

# Change Description / Purpose

**Confidential**

- (1) PHOTO side: Change of inner frame shape ..... (to unify the shape of inner frame)
- (2) PHOTO side: Change of wire bonding position at bonding post  
 ..... (to unify the bonding position)
- (3) LED side: Change of wire bonding method ..... (to unify the bonding method)

Product Type	Product Name	(PHOTO) Change of shape of inner frame	(PHOTO) Change of wire bonding position	(LED) Change of wire bonding method
TRIAC	TLP265J	●	—	●
	TLP266J	●	●	●
	TLP267J	●	●	—
	TLP268J	●	●	—
Photorelay	TLP175A	●	—	●
Photovoltaic	TLP3905	●	—	—
	TLP3906	●	—	—

# Change details

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		TLP265J	TLP266J	TLP267J	TLP268J	TLP175A	TLP3905	TLP3906
(1) PHOTO side: Shape of inner frame	Current							
	Change							
(3) LED side Wire bonding method	Current							
	Change							

Applicable product : TLP265J / 175A

		Change	Description	Risk by change	Risk verification
5 M 1 E	Man	No	No change in the operators.	–	–
	Machine	No	No change in the equipment used.	–	–
	Measure	No	No change in the equipment used.	–	–
	Method	Yes	(LED) Wire bonding method is changed.	Variation in the bonding strength.	<ul style="list-style-type: none"> <li>• Initial characteristics check</li> <li>• Reliability check</li> </ul>
	Material	Yes	(PHOTO) The shape of inner frame is changed.	Variation in the bonding strength	<ul style="list-style-type: none"> <li>• Initial characteristics check</li> <li>• Reliability check</li> </ul>
	Environment	No	No change in the working environment.	–	–

## Applicable product : TLP266J

		Change	Description	Risk by change	Risk verification
5 M 1 E	Man	No	No change in the operators.	-	-
	Machine	No	No change in the equipment used.	-	-
	Measure	No	No change in the equipment used.	-	-
	Method	Yes	(LED) Wire bonding method is changed. (PHOTO) Wire bonding position is changed.	Variation in the bonding strength.	<ul style="list-style-type: none"> <li>Initial characteristics check</li> <li>Reliability check</li> </ul>
	Material	Yes	(PHOTO) The shape of inner frame is changed. (PHOTO) The length of bonding wire is changed.	Variation in the bonding strength	<ul style="list-style-type: none"> <li>Initial characteristics check</li> <li>Reliability check</li> </ul>
	Environment	No	No change in the working environment.	-	-

Applicable product : TLP267J / 268J

		Change	Description	Risk by change	Risk verification
5 M 1 E	Man	No	No change in the operators.	-	-
	Machine	No	No change in the equipment used.	-	-
	Measure	No	No change in the equipment used.	-	-
	Method	Yes	(PHOTO) Wire bonding position is changed.	Variation in the bonding strength.	<ul style="list-style-type: none"> <li>Initial characteristics check</li> <li>Reliability check</li> </ul>
	Material	Yes	(PHOTO) The shape of inner frame is changed. (PHOTO) The length of bonding wire is changed.	Variation in the bonding strength	<ul style="list-style-type: none"> <li>Initial characteristics check</li> <li>Reliability check</li> </ul>
	Environment	No	No change in the working environment.	-	-

# Assembly process 5 M 1 E

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Applicable product : TLP3905 / 3906

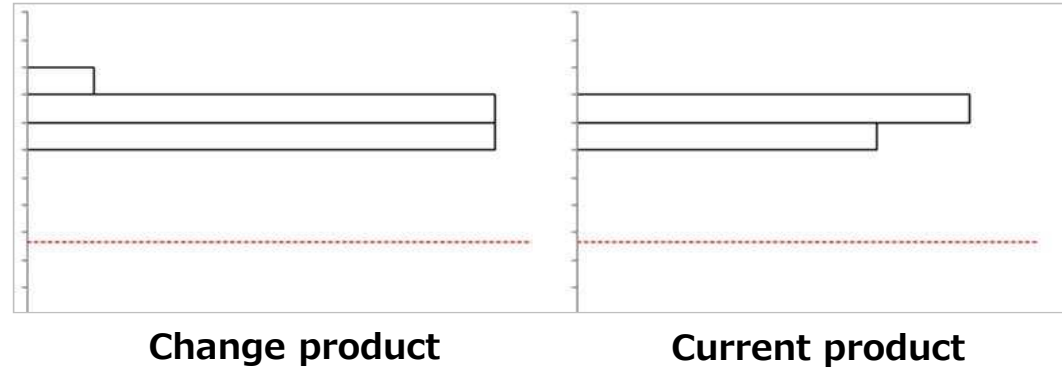
		Change	Description	Risk by change	Risk verification
5 M 1 E	Man	No	No change in the operators.	-	-
	Machine	No	No change in the equipment used.	-	-
	Measure	No	No change in the equipment used.	-	-
	Method	No	No change in the procedures.	-	-
	Material	Yes	(PHOTO) The shape of inner frame is changed.	Variation in the bonding strength	<ul style="list-style-type: none"> <li>Initial characteristics check</li> <li>Reliability check</li> </ul>
	Environment	No	No change in the working environment.	-	-

# Wire bonding strength

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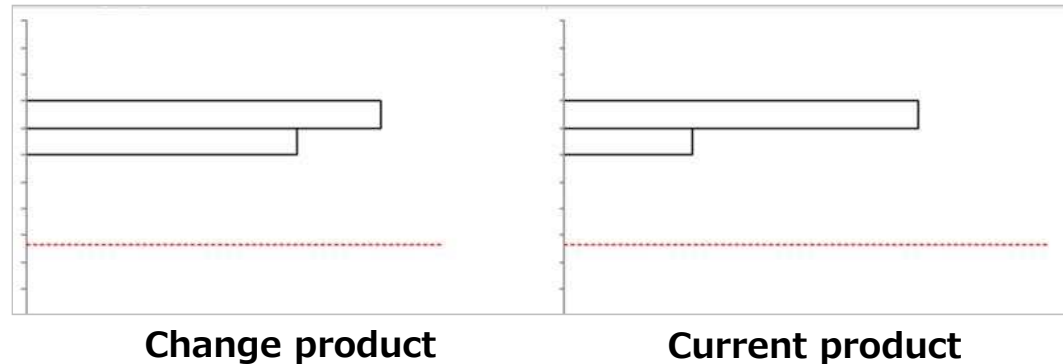
Test sample : TLP265J, Photo-side (representative)

Wire pull strength (n=30pcs)



Test sample : TLP266J, Photo-side (representative)

Wire pull strength (n=30pcs)



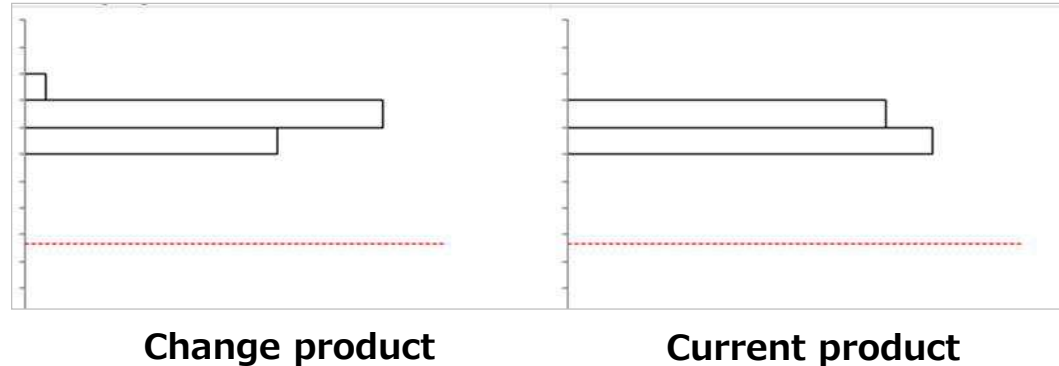
There was no change in the bonding strength, comparing to the current product.

# Wire bonding strength

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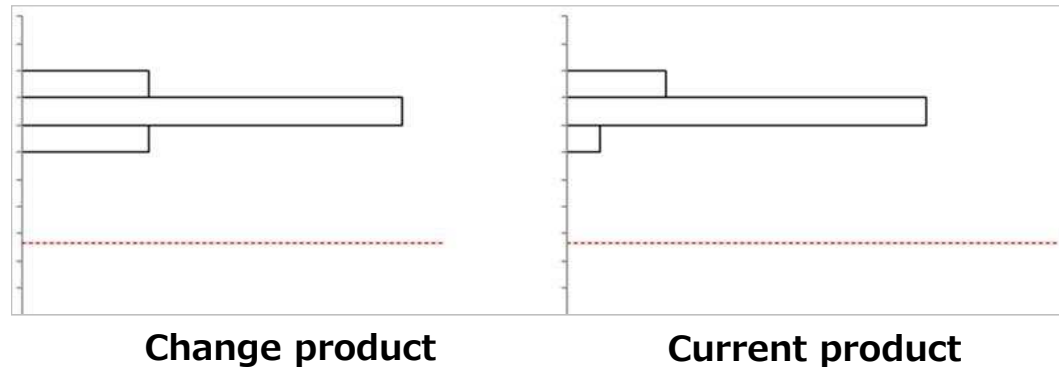
Test sample : TLP175A, Photo-side (representative)

Wire pull strength (n=30pcs)



Test sample : TLP3905, Photo-side (representative)

Wire pull strength (n=30pcs)



There was no change in the bonding strength, comparing to the current product.

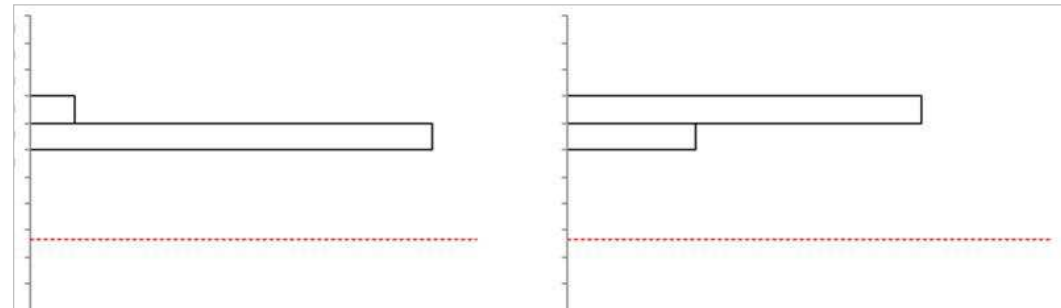


# Wire bonding strength

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Test sample : TLP265J, LED-side (representative)

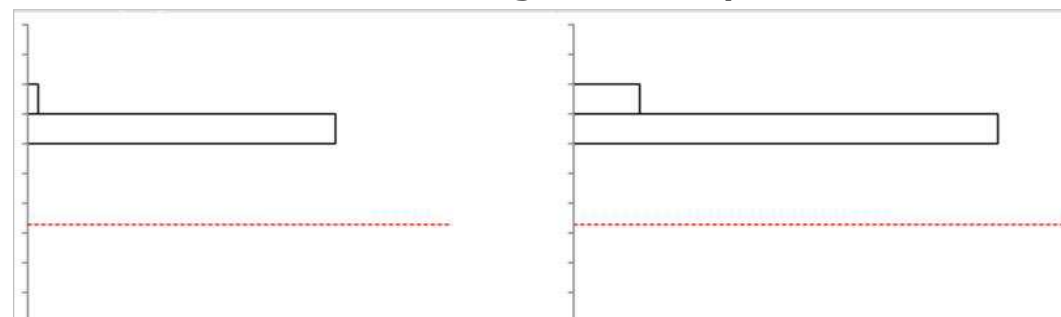
Wire pull strength (n=30pcs)



Change product

Current product

Ball shear strength (n=30pcs)



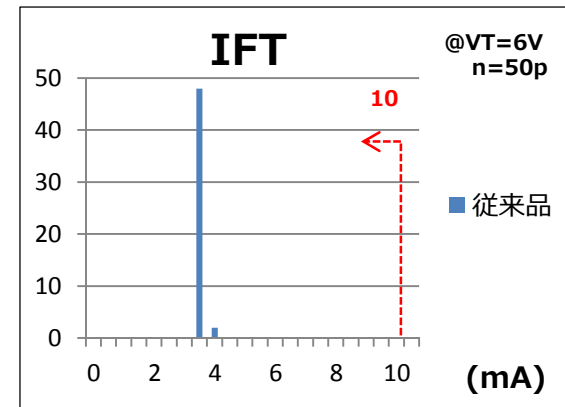
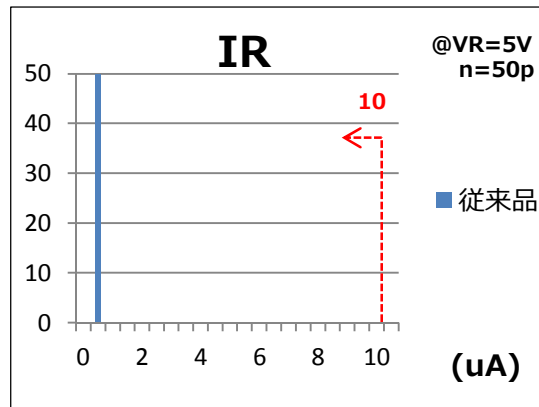
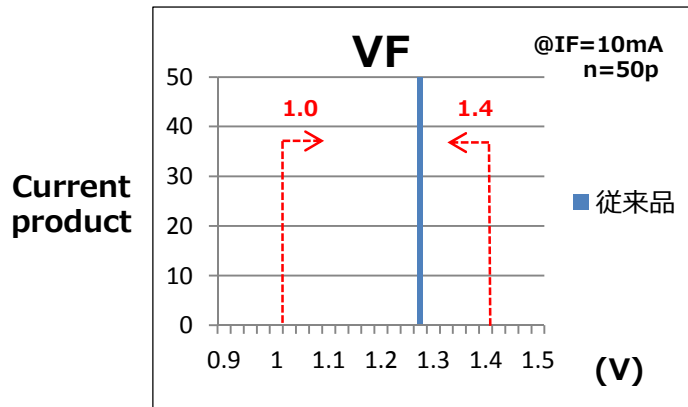
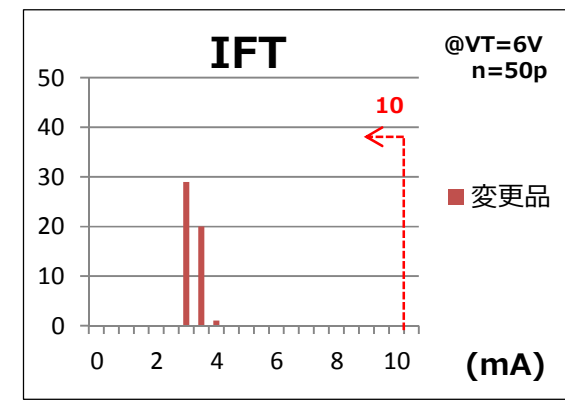
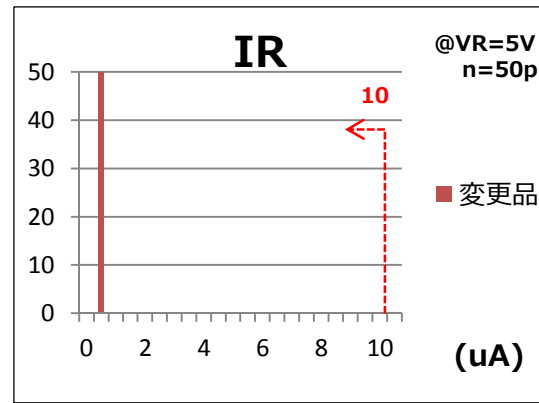
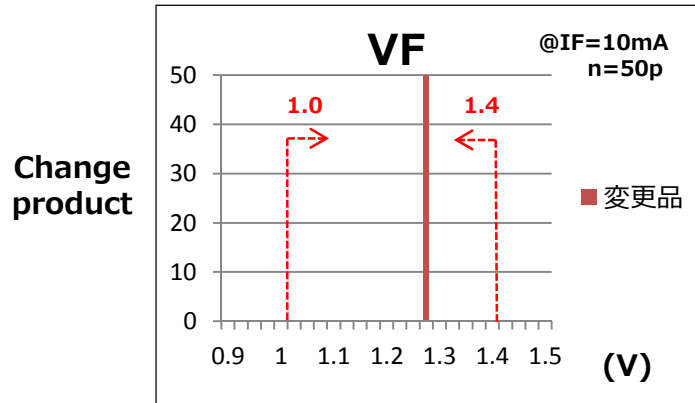
Change product

Current product

There was no change in the bonding strength, comparing to the current product.

# TLP265J Main characteristics

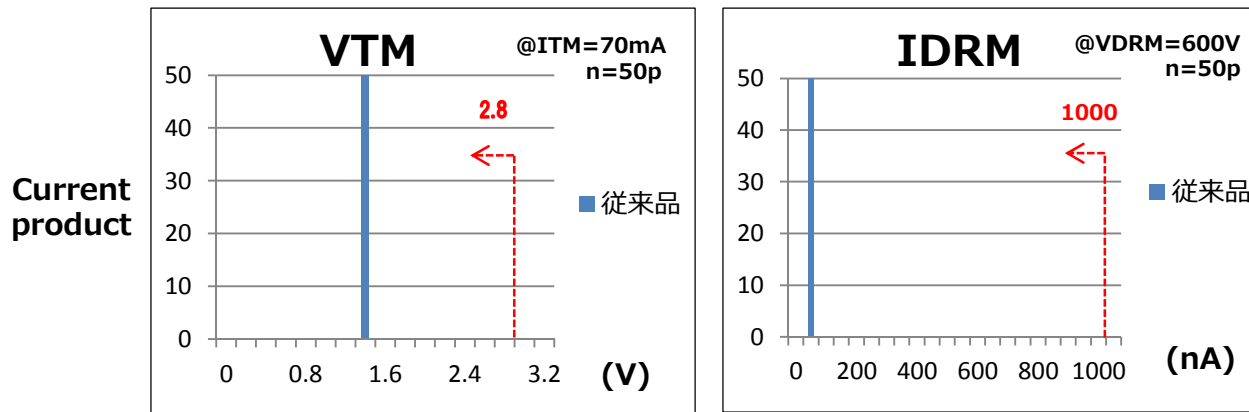
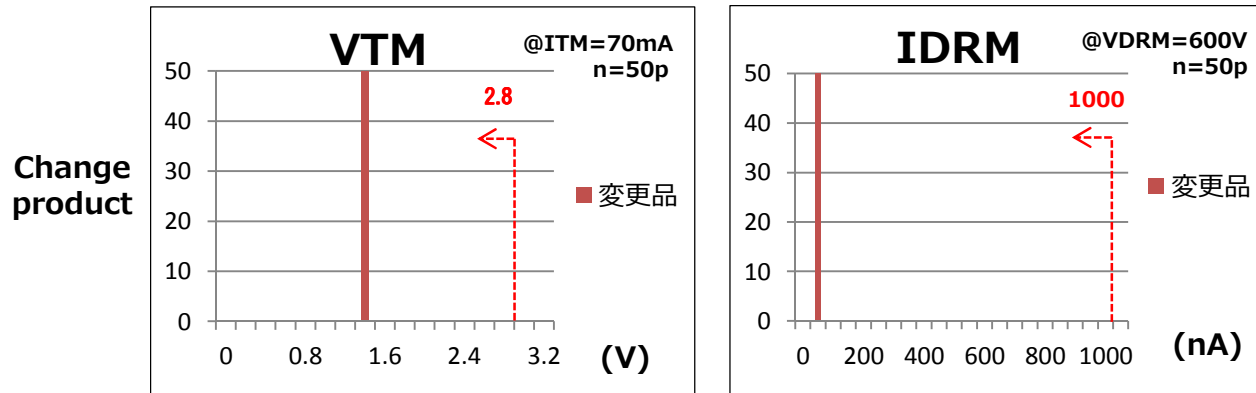
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There was no change in the characteristics, comparing to the current product.

# TLP265J Main characteristics

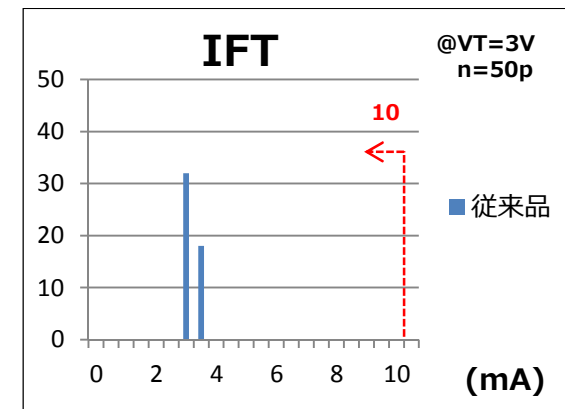
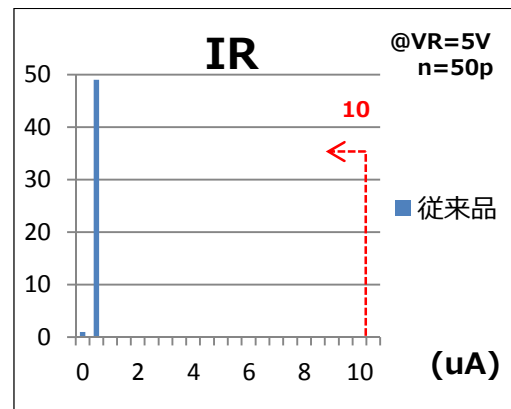
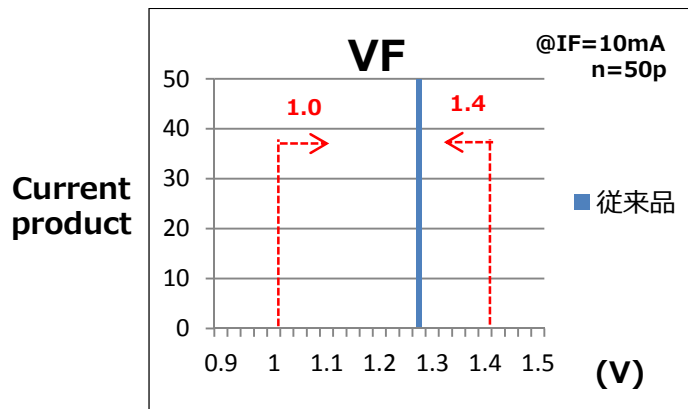
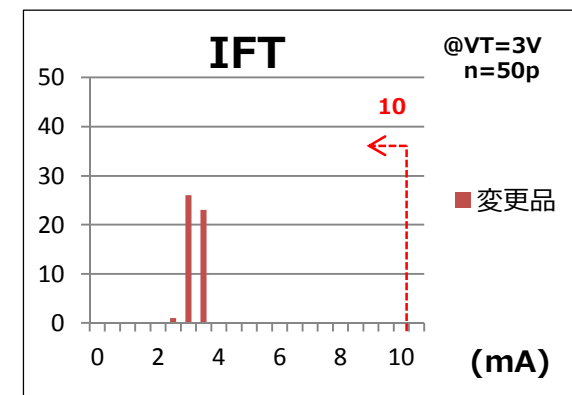
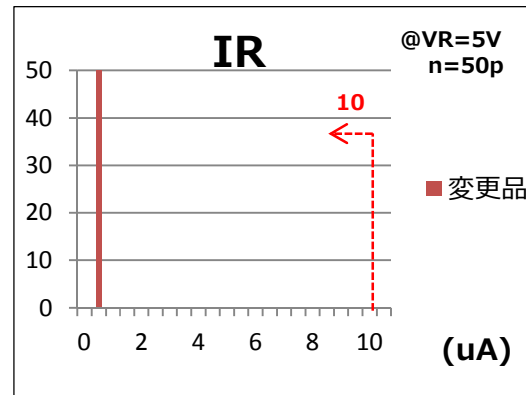
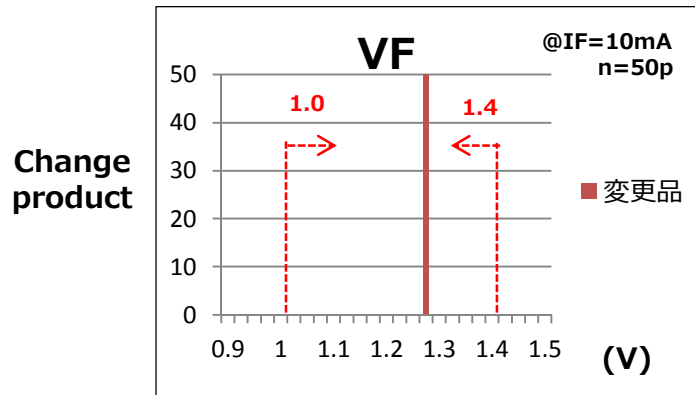
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There was no change in the characteristics, comparing to the current product.

# TLP266J Main characteristics

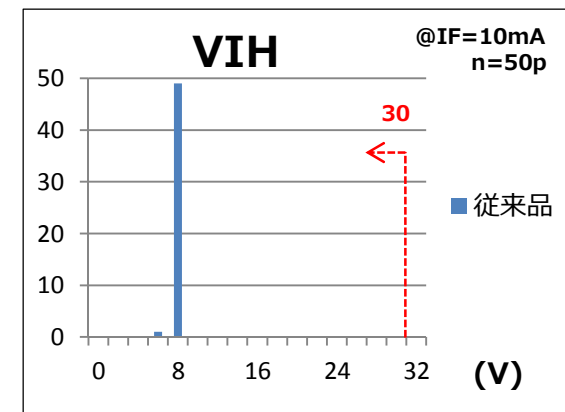
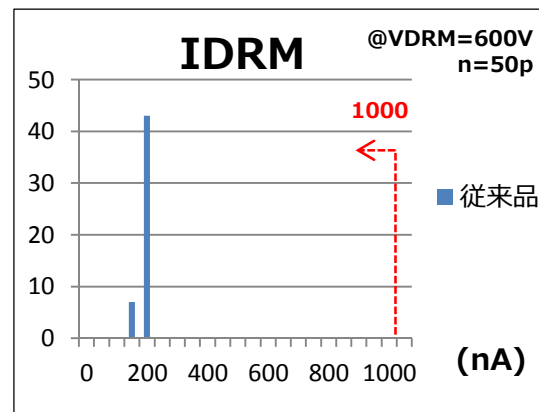
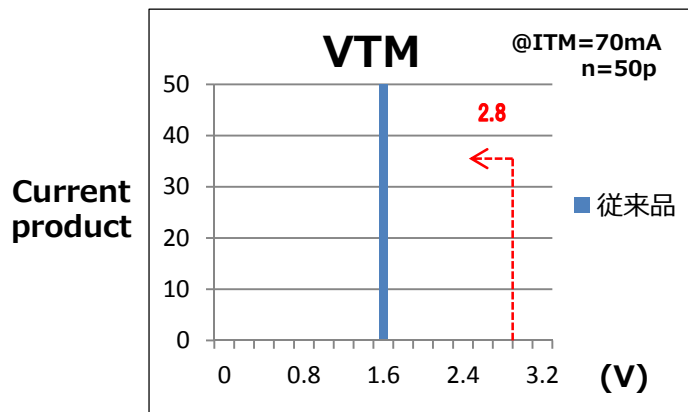
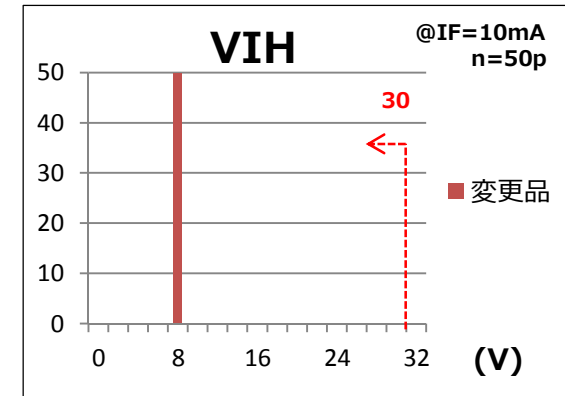
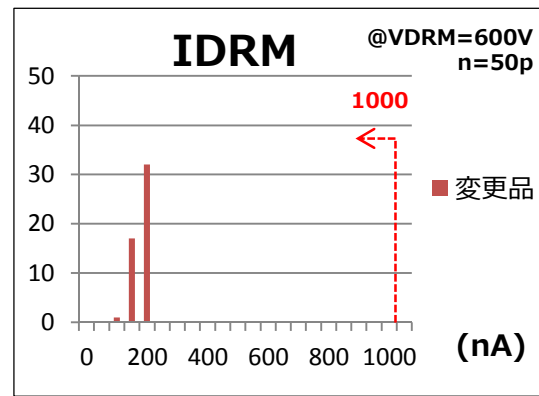
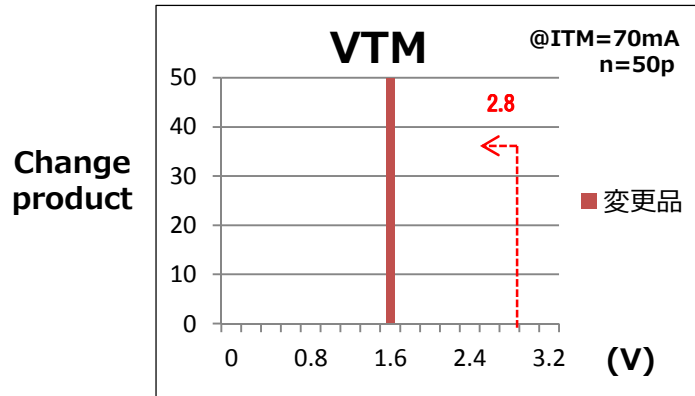
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There was no change in the characteristics, comparing to the current product.

# TLP266J Main characteristics

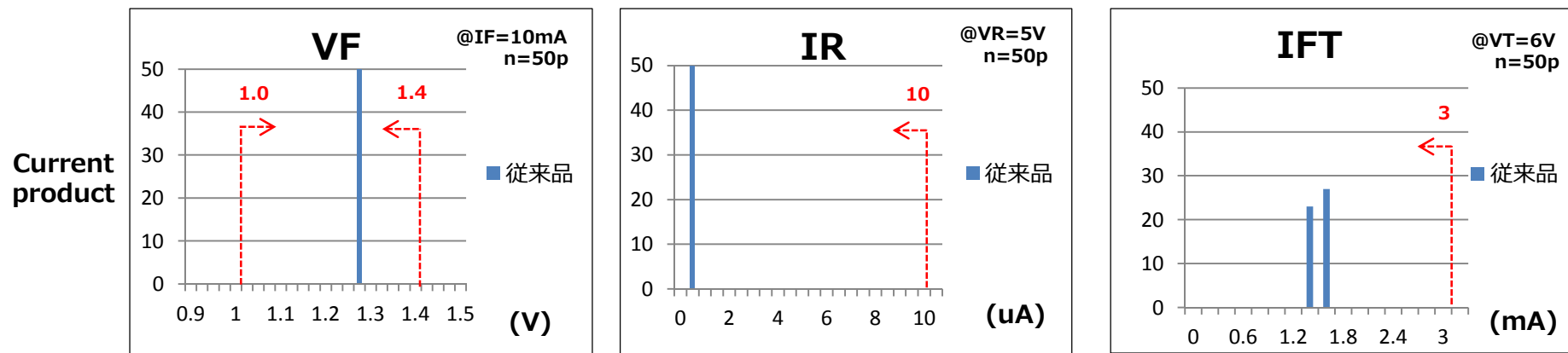
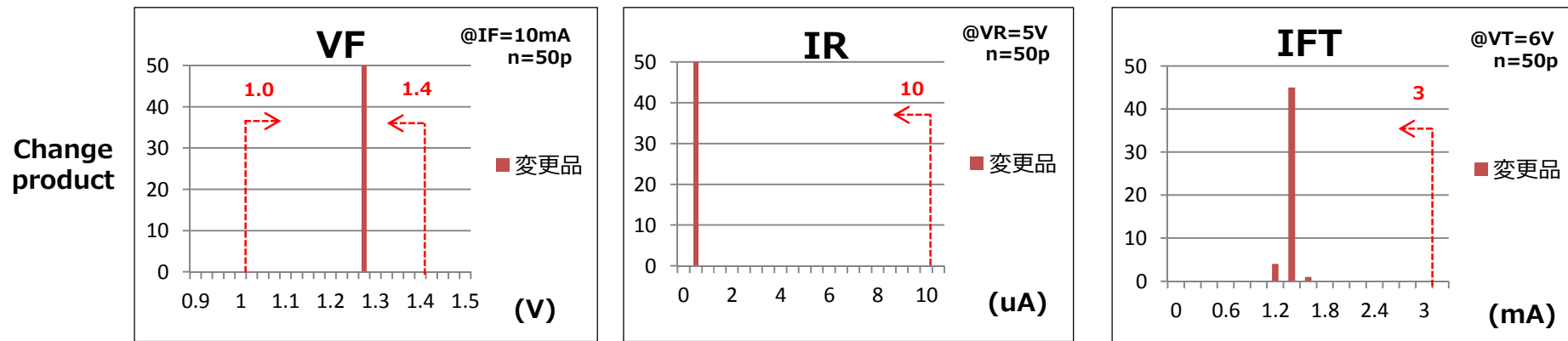
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There was no change in the characteristics, comparing to the current product.

# TLP267J Main characteristics

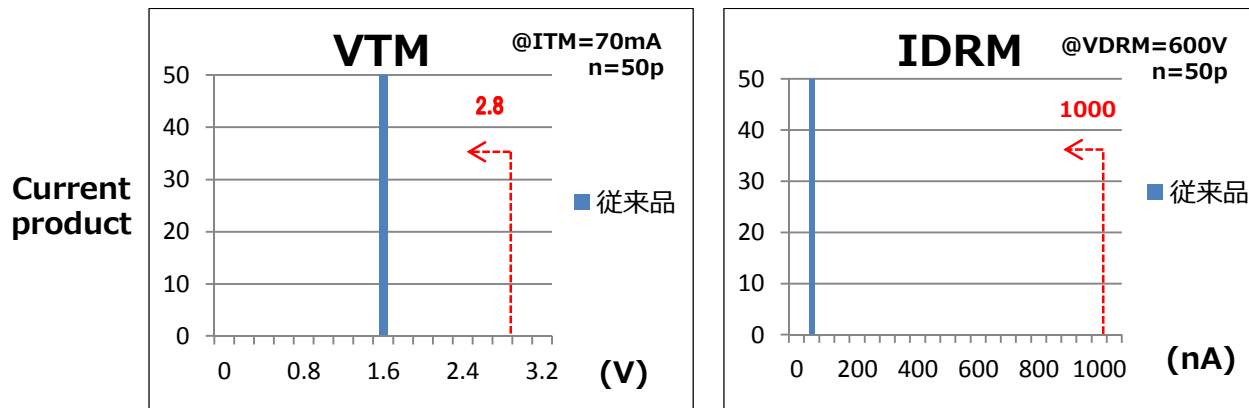
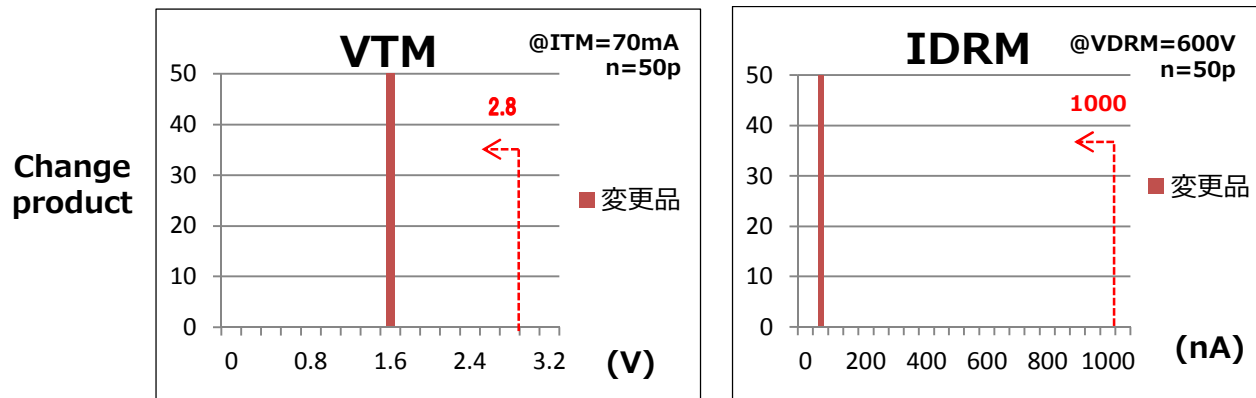
Confidential



There was no change in the characteristics, comparing to the current product.

# TLP267J Main characteristics

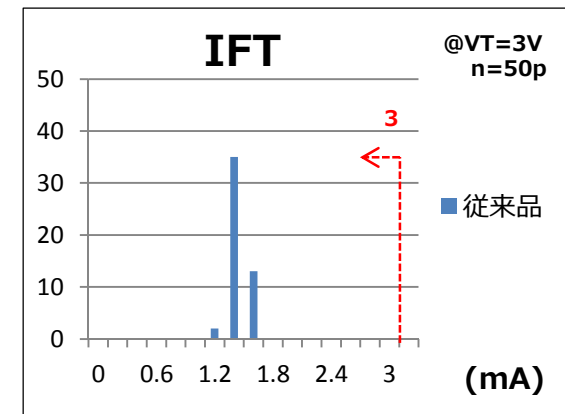
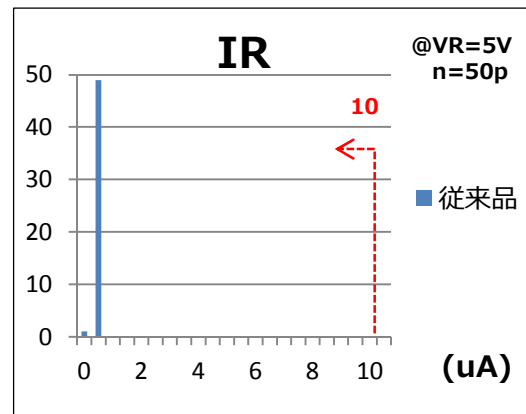
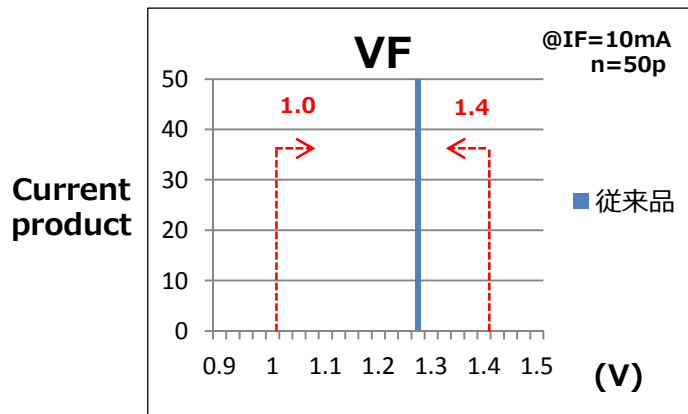
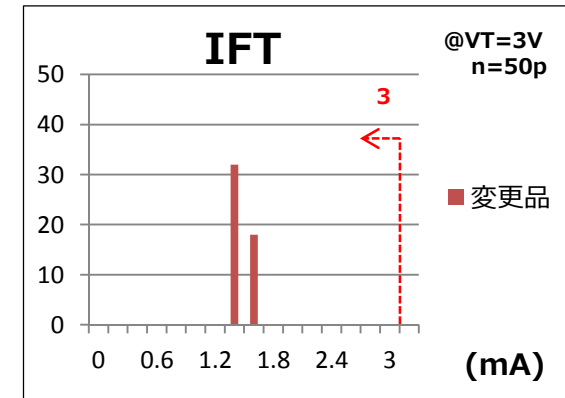
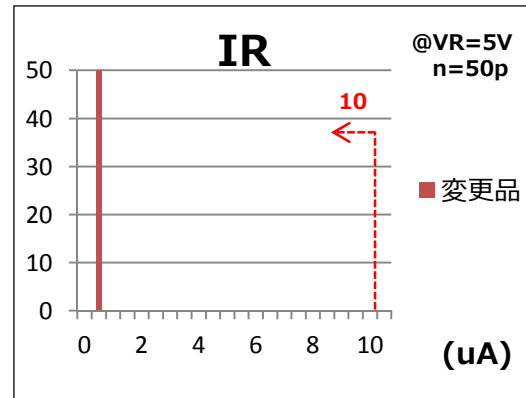
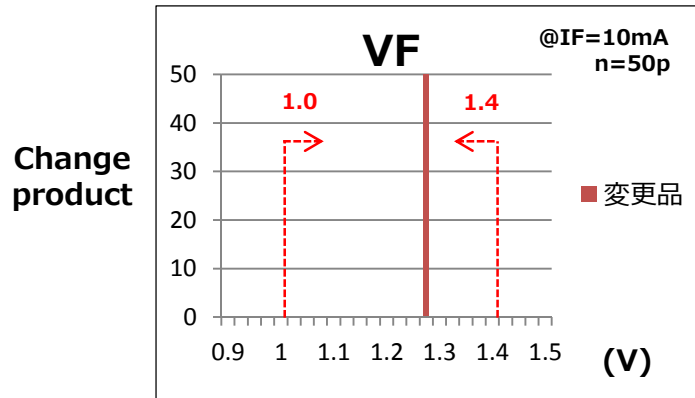
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There was no change in the characteristics, comparing to the current product.

# TLP268J Main characteristics

Confidential

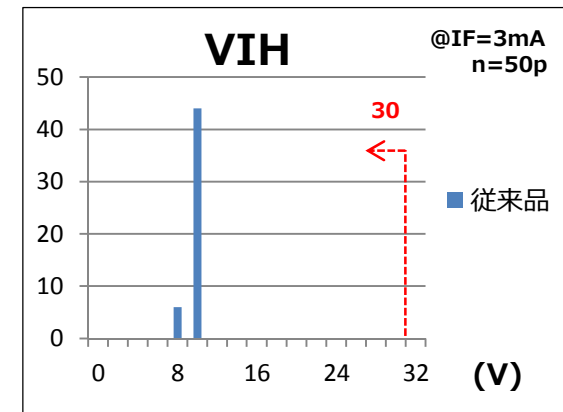
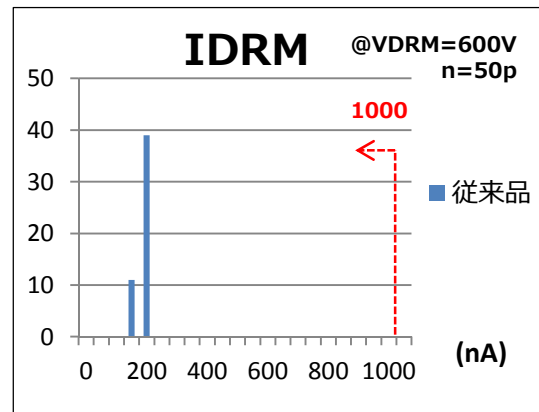
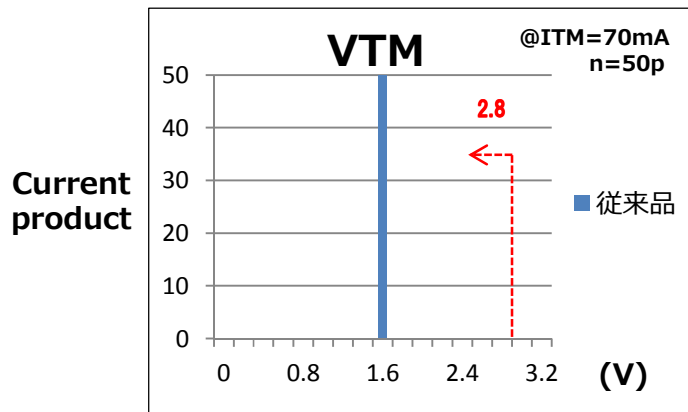
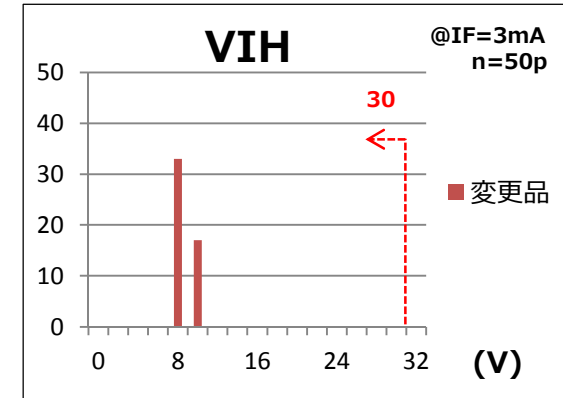
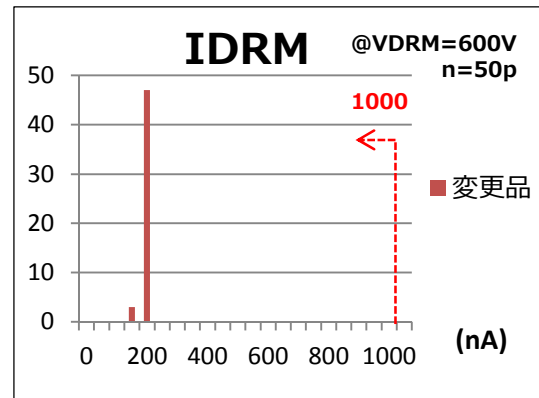
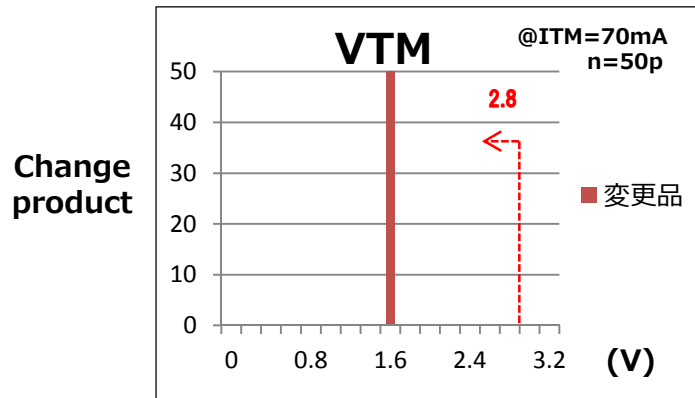


There was no change in the characteristics, comparing to the current product.



# TLP268J Main characteristics

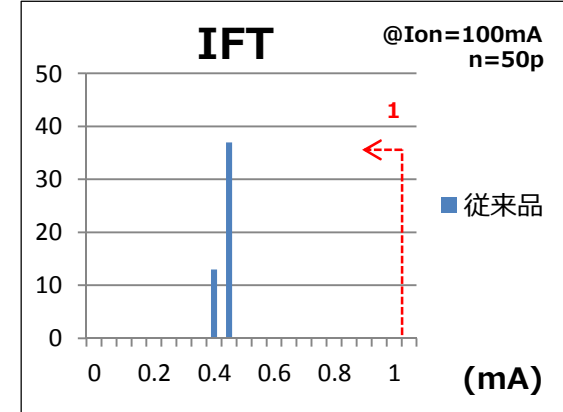
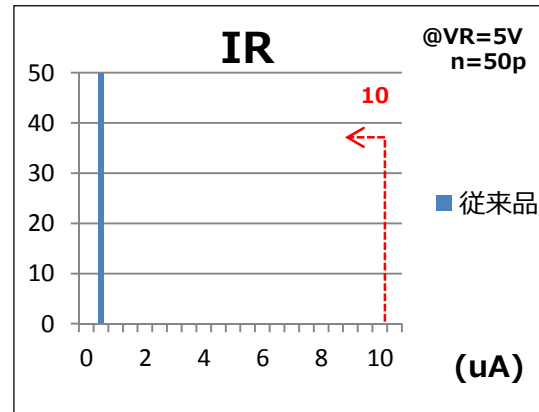
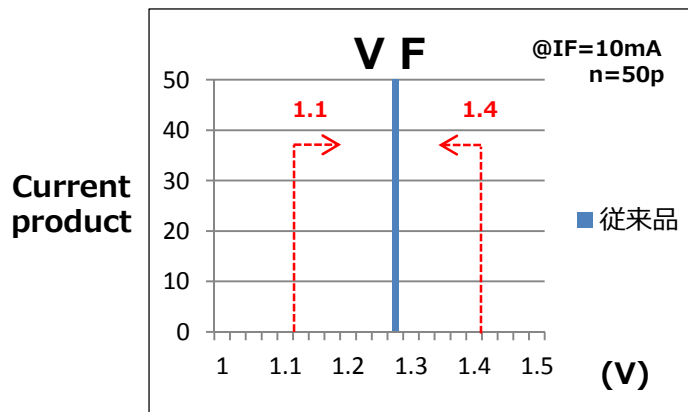
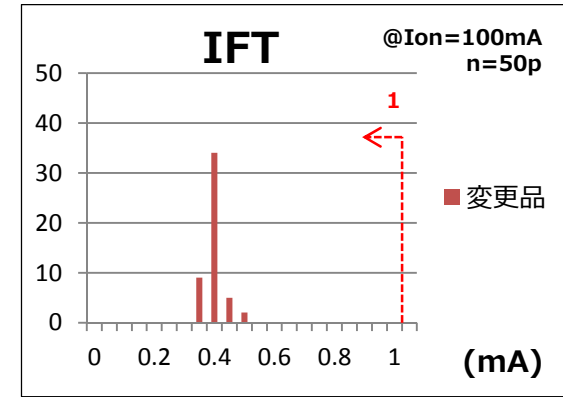
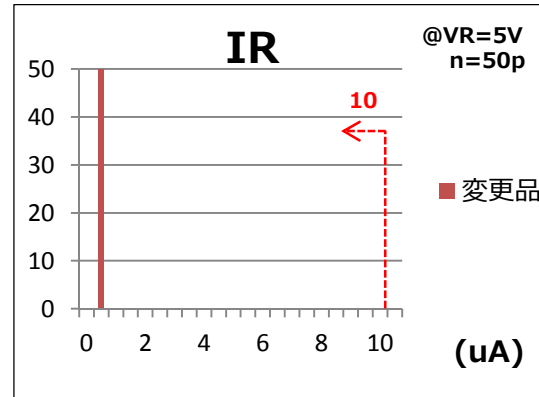
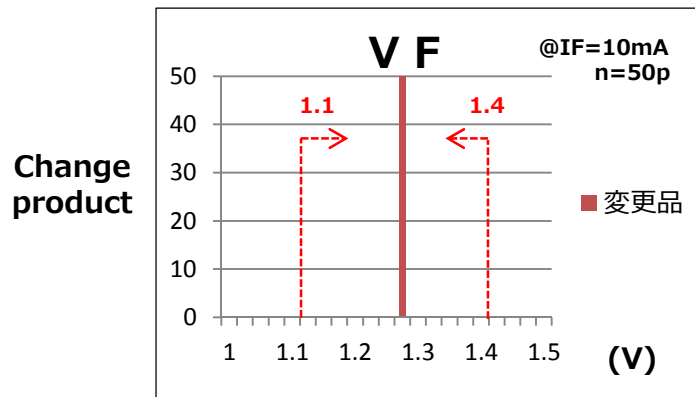
Confidential



There was no change in the characteristics, comparing to the current product.

# TLP175A Main characteristics

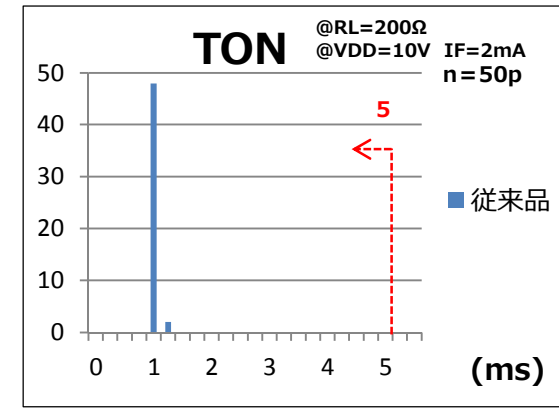
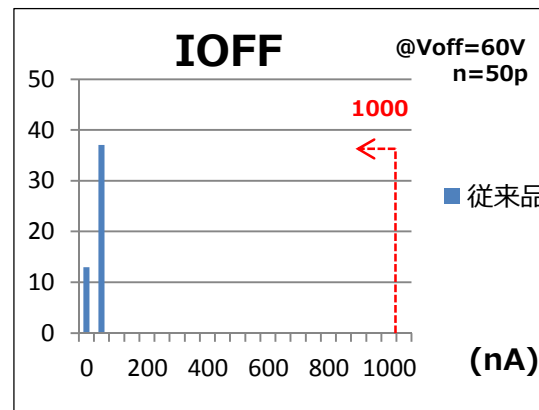
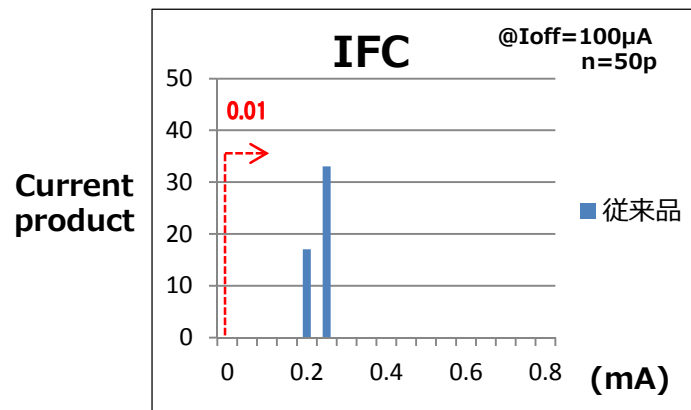
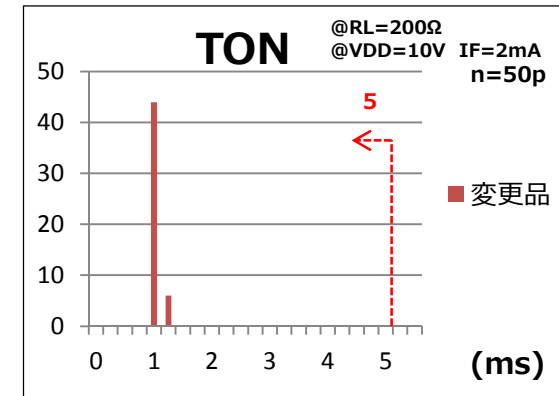
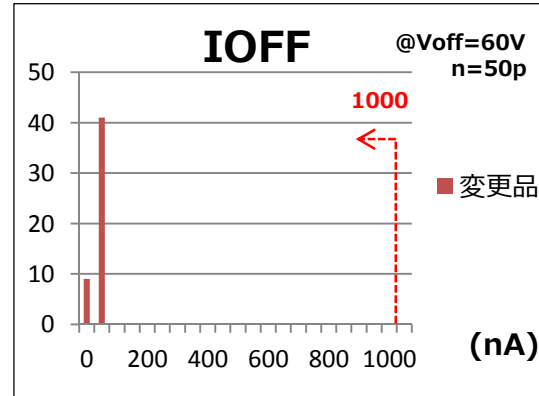
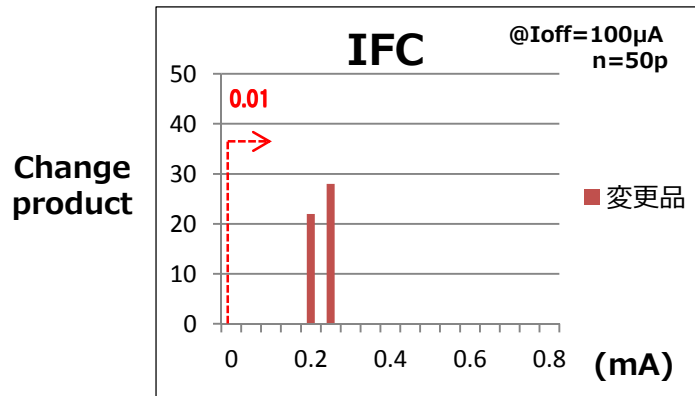
Confidential



There was no change in the characteristics, comparing to the current product.

# TLP175A Main characteristics

Confidential

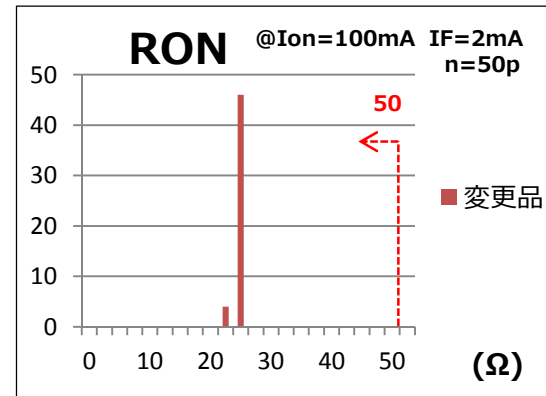
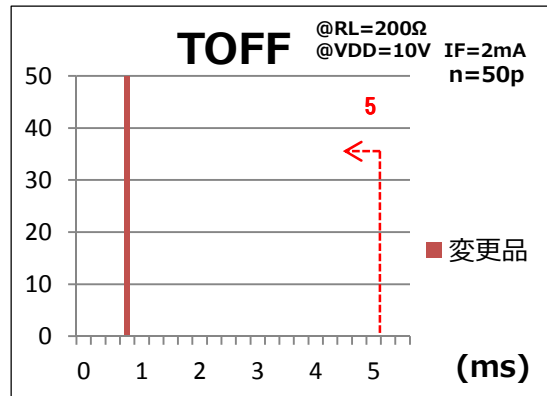


There was no change in the characteristics, comparing to the current product.

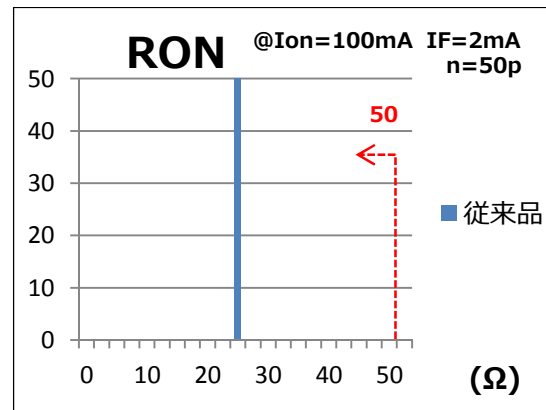
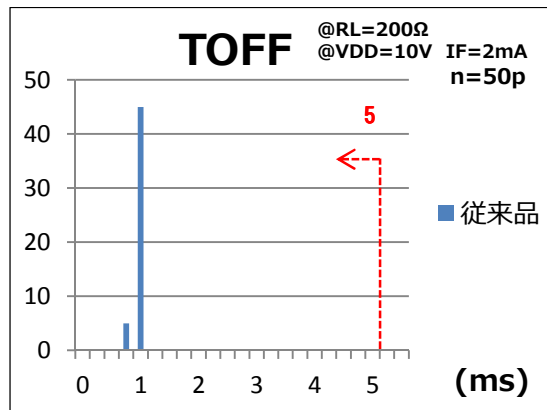
# TLP175A Main characteristics

Confidential

Change product



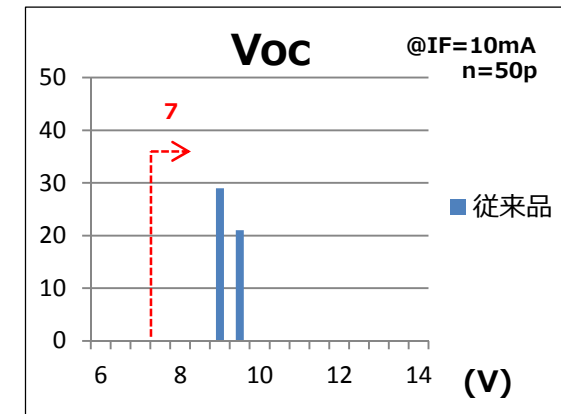
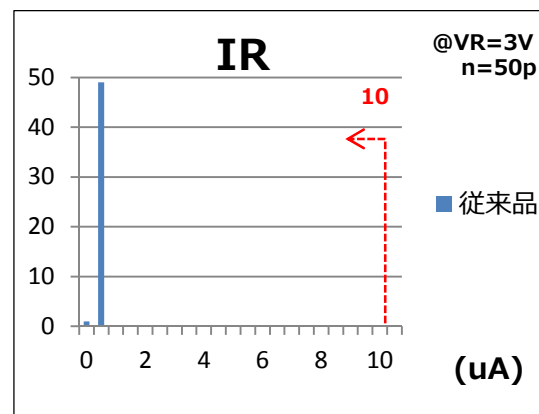
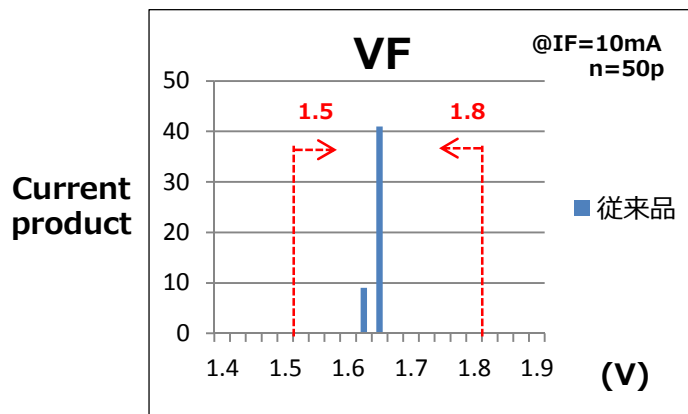
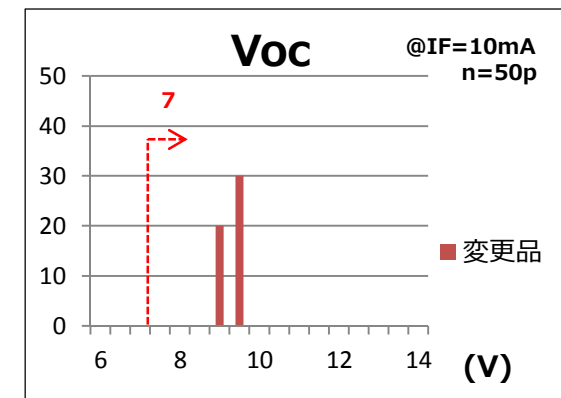
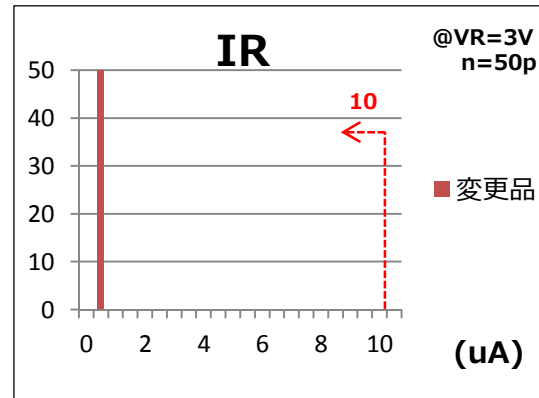
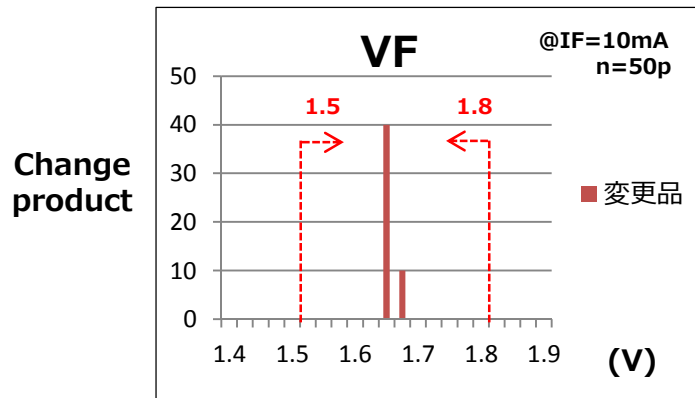
Current product



There was no change in the characteristics, comparing to the current product.

# TLP3905 Main characteristics

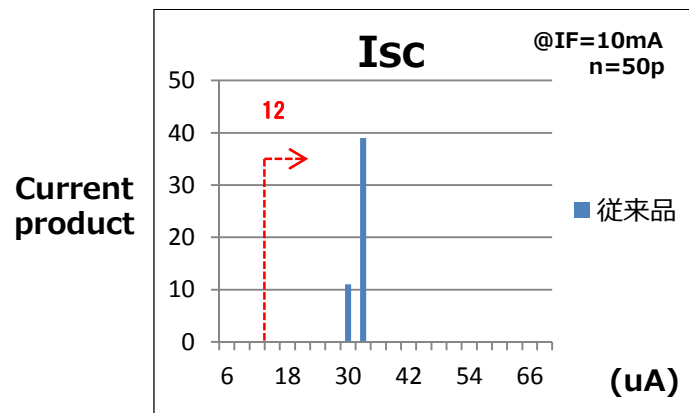
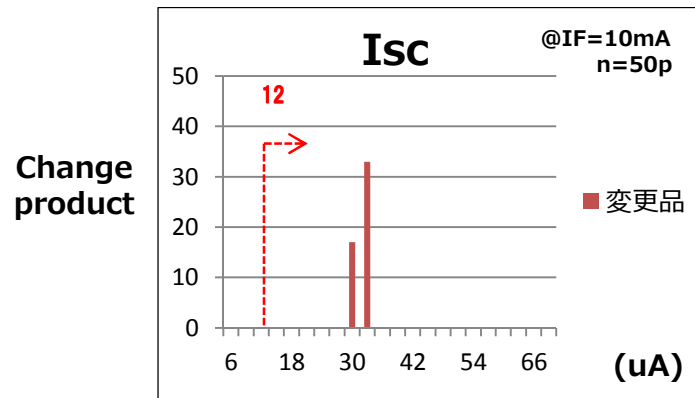
Confidential



There was no change in the characteristics, comparing to the current product.

# TLP3905 Main characteristics

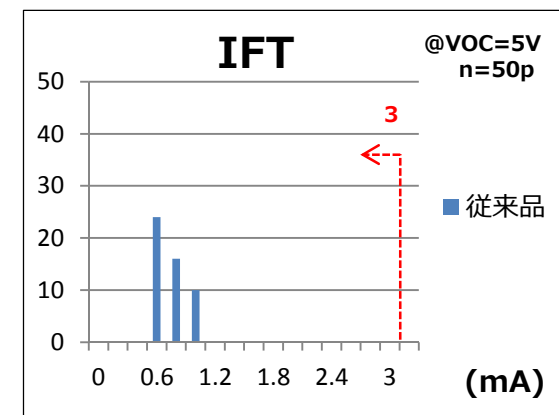
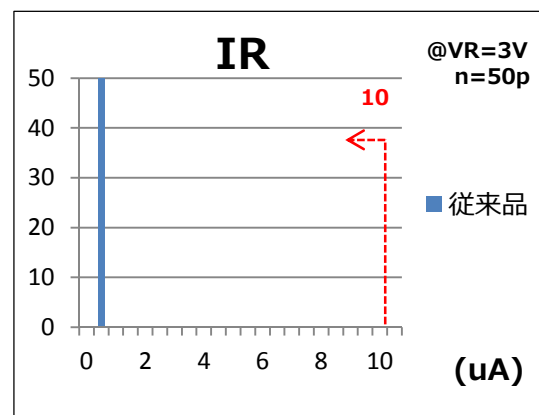
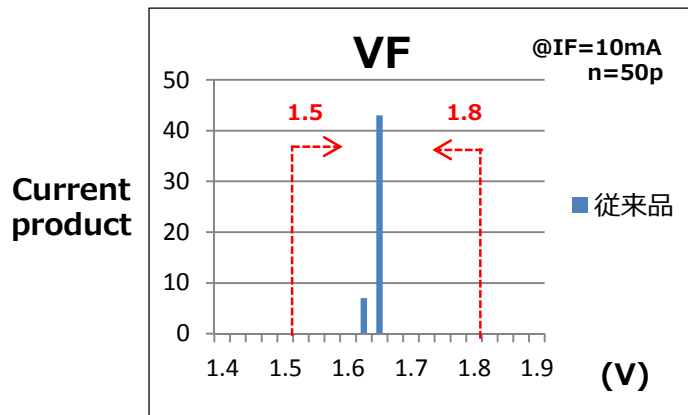
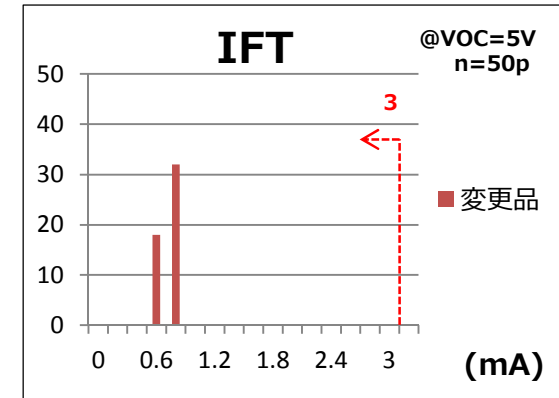
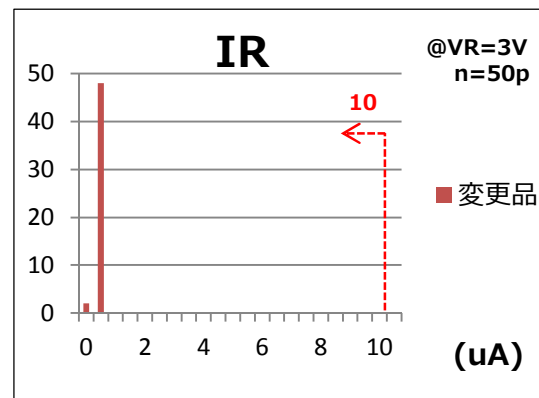
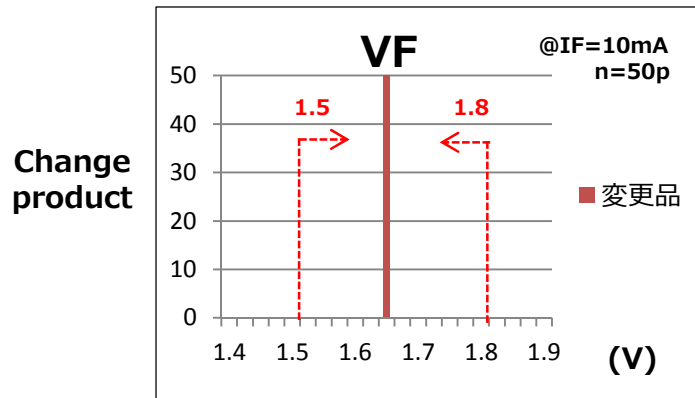
Confidential



There was no change in the characteristics, comparing to the current product.

# TLP3906 Main characteristics

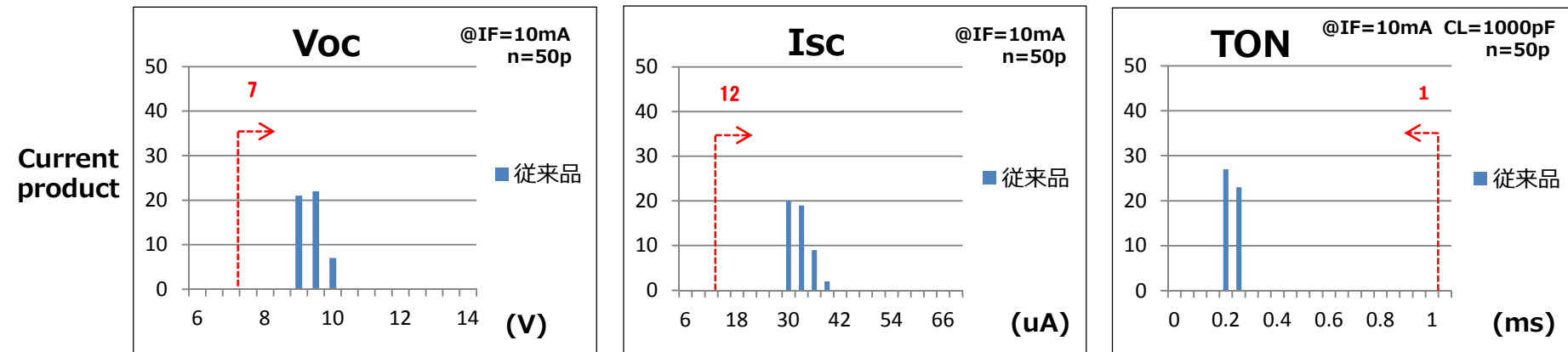
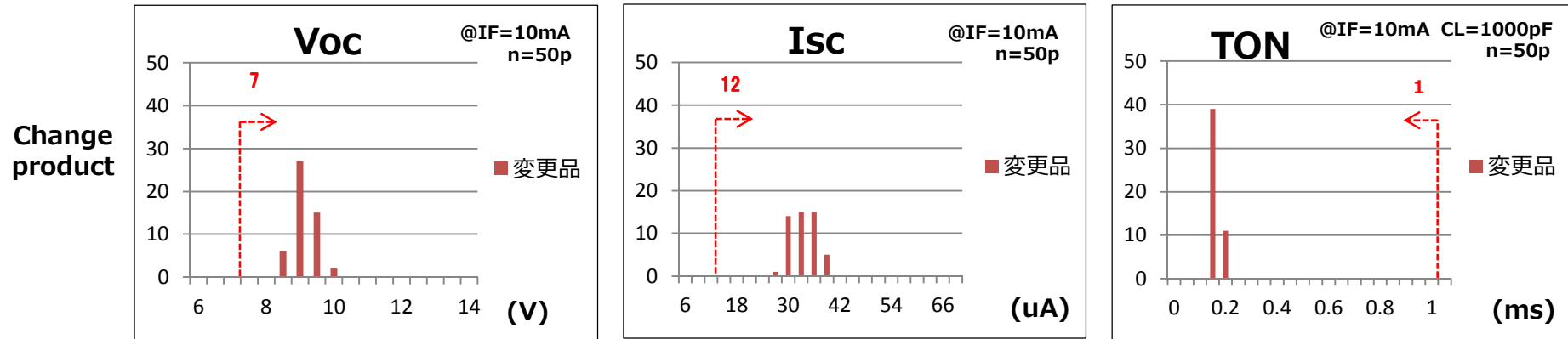
Confidential



There was no change in the characteristics, comparing to the current product.

# TLP3906 Main characteristics

Confidential

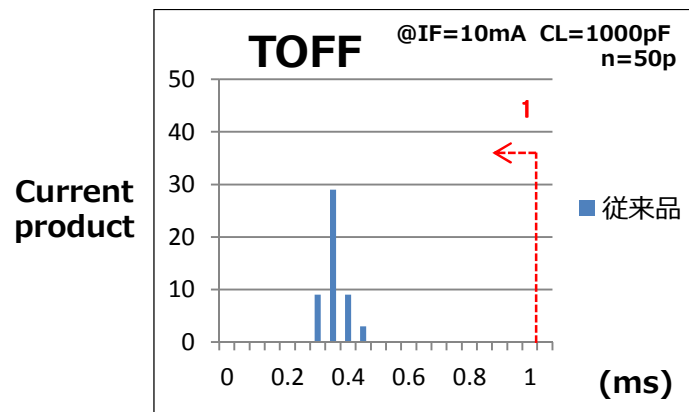
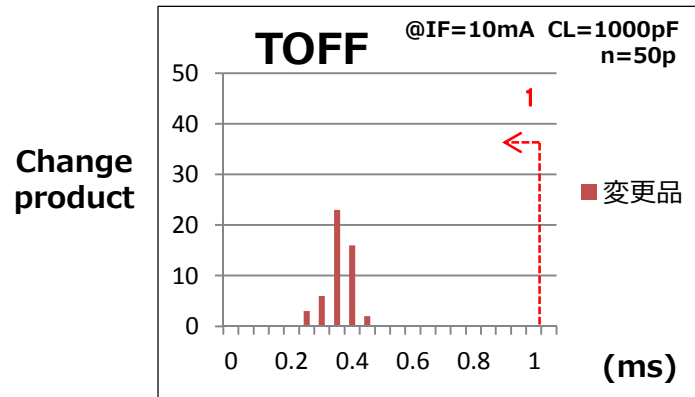


There was no change in the characteristics, comparing to the current product.



# TLP3906 Main characteristics

Confidential



There was no change in the characteristics, comparing to the current product.

# Reliability check

**Confidential**

**Product delivered to your company :**  
**TLP265J/266J/267J/268J**  
**TLP175A**  
**TLP3905/3096**

Test	Condition	Pretreatment	Time	Lot	
				Current product	Change product
Pressure cooker test	Ta=127°C RH=100%	85°C/85%×96h Reflow (260°C peak)	96h	0/60 (each product)	0/60 (each product)
Temperature cycling test	Ta=-55°C~25°C~125°C		300c	0/60 (each product)	0/60 (each product)
Repeating reflow	85°C/85%×96h Reflow (260°C peak)	—	5 times	0/60 (each product)	0/60 (each product)

**There was no difference in the reliability level, comparing to the current product.**