Bag label



Packaging (Carrier)

Tubes



Packaging (Carrier)

Tube label

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Packaging (Carrier)

Tube label



Packaging (Carrier)

Parts aligned in tube

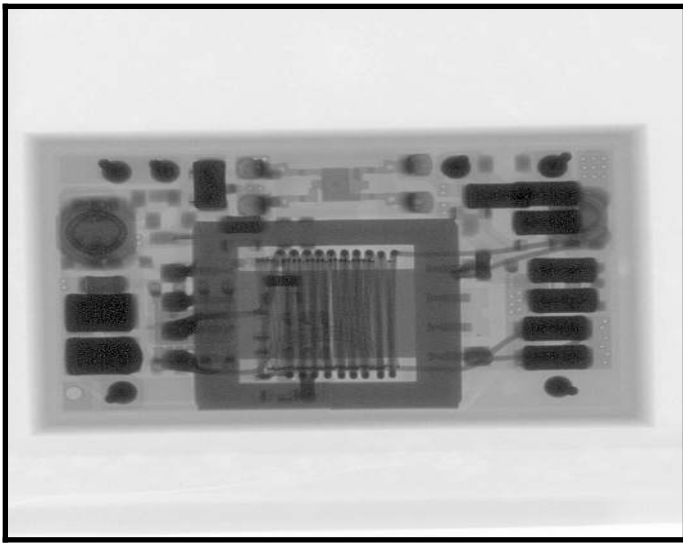
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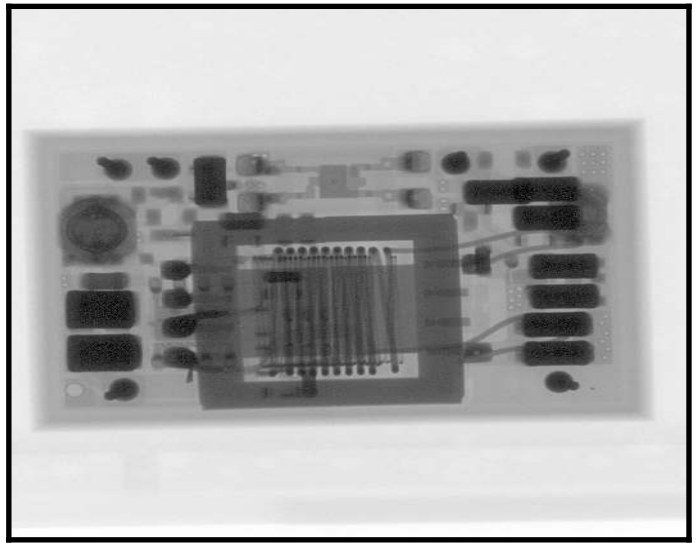
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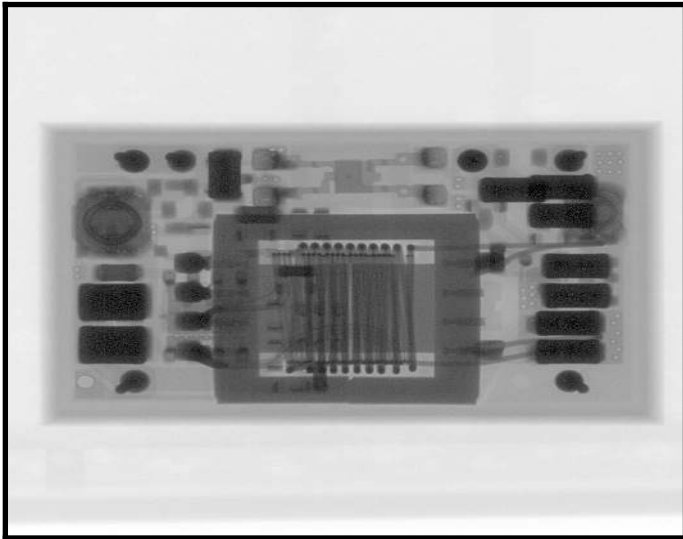
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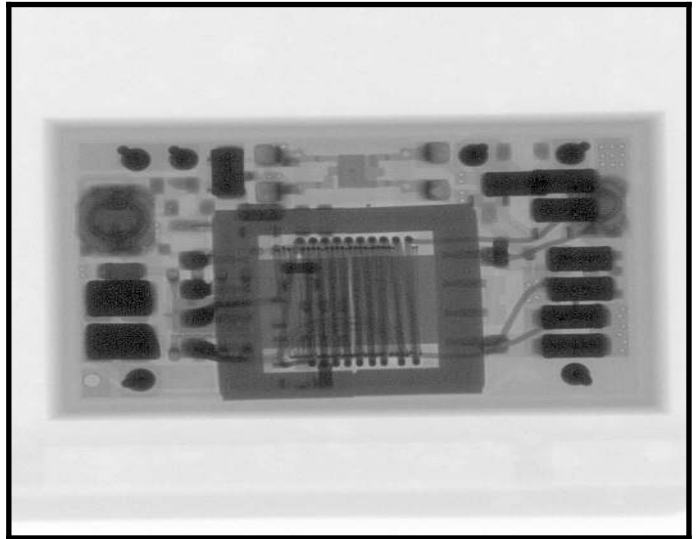
X-RAY SAMPLE 1 | Internal profile



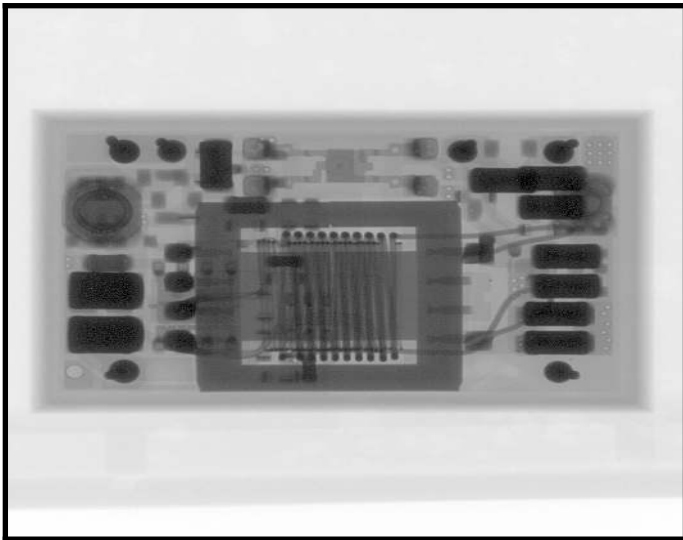
X-RAY SAMPLE 2 | Internal profile



X-RAY SAMPLE 3 | Internal profile



X-RAY SAMPLE 4 | Internal profile



X-RAY SAMPLE 5 | Internal profile



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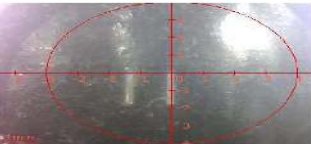
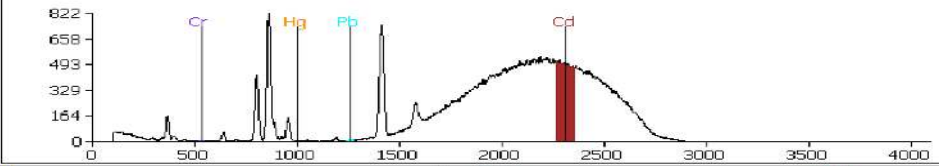
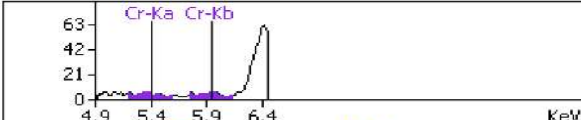
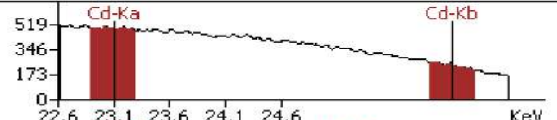

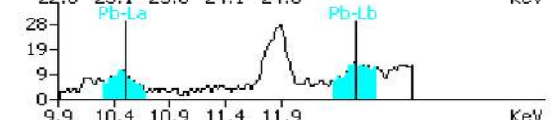
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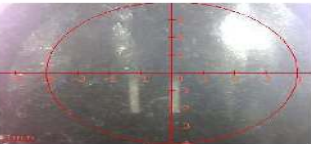
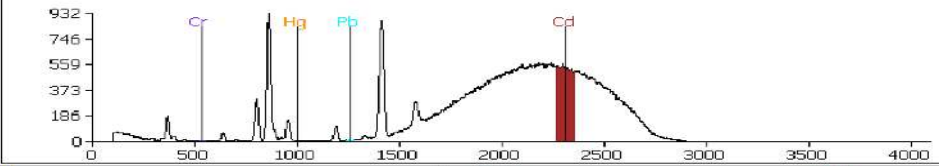
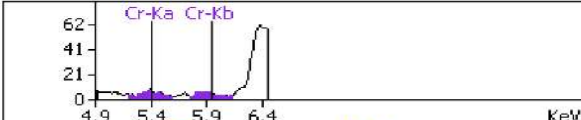
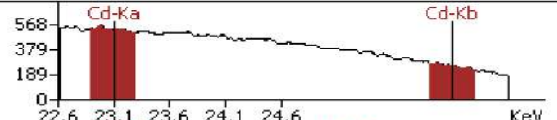

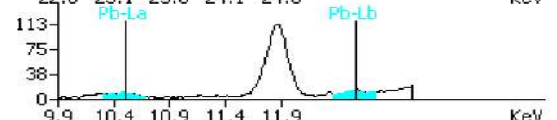
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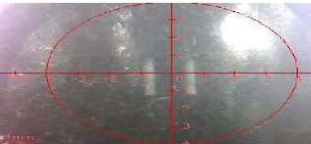
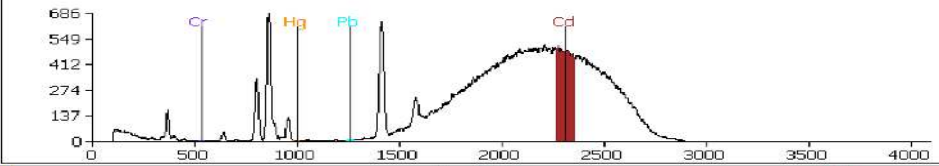
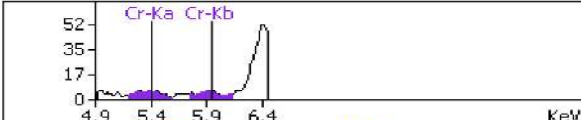
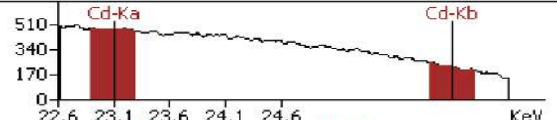


XRF Analysis Report

Work Order	216608	Part Number	REC6-0505SRW/R10/A		
Sample No.	1, D/C:1937	Voltage	29 (KV)		
Operator	LYX	Current	600 (µA)		
Test Date	2022-7-20 23:09:29	WorkCurve	SOLDER		
CO No.	N/A	Test Time	200 (s)		
Lead-free status	RoHS-compliant	Result Match status?	Yes	Pass/Fail?	Pass
Element	Intensity	Content (ppm)	Error (ppm)	Limits	Results
Cr(ppm)	0.00004	ND	0.00	1000	Pass
Cd(ppm)	0.00032	ND	0.00	100	Pass
Hg(ppm)	0	ND	0.00	1000	Pass
Pb(ppm)	0.0002	ND	0.03	1000	Pass
Spectrum					
					
					
Note: ND means Concentration ≤ 2ppm XRF tests on surface only. The content of "Cr" or "Br" is the total amount of this element. The reading data does not represent.					

XRF Analysis Report

Work Order	216608	Part Number	REC6-0505SRW/R10/A		
Sample No.	2, D/C:1937	Voltage	29 (KV)		
Operator	LYX	Current	600 (μA)		
Test Date	2022-7-21 0:01:27	WorkCurve	SOLDER		
CO No.	N/A	Test Time	200 (s)		
Lead-free status	RoHS-compliant	Result Match status?	Yes	Pass/Fail?	Pass
Element	Intensity	Content (ppm)	Error (ppm)	Limits	Results
Cr(ppm)	0.00006	ND	0.00	1000	Pass
Cd(ppm)	0.00074	ND	0.00	100	Pass
Hg(ppm)	0	ND	0.00	1000	Pass
Pb(ppm)	0.0002	ND	0.02	1000	Pass
Spectrum					
					
					
	Note: ND means Concentration ≤ 2ppm XRF tests on surface only. The content of "Cr" or "Br" is the total amount of this element. The reading data does not represent.				

XRF Analysis Report

Work Order	216608	Part Number	REC6-0505SRW/R10/A		
Sample No.	3, D/C:1937	Voltage	29 (KV)		
Operator	LYX	Current	600 (μA)		
Test Date	2022-7-21 1:10:26	WorkCurve	SOLDER		
CO No.	N/A	Test Time	200 (s)		
Lead-free status	RoHS-compliant	Result Match status?	Yes	Pass/Fail?	Pass
Element	Intensity	Content (ppm)	Error (ppm)	Limits	Results
Cr(ppm)	0.00005	ND	0.00	1000	Pass
Cd(ppm)	0.00048	ND	0.00	100	Pass
Hg(ppm)	0	ND	0.00	1000	Pass
Pb(ppm)	0.00012	ND	0.00	1000	Pass
Spectrum					
					
					
Note: ND means Concentration ≤ 2ppm XRF tests on surface only. The content of "Cr" or "Br" is the total amount of this element. The reading data does not represent.					

Definitions (as defined within AS6081):

- KNOWN AUTHENTIC PART (Golden Sample) – A part which has either been purchased directly from the manufacturer, their authorized distributors, or authenticated by the manufacturer with supporting documentation.
- UNUSED – Electronic parts that have not been previously used (i.e., attached to a board or powered up since leaving the supply chain). Unused material can contain mixed date codes, lot codes, or countries of origin, and should be received in original factory or third-party packaging. The material may have minor scratches or other physical defects as a result of handling, but the leads should be in good condition and should not be refurbished. The material should be guaranteed to meet the manufacturer's full specifications. Unused programmable parts should be received without having been previously programmed.
- USED (REFURBISHED OR PULLED) – Product that has been electrically charged and subsequently pulled or removed from a socket or other electronic application. Used product may be received in non-standard packaging, and may contain mixed lots, date codes, be from different facilities, etc. Parts may have physical defects such as scratches, slightly bent leads, test dots, faded markings, chemical residue or other signs of use, but the leads should be intact. Used product may be sold with a limited warranty, and programmable parts may still contain partial or complete programming which could impact the part's functionality.
- REFURBISHED – Parts that have been renovated to restore them to a "like new" condition, e.g., leaded parts may have had their leads realigned and re-tinned and subjected to cleaning agents and chemical processing.
- COUNTERFEIT PART – A fraudulent part that has been confirmed to be a copy, imitation, or substitute that has been represented, identified, or marked as genuine, and/or altered by a source without legal right.

Report Explanations:

- "Result" is the condition of devices, per the definitions provided by AS6081 (above) with the addition of "Remarked", which is any device whose original marking has been replaced. A device could, for example, be Unused but also have been remarked, so the Result would be "Unused/Remarked".
- "Risk Factor" is a calculation of the remaining risk of a device being counterfeit or substandard from the results of the processes conducted, and risk associated with not conducting some processes.
- Minor observations such as scratches and loose contamination from normal handling, packaging, storage and aging are defined and allowed within the JEDEC manufacturing standards. Images of minor observations are not included in the report but are on file and available upon request.
- "FAR" in the process summary on Page 2 means "Further Analysis Recommended". It is not always possible to reach a conclusion on a single process. When we recommend additional tests to verify an observation found in one process, or gaps in the requested test plan, we will identify those areas of risk as "FAR".
- Note that definitions are as defined within the AS6081 standard.

Notes and Disclaimers

1. Product analysis results are applicable for the inspected samples only.
2. Inspection methods are assigned Pass/Fail Criteria based upon JEDEC JES9B manufacturing standard. Military-grade products are inspected to MIL-STD specifications. Observations outside of those tolerances are deemed to make the product unfit for use.
3. Observations defined by IDEA-STD-1010B, AS6081, AS6171 and WHL expertise and experimentation affect the risk level and classification of the inspected product.
4. "Reference samples" are previously tested and/or inspected product which are used for comparison purposes to the devices analyzed for this report. "Known-good samples" are provided by the customer to compare to unverified product. "Golden samples" are acquired by WHL with direct traceability to the original manufacturer.
5. All source and measurement equipment are calibrated and suitable for the processes conducted with calibration certifications available upon request.
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7. WHL is obligated by our Nondisclosure and Confidentiality policy and agreements with our customers. Reports will be verified but no additional information will be supplied by WHL without the prior written approval of the party that requested and ordered the analysis.
8. All conducted methods are established, and test plan approved, by the customer.
9. White Horse Laboratories is an ISO 9001:2015 and ANSI/ESD S20.20-2014 certified company.

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