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Reliability Test Report

TSC P/N： 1N4148W

Package： SOD-123F

Prepared by：Benny Yeh
Approved by：Brian Bie

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Environment Test Summary

TSC P/N： 1N4148W

General Specification： TSC Data sheet

Supplier Manufacturing Site： Dongguan, China

Family Type： SOD-123F Series

Reason for Qual.： Qualification plan

According to： JESD22

Item	Test	Test Conditions			# Lots	S.Size	Failed	Result
1	Dimension Check				1	30	0	Accept
2	HTRB	150±5℃/168+16/-10Hrs, V=VRM*80%=80V			1	22	0	Accept
3	High Humidity/ High Temp Reverse Bias	85±2℃/85±5%RH ,168+16/-10Hrs , V=VRM=100V			1	22	0	Accept
4	IOL	VAC=Vrmax=100V， Off/Nonrated 2min,1000 cycles			1	22	0	Accept
5	Temperature Cycling	-55±5℃/30Min→ Normal temperature/10Mins→ 150±5℃/30Mins→Normal temperature/10Mins，100 Cycles			1	22	0	Accept
6	Solder Heat Resistance	260±5℃/10+2/-0Sec			1	22	0	Accept
7	PCT	121℃/100%RH，15psig/cm2/96Hrs			1	22	0	Accept
8	ESD/ HBM	2KV(C=100pF, R=1.5Kohm)；single discharge；"＋" and "－" 5 times each			1	30	0	Accept
9	ESD/ MM	200V(C=2000pF, R=0ohm)；single discharge；"＋" and "－" 1 times each			1	30	0	Accept
10	ESD/ CDM	500V(500Vpulse:6.15A)；single discharge；"＋" and "－" 1 times each			1	30	0	Accept
11	Solderability	245±5℃/ 5±1s			1	10	0	Accept

Comment：

Prepared by：	Zheng Rongfang	Approved by：	Z.Y.
Title：	Rel Lab OP	Title：	Technology Director

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Reliability Test Report

TSC P/N： BAS316WS

Package： SOD-323F

Prepared by：Benny Yeh
Approved by：Brian Bie

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Environment Test Summary

TSC P/N： BAS316WS

General Specification： TSC Data sheet

Supplier Manufacturing Site： Dongguan, China

Family Type： SOD-323F Series

Reason for Qual.： Qualification plan

According to： JESD22

Item	Test	Test Conditions			# Lots	S.Size	Failed	Result
1	Dimension Check				1	30	0	Accept
2	HTRB	150±5℃/168+16/-10Hrs, V=VRM*80%=80V			1	22	0	Accept
3	High Humidity/ High Temp Reverse Bias	85±2℃/85±5%RH ,168+16/-10Hrs , V=VRM=100V			1	22	0	Accept
4	IOL	VAC=Vrmax=100V， Off/Nonrated 2min,1000 cycles			1	22	0	Accept
5	Temperature Cycling	-55±5℃/30Min→ Normal temperature/10Mins→ 150±5℃/30Mins→Normal temperature/10Mins，100 Cycles			1	22	0	Accept
6	Solder Heat Resistance	260±5℃/10+2/-0Sec			1	22	0	Accept
7	PCT	121℃/100%RH，15psig/cm2/96Hrs			1	22	0	Accept
8	ESD/ HBM	4KV(C=100pF, R=1.5Kohm)；single discharge；"＋" and "－" 5 times each			1	30	0	Accept
9	ESD/ MM	200V(C=2000pF, R=0ohm)；single discharge；"＋" and "－" 1 times each			1	30	0	Accept
10	Solderability	245±5℃/ 5±1s			1	10	0	Accept

Comment：

Prepared by：	Zheng Rongfang	Approved by：	Z.Y.
Title：	Rel Lab OP	Title：	Technology Director

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Reliability Test Report

TSC P/N： BAT54W

Package： SOT-323

Prepared by：Benny Yeh
Approved by：Brian Bie

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Environment Test Summary

TSC P/N： BAT54W

General Specification： TSC Data sheet

Supplier Manufacturing Site： Dongguan, China

Family Type： SOT-323 Series

Reason for Qual.： Qualification plan

According to： JESD22

Item	Test	Test Conditions			# Lots	S.Size	Failed	Result
1	Dimension Check				1	30	0	Accept
2	HTRB	125±5℃/168+16/-10Hrs, V=VR*80%=24V			1	22	0	Accept
3	High Humidity/ High Temp Reverse Bias	85±2℃/85±5%RH ，168+16/-10Hrs ，$V=V_R$*80%=24V			1	22	0	Accept
4	IOL	VAC=Vr=30V， Off/Nonrated 2min,1000 cycles			1	22	0	Accept
5	Temperature Cycling	-55±5℃/30Min→ Normal temperature/10Mins→ 150±5℃/30Mins→Normal temperature/10Mins，100 Cycles			1	22	0	Accept
6	Solder Heat Resistance	260±5℃/10+2/-0Sec			1	22	0	Accept
7	PCT	121℃/100%RH，15psig/cm2/96Hrs			1	22	0	Accept
8	ESD/ HBM	2KV(C=100pF, R=1.5Kohm)；single discharge；"＋" and "－" 5 times each			1	30	0	Accept
9	ESD/ MM	200V(C=2000pF, R=0ohm)；single discharge；"＋" and "－" 1 times each			1	30	0	Accept
10	Solderability	245±5℃/ 5±1s			1	10	0	Accept

Comment：

Prepared by：	Zheng Rongfang	Approved by：	Z.Y.
Title：	Rel Lab OP	Title：	Technology Director

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Reliability Test Report

TSC P/N： BAV70

Package： SOT-23

Prepared by：Benny Yeh
Approved by：Brian Bie

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Environment Test Summary

TSC P/N： BAV70

General Specification： TSC Data sheet

Supplier Manufacturing Site： Dongguan, China

Family Type： SOT-23 Series

Reason for Qual.： Qualification plan

According to： JESD22

Item	Test	Test Conditions			# Lots	S.Size	Failed	Result
1	Dimension Check				1	30	0	Accept
2	HTRB	150±5℃/168+16/-10Hrs, V=VR*80%=80V			1	22	0	Accept
3	High Humidity/ High Temp Reverse Bias	85±2℃/85±5%RH ，168+16/-10Hrs ，$V=V_{RM}$=100V			1	22	0	Accept
4	IOL	VAC=Vr=100V， Off/Nonrated 2min,1000 cycles			1	22	0	Accept
5	Temperature Cycling	-55±5℃/30Min→ Normal temperature/10Mins→ 150±5℃/30Mins→Normal temperature/10Mins，100 Cycles			1	22	0	Accept
6	Solder Heat Resistance	260±5℃/10+2/-0Sec			1	22	0	Accept
7	PCT	121℃/100%RH，15psig/cm2/96Hrs			1	22	0	Accept
8	ESD/ HBM	2KV(C=100pF, R=1.5Kohm)；single discharge；"＋" and "－" 5 times each			1	30	0	Accept
9	ESD/ MM	200V(C=2000pF, R=0ohm)；single discharge；"＋" and "－" 1 times each			1	30	0	Accept
10	Solderability	245±5℃/ 5±1s			1	10	0	Accept

Comment：

Prepared by：	Zheng Rongfang	Approved by：	Z.Y.
Title：	Rel Lab OP	Title：	Technology Director

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PCN17019【Change of die size and change HF molding compound source】 for SOD-123F

Comparison Report

Prepared by Lijing
Approved by Ran Meng
Issued date at 2016.10.26
Reversion for A

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Comparison Rreport

Parametric comparison:

	ITEM		VR/V	IR/nA	IR/uA	VF/V	VF/V	VF/V	VF/V	Result
BAS316WS (SOD-323F)	TEST		100uA	25V	75V	1mA	10mA	50mA	150mA	No difference
	SPEC		>100	<30	<1.0	<0.715	<0.855	<1.000	<1.250	
	Old Molding Compound : Supplier : A Type : A	MIN	110.0	7.84	0.013	0.609	0.747	0.883	1.022	
		MAX	110.2	9.88	0.018	0.610	0.758	0.938	1.134	
		AVG	110.0	8.80	0.015	0.061	0.746	0.891	1.034	
	New Molding Compound: Supplier : D Type : D	MIN	110.0	8.12	0.015	0.606	0.743	0.877	1.011	
		MAX	110.3	15.34	0.029	0.608	0.750	0.894	1.043	
		AVG	110.0	12.09	0.021	0.607	0.747	0.889	1.034	

Thermal impedance comparison:

P/N	Rthj-a(℃/W)		Result
	Old Molding Compound : Supplier : A Type : A	New Molding Compound: Supplier : D Type : D	
BAS316WS (SOD-323F)	456.89	461.42	No difference

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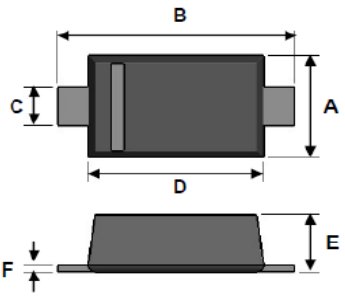
Comparison Report

Outline dimensions comparison:

PACKAGE OUTLINE DIMENSIONS

SOD-523F



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	0.70	0.90	0.028	0.035
B	1.50	1.70	0.059	0.067
C	0.25	0.40	0.010	0.016
D	1.10	1.30	0.043	0.051
E	0.50	0.77	0.020	0.030
F	0.07	0.20	0.003	0.008

Item	Spec.	Old Molding Compound : Supplier : A Type : A			New Molding Compound: Supplier : B Type : B			Result
		MAX	MIN	AVG	MAX	MIN	AVG	
A	0.70~0.90	0.84	0.81	0.83	0.84	0.82	0.83	No difference
B	1.50~1.70	1.65	1.62	1.63	1.64	1.62	1.63	
C	0.25~0.40	0.32	0.30	0.31	0.31	0.30	0.31	
D	1.10~1.30	1.19	1.17	1.18	1.19	1.17	1.18	
E	0.50~0.77	0.65	0.63	0.64	0.65	0.63	0.64	
F	0.07~0.20	0.13	0.11	0.12	0.12	0.11	0.11	

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PCN17019【Change of die size and change HF molding compound source】 for SOT-23

Comparison Report

Prepared by Lijing
Approved by Ran Meng
Issued date at 2016.10.26
Reversion for A

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Comparison Report

Ingredient comparison

Supplier name	Substance Name	CAS No.	Raw Material Proportion	Remark
Old Molding Compound : Supplier : A Type : A	Silica,Fused	60676-86-0	71~80%	
	Epoxy,o-cresol novolac	29690-82-2	7~16%	
	Phenol-formaldehyde novolac resin	9003-35-4	3~8%	
	Aluminium Hydroxide	2818-30-9000	3~8%	
	Carbon Black	1333-86-4	0.1~1.0%	
New Molding Compound: Supplier : C Type : C	Silica Fused	60676-86-0	75~90%	
	Epoxy Resin	Trade Secret	5~10%	
	Phenol Resin	Trade Secret	2~8%	
	Carbon Black	1333-86-4	0.1~0.5%	

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Reliability Test Report

TSC P/N： RB520G-30

Package： SOD-723F

Prepared by：Benny Yeh
Approved by：Brian Bie

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Environment Test Summary

TSC P/N： RB520G-30

General Specification： TSC Data sheet

Supplier Manufacturing Site： Dongguan, China

Family Type： SOD-723F Series

Reason for Qual.： Qualification plan

According to： JESD22

Item	Test	Test Conditions			# Lots	S.Size	Failed	Result
1	Dimension Check				1	30	0	Accept
2	HTRB	125±5℃/168+16/-10Hrs, V=VR*80%=24V			1	22	0	Accept
3	High Humidity/ High Temp Reverse Bias	85±2℃/85±5%RH ，168+16/-10Hrs ，V=VR*80%=30V			1	22	0	Accept
4	IOL	VAC=Vr=30V， Off/Nonrated 2min,1000 cycles			1	22	0	Accept
5	Temperature Cycling	-55±5℃/30Min→ Normal temperature/10Mins→ 150±5℃/30Mins→Normal temperature/10Mins，100 Cycles			1	22	0	Accept
6	Solder Heat Resistance	260±5℃/10+2/-0Sec			1	22	0	Accept
7	PCT	121℃/100%RH，15psig/cm2/96Hrs			1	22	0	Accept
8	ESD/ HBM	2KV(C=100pF, R=1.5Kohm)；single discharge；"＋" and "－" 5 times each			1	30	0	Accept
9	ESD/ MM	200V(C=2000pF, R=0ohm)；single discharge；"＋" and "－" 1 times each			1	30	0	Accept
10	Solderability	245±5℃/ 5±1s			1	10	0	Accept

Comment：

Prepared by：	Zheng Rongfang	Approved by：	Z.Y.
Title：	Rel Lab OP	Title：	Technology Director

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Reliability Test Report

TSC P/N： RB521S-30

Package： SOD-523F

Prepared by：Benny Yeh
Approved by：Brian Bie

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Environment Test Summary

TSC P/N： RB521S-30

General Specification： TSC Data sheet

Supplier Manufacturing Site： Dongguan, China

Family Type： SOD-523F Series

Reason for Qual.： Qualification plan

According to： JESD22

Item	Test	Test Conditions			# Lots	S.Size	Failed	Result
1	Dimension Check				1	30	0	Accept
2	HTRB	125±5℃/168+16/-10Hrs, V=VR*80%=24V			1	22	0	Accept
3	High Humidity/ High Temp Reverse Bias	85±2℃/85±5%RH ，168+16/-10Hrs ， V=VR*80%=24V			1	22	0	Accept
4	IOL	VAC=Vr=30V， Off/Nonrated 2min,1000 cycles			1	22	0	Accept
5	Temperature Cycling	-55±5℃/30Min→ Normal temperature/10Mins→ 150±5℃/30Mins→Normal temperature/10Mins，100 Cycles			1	22	0	Accept
6	Solder Heat Resistance	260±5℃/10+2/-0Sec			1	22	0	Accept
7	PCT	121℃/100%RH，15psig/cm2/96Hrs			1	22	0	Accept
8	ESD/ HBM	2KV(C=100pF, R=1.5Kohm)；single discharge；"＋" and "－" 5 times each			1	30	0	Accept
9	ESD/ MM	200V(C=2000pF, R=0ohm)；single discharge；"＋" and "－" 1 times each			1	30	0	Accept
10	Solderability	245±5℃/ 5±1s			1	10	0	Accept

Comment：

Prepared by：	Zheng Rongfang	Approved by：	Z.Y.
Title：	Rel Lab OP	Title：	Technology Director

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