



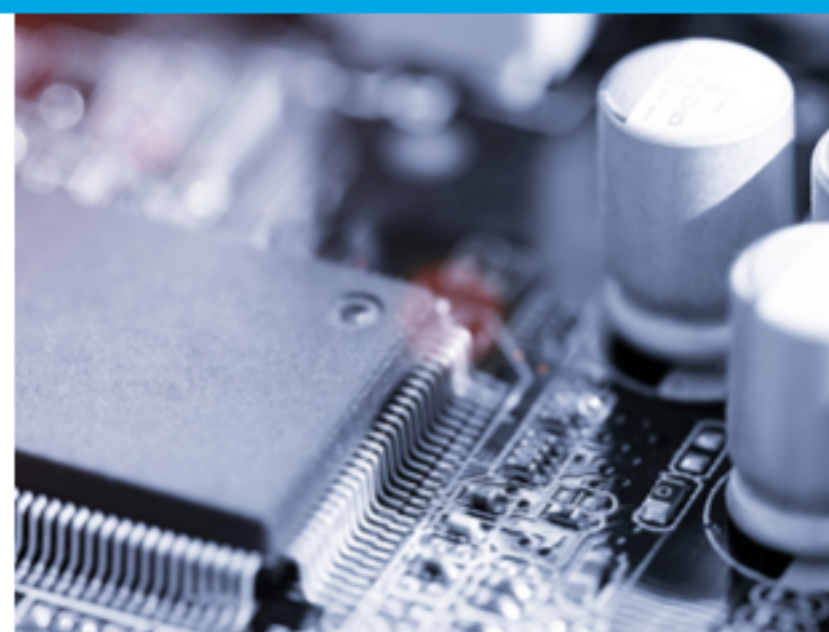
Final Product Change Notification

PCN number 2023030001

Issue Date:2023-03-06

Effective Date:2023-06-21

Dear *Customer*,
Here's your quality information concerning products our customers and partners purchased from WeEn.



Management Summary

This notification is to release new Leadframe source Yongzhi for packages TO220F & TO3PF.

Release Yongzhi as new Leadframe source of TO220F&TO3PF

Information Notification

Release new Leadframe source Yongzhi for packages TO220F & TO3PF.For the details,please refer to the report enclosed.

Why do we issue this Information Notification

Ensure supply chain security, and comply with business contingency management.

Identification of Affected Products

Please refer to the date code on the label or on the part surface.

Impact

Data Sheet Revision

No change.

Disposition of Old Products

The leadframe from those sources are qualified.

Production

Start on 21.Jun.2023.

Additional information

Affected products and sales history information: see attached file of Product List.

See attached file of Self-qualification Report.

Remarks

Should you not be able to obtain these documents, please contact your WeEn sales representative or the e-mail address mentioned below under Contact and Support.

Contact and Support

For all Quality Notification content inquiries, please contact your local WeEn Sales Support team.

For specific questions on this notice or the products affected please contact our specialist directly.

Name:Shawn Lin

Position:Quality Manager

e-mail address:Shawn.xf.lin@ween-semi.com

At WeEn Semiconductors we are constantly striving to improve our product and processes to ensure they reach the highest possible Quality Standards.

You have received this email because you are a designated contact or subscribed to WeEn Quality Notifications. WeEn shall not be held liable if this Notification is not correctly distributed within your organization.

This message has been automatically distributed. Please do not reply.

WeEn Semiconductors

www.ween-semi.com

PCN: 2023030001

Final Qualification Report:
New Leadframe Source of Yongzhi Qualification



WeEn
WeEn Semiconductors

Final Qualification Report

New Leadframe Source of Yongzhi



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1. Introduction

The qualification is to qualify the leadframes of packages TO220F&TO3PF from the source Yongzhi to ensure supply chain security. Yongzhi is an existing qualified leadframe supplier for other packages of WeEn.

2. Affected Types

Please see the product list attached in PCN.

3. Purposed Material

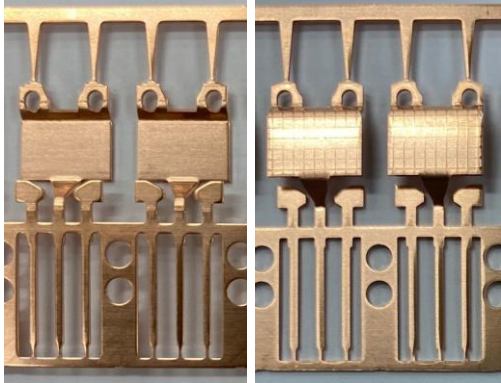
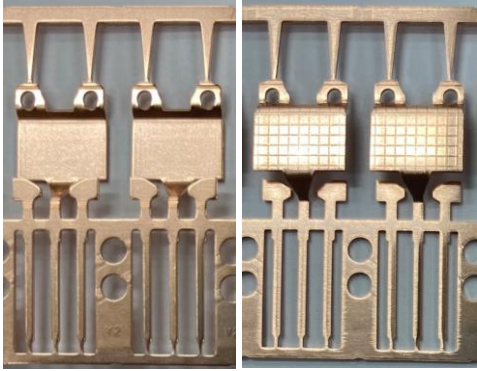


Keep the same chemical content.

4. Technology, Platform or Material Used

Material	Existing supplier	New source
TO3PF Leadframe	C19210/Hualong	C19210/Yongzhi
TO220F Leadframe	C19210/Hualong	C19210/Yongzhi

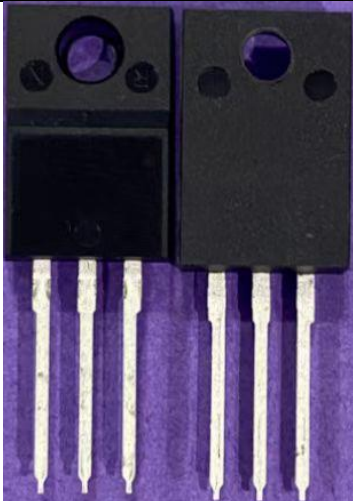

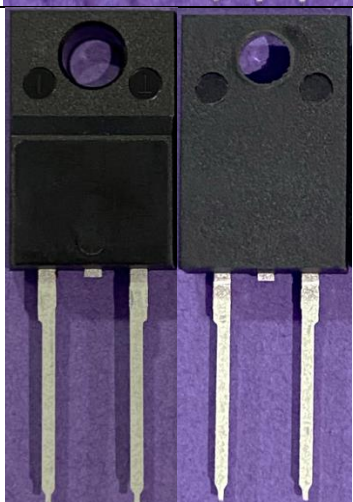

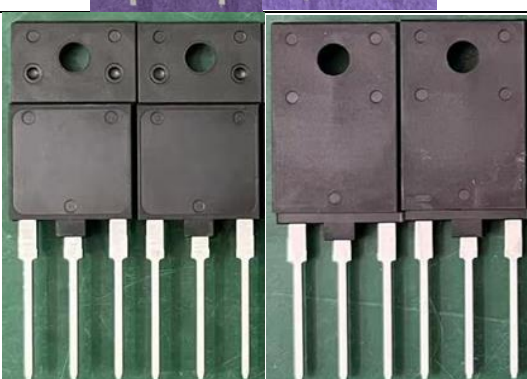
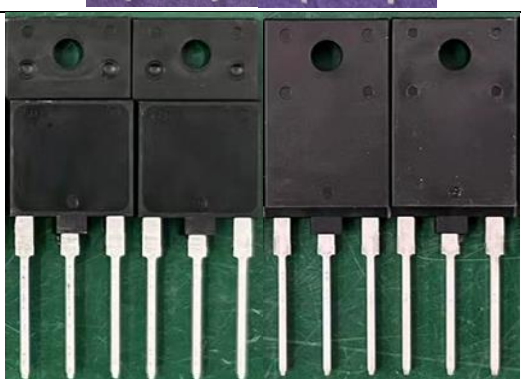
Remark: Raw material type C19210, no change.

5. Appearance Comparison

Package	Hualong Leadframe	Yongzhi Leadframe
TO220F		
TO3PF		

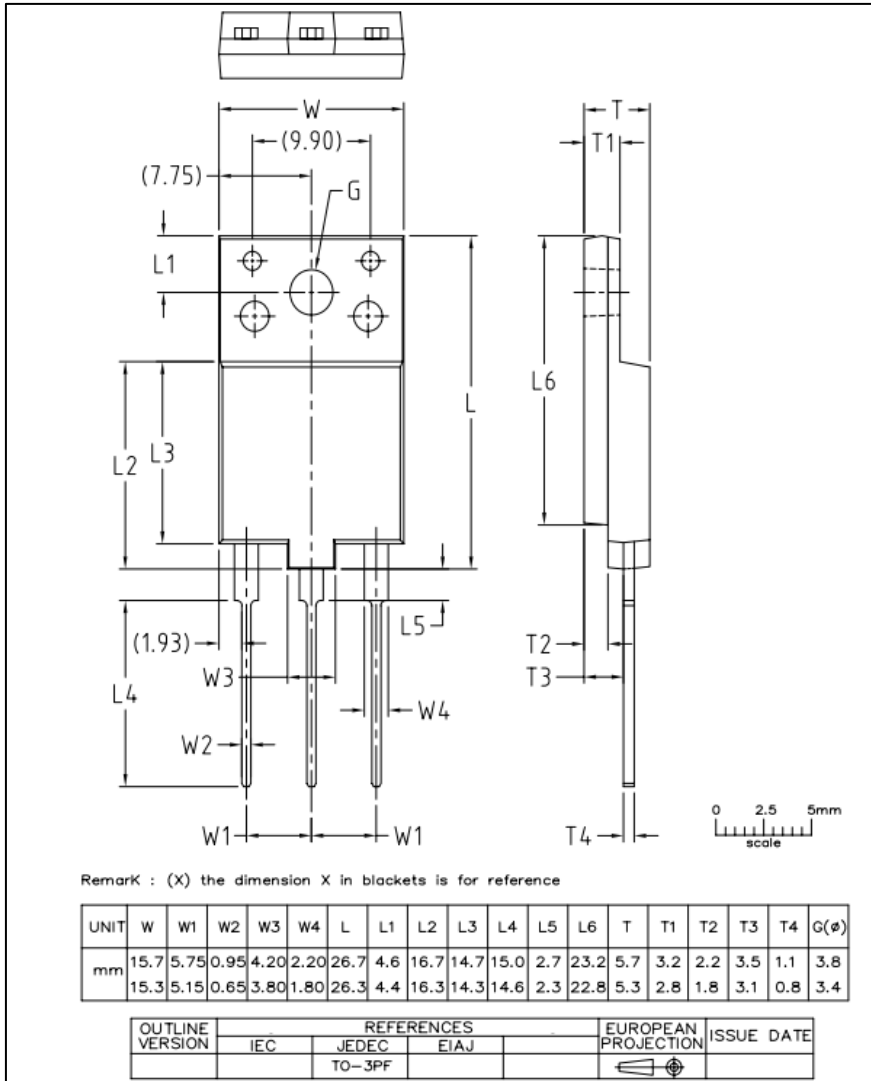
Remark: The same dimensions design.

6. Package Structure

Package	Hualong Leadframe	Yongzhi Leadframe
TO220F-3L		
TO220F-2L		
TO3PF		

Remark: POD in datasheet no change.

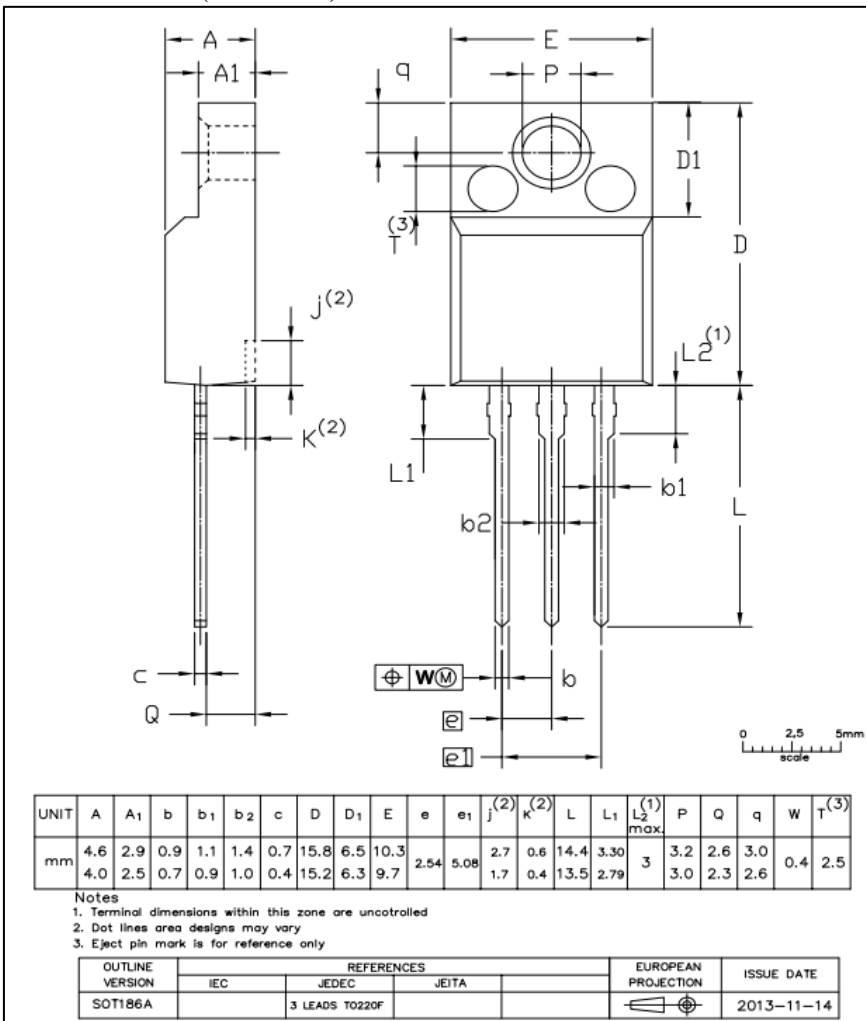
➤ TO3PF



Symb.	Spec.	Hualong	Yongzhi	Result
		Actual	Actual	
W	15.30-15.70	15.40	15.39	pass
W1	5.15-5.75	5.42	5.45	pass
W2	0.65-0.95	0.81	0.82	pass
W3	3.80-4.20	3.99	4.04	pass
W4	1.80-2.20	2.02	2.03	pass
L	26.30-26.70	26.45	26.52	pass
L1	4.40-4.60	4.51	4.51	pass
L2	16.30-16.70	16.33	16.35	pass
L3	14.30-14.70	14.34	14.34	pass
L4	14.60-15.00	14.81	14.79	pass
L5	2.30-2.70	2.52	2.52	pass
L6	22.80-23.20	22.96	23.03	pass

T	5.30-5.70	5.49	5.51	pass
T1	2.80-3.20	3.01	3.02	pass
T2	1.80-2.20	1.99	2.02	pass
T3	3.10-3.50	3.31	3.30	pass
T4	0.80-1.10	0.91	0.91	pass
G(Φ)	3.40-3.80	3.59	3.73	pass

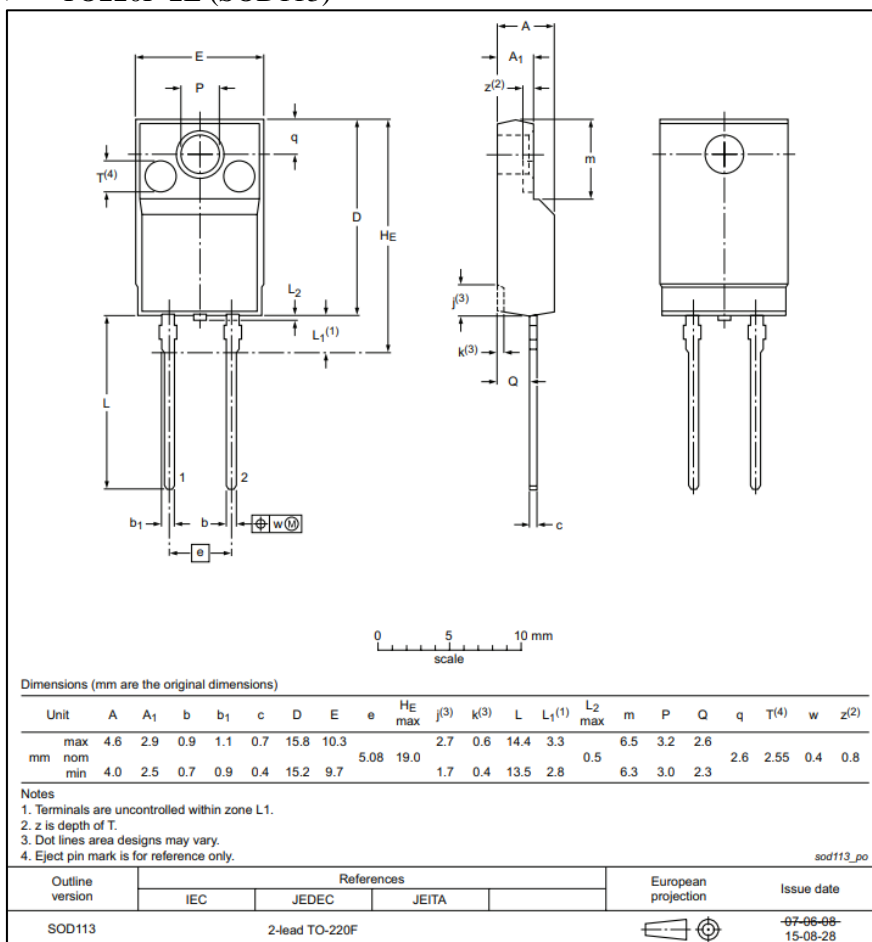
➤ TO220F-3L(SOT186A)



Symb.	Spec.	Hualong	Yongzhi	Result
A1	2.79~3.3	3.11	3.16	Pass
A2	15.2~15.8	15.40	15.41	Pass
A4	6.3~6.5	6.39	6.37	Pass
b	0.7~0.9	0.73	0.74	Pass
b1	0.9~1.1	1.01	1.05	Pass
b2	1~1.4	1.06	1.06	Pass
c	0.4~0.7	0.51	0.49	Pass

D	9.7~10.3	10.09	10.16	Pass
e	2.54	2.54	2.55	Pass
E	4~4.6	4.48	4.49	Pass
E1	2.5~2.9	2.82	2.85	Pass
F	2.6~3	2.81	2.65	Pass
L	--	10.58	10.47	Pass
L+A1	13.5~14.4	13.71	13.61	Pass
ΦP	3~3.2	3.05	3.08	Pass
Q	2.3~2.6	2.55	2.56	Pass
T	2.5	1.89	1.96	Pass
L2	3	2.72	2.95	Pass

➤ TO220F-2L (SOD113)



Symb.	Spec.	Hualong (TO220F-2L)	Yongzhi (TO220F-2L)	Result
A1	2.79~3.3	3.10	3.15	Pass
A2	15.2~15.8	15.46	15.43	Pass
A4	6.3~6.5	6.40	6.37	Pass
b	0.7~0.9	0.73	0.74	Pass
b1	0.9~1.1	1.01	1.05	Pass

c	0.4~0.7	0.54	0.49	Pass
D	9.7~10.3	10.11	10.15	Pass
e	5.08	5.08	5.08	Pass
E	4~4.6	4.50	4.49	Pass
E1	2.5~2.9	2.82	2.85	Pass
F	2.6~3	2.78	2.67	Pass
L	--	10.56	10.46	Pass
L+A1	13.5~14.4	13.68	13.59	Pass
ΦP	3~3.2	3.05	3.06	Pass
Q	2.3~2.6	2.54	2.54	Pass
T	2.5	1.88	1.95	Pass
L1	0.5	0.43	0.46	Pass
L2	3	2.73	2.96	Pass


7. Test Vehicles

Five parts BYV30JT-600P & WG50N65DHJ & WNSC2D20650CJ & BYQ28X-200 & BYV29X-600 were chosen to be qualified.

8. Life Test Result

Lots of BYV30JT-600P & WG50N65DHJ & WNSC2D20650CJ & BYQ28X-200 & BYV29X-600 were chosen for reliability test.

Test items	Test condition	Sample size	Result
Temperature Cycle (TMCL)	1000 cycles at -65°C to 150°C.	BYV30JT-600P 80units WG50N65DHJ 80units WNSC2D20650CJ 80units BYQ28X-200 80units BYV29X-600 80units	Pass
Unbiased Highly Accelerated Stress Test (UHST)	96 hours at Ta = 130°C, RH = 85%	BYV30JT-600P 80units WG50N65DHJ 80units WNSC2D20650CJ 80units BYQ28X-200 80units BYV29X-600 80units	Pass
High Temperature, Humidity & Reverse Bias (THBS)	1000 hours at Tj = 85°C, RH = 85%, Reverse Bias.	BYV30JT-600P 80units WG50N65DHJ 80units WNSC2D20650CJ 80units BYQ28X-200 80units BYV29X-600 80units	Pass
High Temperature Storage (HTSL)	1000 hours at Ta = 150°C or Ta=175°C	BYV30JT-600P 80units WG50N65DHJ 80units WNSC2D20650CJ 80units BYQ28X-200 80units BYV29X-600 80units	Pass
Thermal Fatigue (TFAT)	10000 cycles, Tj = 25°C to 125°C, DTj ≥ 80°C.	BYV30JT-600P 80units WG50N65DHJ 80units WNSC2D20650CJ 80units BYQ28X-200 80units BYV29X-600 80units	Pass

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TFAT Terminal Strength	MIL-STD-750: Method 2036	BYV30JT-600P 10units BYQ28X-200 10units	Pass
Resistance to Solder Heat	JESD22 B-106 (THD)	BYV30JT-600P 10units BYQ28X-200 10units	Pass
Solderability with Aging 16 hour dry bake	JESD22 B-102	BYV30JT-600P 10units BYQ28X-200 10units	Pass

9. Conclusions

Based on the qualification result, TO220F&TO3PF leadframe from Yongzhi can meet quality and reliability requirements, which can be released for mass production.

10. Document Revision Sheet

R E V I S I O N S H E E T			
DATE	REV	DESCRIPTION	AUTHOR
2023/2/27	01	Initial release	Huifeng Zhu