



# PCN Report

---

**Prepared By** : Maggie Xu, Thyristor Product Engineer  
**Date** : Oct 23<sup>th</sup>, 2018  
**Products** : Thyristor Products acquired from ON Semiconductor  
**Revision** : C

---

## 1.0 Objective:

This report covers manufacturing site transfer activities of Thyristor products acquired from ON Semiconductor. Site transfer includes backend assembly, final test and packaging operations.

## 2.0 Applicable Products:

Thyristor products acquired from ON Semiconductor in package of SOT23, SOT223, TO-225AA (case 77), TO-251, TO-252, TO-220 Isolated and TO-220AB.

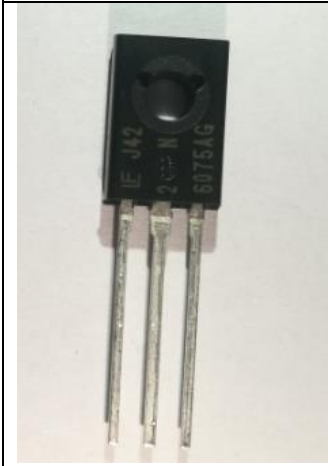
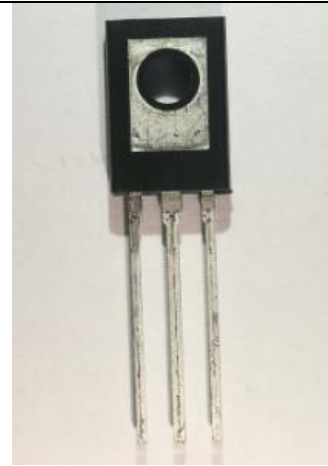
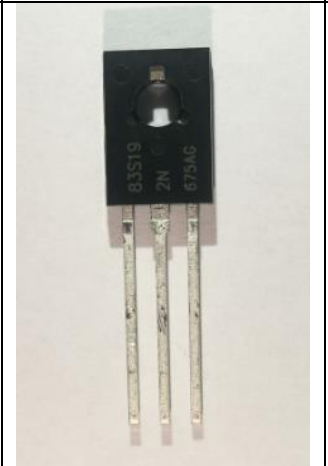
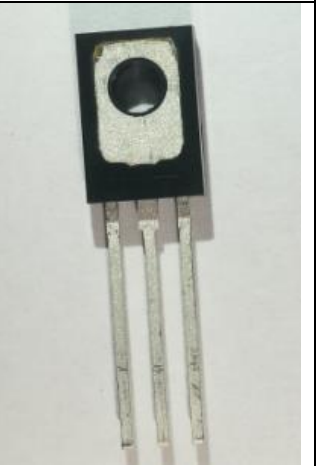
Please see the attached Appendix I for a full list of affected part numbers.

## 3.0 Physical Differences/Changes:


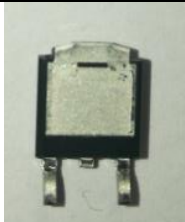
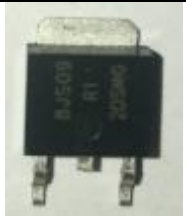

3.1 Format of Date code section of component marking is changed as follows.

PACKAGE	Date Code Format by ON Semiconductor (Old)	Date Code Format by Littelfuse (New)	Symbols
SOT23	M	YMA	Y: Year of Manufacturing M: Month of Manufacturing WW: Week of manufacturing A: Assembly location XX: Lot serial code
SOT223	AYW	YMAXX	
TO-225AA	YWW	YMAXX	
TO-251	YWW	YMAXX	
TO-252	YWW	YMAXX	
TO-220 Iso	AYWW	YMAXX	
TO-220AB	AYWW	YMAXX	

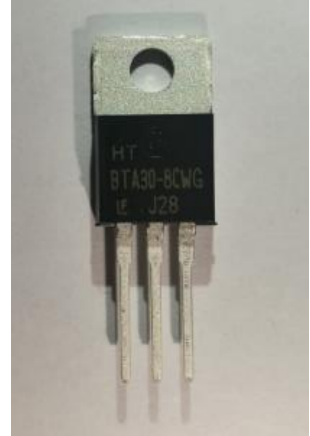
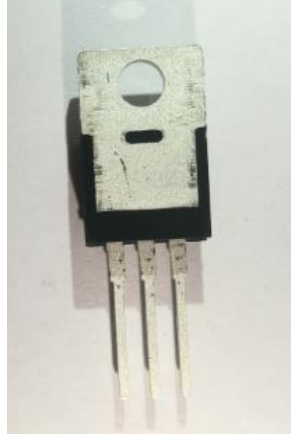
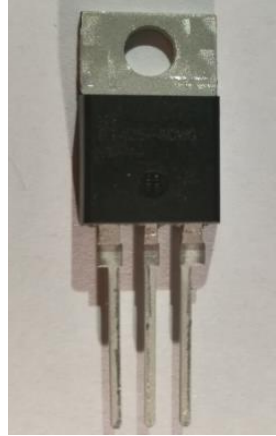
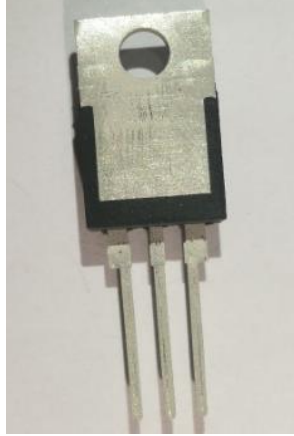
### 3.2 TO-225AA Physical difference

ON Semi Made		Littelfuse Made	
Front side	Bottom side	Front Side	Bottom side
			


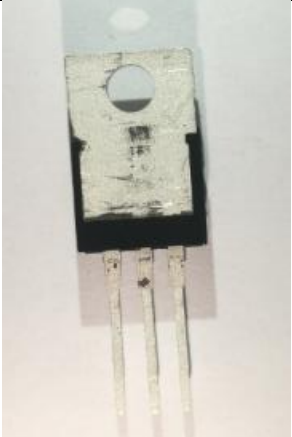
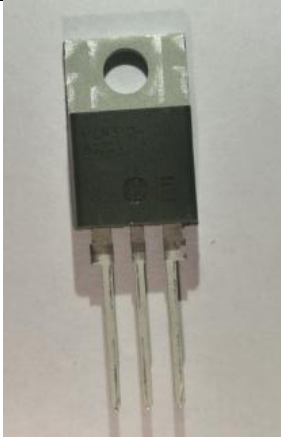

### 3.3 TO252 Physical difference

ON Semi Made		Littelfuse Made	
Front side	Bottom side	Front Side	Bottom side
			

### 3.4 TO220 Isolated Physical difference

ON Semi Made		Littelfuse Made	
Front side	Bottom side	Front Side	Bottom side
			

### 3.5 TO220AB Physical difference

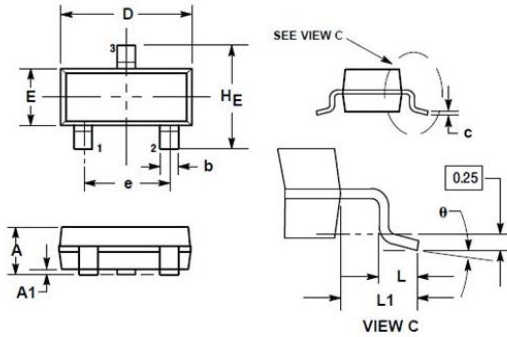
ON Semi Made		Littelfuse Made	
Front side	Bottom side	Front Side	Bottom side
			

#### 4.0 Comparison of Package outline dimensions specifications

There are slight differences in package outline dimensions but all of new specifications are still within applicable JEDEC specifications.

##### 4.1 SOT23 Outline

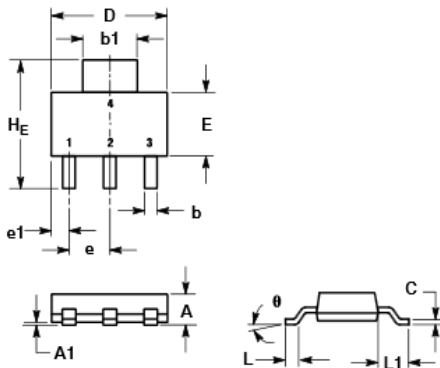
---Dimensions A, A1, b, c, L are different



DIM	ON Semi Specification			Littelfuse Specification (New)		
	MILLIMETERS			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1.00	1.11	0.89	1.03	1.17
A1	0.01	0.06	0.10	0.05	0.10	0.15
b	0.37	0.44	0.50	0.30	0.40	0.50
c	0.09	0.13	0.18	0.08	0.14	0.20
D	2.80	2.90	3.04	2.80	2.90	3.00
E	1.20	1.30	1.40	1.20	1.30	1.40
e	1.78	1.90	2.04	1.90 BSC		
L	0.10	0.20	0.30	0.40	0.49	0.58
L1	0.35	0.54	0.69	0.46	0.55	0.64
HE	2.10	2.40	2.64	2.10	2.30	2.49
∅	0°		10°	0°		8°

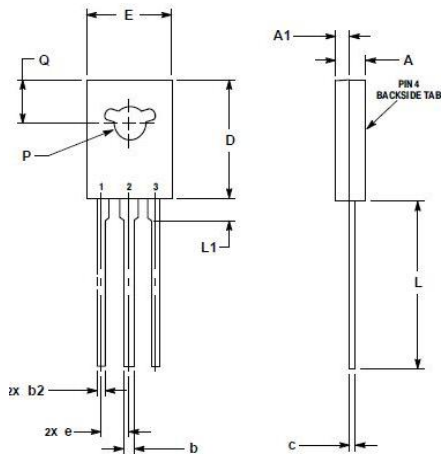
##### 4.2 SOT223 Outline

---Dimensions A, A1, c, D, e1 are different.



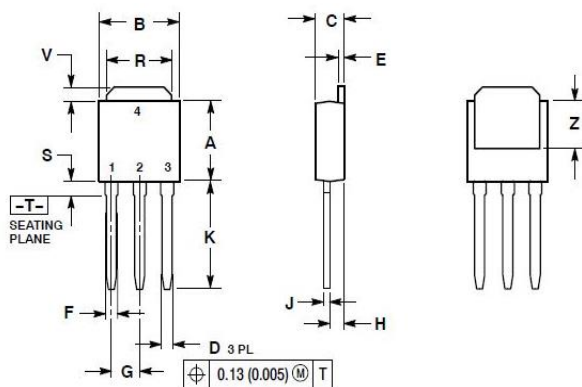
DIM	ON Semi Specification			Littelfuse Specification (New)		
	MILLIMETERS			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.50	1.63	1.75	-	-	1.80
A1	0.02	0.60	0.10	0.02	0.07	0.13
b	0.60	0.75	0.89	0.66	0.75	0.84
b1	2.90	3.06	3.20	2.90	3.00	3.10
c	0.24	0.29	0.35	0.23	0.29	0.35
D	6.30	6.50	6.70	6.60	6.60	6.71
E	3.30	3.50	3.70	3.30	3.50	3.70
e	2.20	2.30	2.40	2.30 BSC		
e1	0.85	0.94	1.05	0.75	0.95	1.15
L1	1.50	1.75	2.00	1.50	1.75	2.00
He	6.70	7.00	7.30	6.80	7.00	7.20
∅	0°	-	10°	0°	-	10°

4.3 TO-255AA (case 77) Outline  
 ---Dimensions D, E, L, L1, P, Q are different.



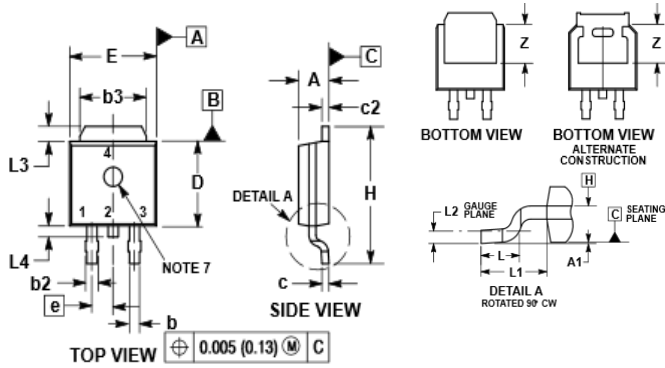
DIM	ON Semi Specification		Littelfuse Specification (New)	
	MILLIMETERS		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	2.40	3.00	2.60	2.80
A1	1.00	1.50	1.20	1.40
b	0.60	0.90	0.70	0.86
b2	0.51	0.88	0.70	0.86
c	0.39	0.63	0.49	0.57
D	10.60	11.10	10.60	11.40
E	7.40	7.80	7.40	8.20
e	2.04	2.54	2.29 TYP.	
L	14.50	16.63	14.00	16.00
L1	1.27	2.54	2.30	2.70
P	2.90	3.30	3.00	3.40
Q	3.80	4.20	3.60	4.00

4.4 TO-251 Outline  
 ---Dimensions A, C, D, E, F, H, J, K, R, S, V are different.



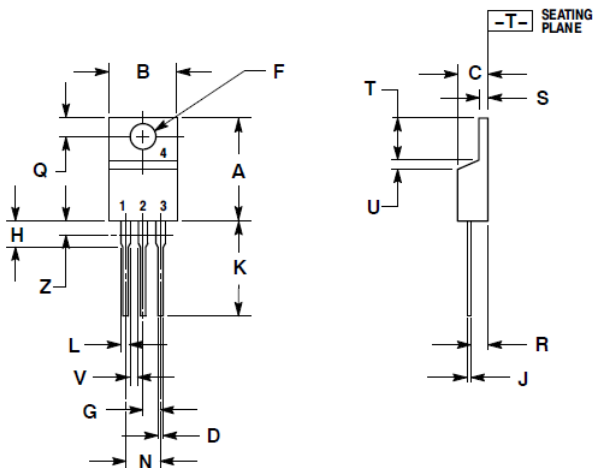
DIM	ON Semi Specification		Littelfuse Specification (New)	
	MILLIMETERS		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	5.97	6.35	5.40	5.70
B	6.35	6.73	6.40	6.60
C	2.19	2.38	2.20	2.40
D	0.69	0.88	0.60	0.75
E	0.46	0.58	0.55	0.65
F	0.94	1.14	0.78	0.98
G	2.29 BSC		2.30	
H	0.87	1.01	1.18	1.28
J	0.46	0.58	0.49	0.59
K	8.89	9.65	7.40	8.00
R	4.45	5.45	5.30	5.50
S	0.63	1.01	1.60	
V	0.89	1.27	1.35	1.65
Z	3.93	-	3.80	

4.5 TO-252 Outline  
 ---Dimensions A, b, b2, b3, D, L3 are different.



DIM	ON Semi Specification		Littelfuse Specification (New)	
	MILLIMETERS		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	2.18	2.38	2.20	2.40
A1	0.00	0.13	0.00	0.12
b	0.63	0.89	0.55	0.75
b2	0.72	1.14	0.65	0.85
b3	4.57	5.46	5.30	5.50
c	0.46	0.61	0.49	0.59
c2	0.46	0.61	0.49	0.59
D	5.97	6.22	5.40	5.70
E	6.35	6.73	6.40	6.60
e	2.29 BSC		2.30	
H	9.40	10.41	9.50	10.30
L	1.40	1.78	1.47	1.78
L1	2.90 TYP		2.90	
L2	0.51 BSC		0.49	0.59
L3	0.89	1.27	1.35	1.65
L4	--	1.01	0.70	1.00
Z	3.93	--	3.90	--

4.6 TO-220 Isolated and TO-220AB Outline  
 ---Dimensions B, D, G, H, J, K, L, S are different.



DIM	ON Semi Specification		Littelfuse Specification (New)	
	MILLIMETERS		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	14.48	15.75	14.99	15.75
B	9.66	10.28	9.65	10.67
C	4.07	4.82	4.52	4.78
D	0.64	0.88	0.64	0.89
F	3.61	3.73	3.61	3.73
G	2.42	2.66	2.41	2.67
H	2.80	3.93	2.79	3.30
J	0.36	0.55	0.46	0.61
K	12.70	14.27	13.72	14.61
L	1.15	1.52	1.52	1.91
N	4.83	5.33	4.95	5.21
Q	2.54	3.04	2.67	2.92
R	2.04	2.79	2.16	2.41
S	1.15	1.39	1.14	1.52
T	5.97	6.47	5.97	6.47
U	0.00	1.27	0.00	1.27
V	1.15	--	1.15	--
Z	--	2.04	--	2.04



## 5.0 Qualification Test Result

All samples passed parametric and reliability test standard by Littelfuse.

### 5.1 Package SOT23 Reliability test result summary

Test Item	Sample P/N	Sample QTY	Littelfuse test Ref#	Contents/Conditions	Duration	Result Summary
ACBV (HTRB)	NYC0102BLT1G	77 x 3	103936	At T <sub>J</sub> max, Reverse biased at 100%V <sub>DRM</sub>	1,008hrs	0 failure
Pre-conditioning	NYC0102BLT1G	77 x 12	103936	24hrs 125°C bake, 168hrs 85°C/85% humidity storage, 3 x IR reflow		0 failure
H3TRB	NYC0102BLT1G	77 x 3	103936	T <sub>A</sub> =85°C, RH=85%, Reverse biased at 100V <sub>DC</sub>	1,008hrs	0 failure
TC	NYC0102BLT1G	77 x 3	103936	-55°C&150°C (air to air), Dwell time 15mins	1,000 cycles	0 failure
UHAST	NYC0102BLT1G	77 x 3	103936	T <sub>A</sub> =130°C, RH=85%	96hrs	0 failure
IOL	NYC0102BLT1G	77 x 3	103938	T <sub>A</sub> =25°C, T <sub>J</sub> (ΔT <sub>J</sub> )>=100°C)	15,000 cycles	0 failure
RSH	NYC0102BLT1G	30 x 3	103936	260°C	10 secs	0 failure
Solderability	NYC0102BLT1G	10 x 3	103936	245°C	10 secs	0 failure
ESD	NYC0102BLT1G	30 x 1	103936	HBM 30KV, MM 8KV		0 failure



5.2 Package SOT223 Reliability test result summary

Test Item	Sample P/N	Sample QTY	Littelfuse test Ref#	Contents/Conditions	Duration	Result Summary
ACBV (HTRB)	MCR08MT1G	77 x 3	105246	At T <sub>J</sub> max, Reverse biased at 100%V <sub>DRM</sub>	1,008hrs	0 failure
	NYC228STT1G	77 x 1	101032			
	Z0103MNT1G	77 x 3	105248			
Pre-conditioning	MCR08MT1G	77 x 24	105246	24hrs 125°C bake, 168hrs 85°C/85% humidity storage, 3 x IR reflow		0 failure
	NYC228STT1G	77 x 24	101032			
	Z0103MNT1G	77 x 24	105248			
H3TRB	MCR08MT1G	77 x 3	105246	T <sub>A</sub> =85°C, RH=85%, Reverse biased at 100V <sub>DC</sub>	1,008hrs	0 failure
	NYC228STT1G	77 x 1	101032			
	Z0103MNT1G	77 x 3	105248			
TC	MCR08MT1G	77 x 3	105246	-55°C & 150°C (air to air), Dwell time 15mins	1,000 cycles	0 failure
	NYC228STT1G	77 x 1	101032			
	Z0103MNT1G	77 x 3	105248			
UHASt	MCR08MT1G	77 x 3	105246	T <sub>A</sub> =130°C, RH=85%	96hrs	0 failure
	NYC228STT1G	77 x 1	101032			
	Z0103MNT1G	77 x 3	105248			
IOL	Z0103MNT1G	77 x 3	105252	T <sub>A</sub> =25°C, T <sub>J</sub> (ΔT <sub>J</sub> )>=100°C)	15,000 cycles	0 failure
RSH	MCR08MT1G	30 x 3	105246	260°C	10 secs	0 failure
	NYC228STT1G	30 x 3	101032			
	Z0103MNT1G	30 x 3	105248			
Solderability	MCR08MT1G	10 x 3	105246	245°C	10 secs	0 failure
	NYC228STT1G	10 x 3	101032			
	Z0103MNT1G	10 x 3	105248			
ESD	MCR08MT1G	30 x 1	105246	HBM 30KV, MM 8KV		0 failure
	NYC228STT1G	30 x 1	101032			
	Z0103MNT1G	30 x 1	105248			





5.3 Package TO-225AA (case 77) Reliability test result summary

Test Item	Sample P/N	Sample QTY	Littelfuse test Ref#	Contents/Conditions	Duration	Result Summary
ACBV (HTRB)	C106M1G	77 x 3	103936	At T <sub>J</sub> max, Reverse biased at 100%V <sub>DRM</sub>	1,008hrs	0 failure
H3TRB	C106M1G	77 x 3	103936	T <sub>A</sub> =85°C, RH=85%, Reverse biased at 100V <sub>DC</sub>	1,008hrs	0 failure
TC	C106M1G	77 x 3	103936	-55°C&150°C (air to air), Dwell time 15mins	1,000 cycles	0 failure
UHASt	C106M1G	77 x 3	103936	T <sub>A</sub> =130°C, RH=85%	96hrs	0 failure
RSH	C106M1G	30 x 3	103936	260°C	10 secs	0 failure
Solderability	C106M1G	10 x 3	103936	245°C	10 secs	0 failure
ESD	C106M1G	30 x 1	103936	HBM 30KV, MM 8KV		0 failure

Test Item	Sample P/N	Sample QTY	Littelfuse test Ref#	Contents/Conditions	Duration	Result Summary
ACBV (HTRB)	2N6075AG	77 x 3	109886	At T <sub>J</sub> max, Reverse biased at 100%V <sub>DRM</sub>	1,008hrs	0 failure
H3TRB	2N6075AG	77 x 3	109886	T <sub>A</sub> =85°C, RH=85%, Reverse biased at 100V <sub>DC</sub>	1,008hrs	0 failure
TC	2N6075AG	77 x 3	109886	-55°C&150°C (air to air), Dwell time 15mins	1,000 cycles	0 failure
UHASt	2N6075AG	77 x 3	109886	T <sub>A</sub> =130°C, RH=85%	96hrs	0 failure
IOL	2N6075AG	77 x 3	109893	T <sub>A</sub> =25°C, T <sub>J</sub> (ΔT <sub>J</sub> >=100°C)	15,000 cycles	0 failure
RSH	2N6075AG	30 x 3	109886	260°C	10 secs	0 failure
Solderability	2N6075AG	10 x 3	109886	245°C	10 secs	0 failure
ESD	2N6075AG	30 x 1	109886	HBM 30KV, MM 8KV		0 failure



5.4 Package TO-251 Reliability test result summary

Test Item	Sample P/N	Sample QTY	Littelfuse test Ref#	Contents/Conditions	Duration	Result Summary
ACBV (HTRB)	MCR708A1G	77 x 3	104776	At T <sub>J</sub> max, Reverse biased at 100%V <sub>DRM</sub>	1,008hrs	0 failure
H3TRB	MCR708A1G	77 x 3	104776	T <sub>A</sub> =85°C, RH=85%, Reverse biased at 100V <sub>DC</sub>	1,008hrs	0 failure
TC	MCR708A1G	77 x 3	104776	-55°C & 150°C (air to air), Dwell time 15mins	1,000 cycles	0 failure
UFAST	MCR708A1G	77 x 3	104776	T <sub>A</sub> =130°C, RH=85%	96hrs	0 failure
IOL	MCR708A1G	77 x 3	104777	T <sub>A</sub> =25°C, T <sub>J</sub> (ΔT <sub>J</sub> ≥100°C)	15,000 cycles	0 failure
RSH	MCR708A1G	30 x 3	104776	260°C	10 secs	0 failure
Solderability	MCR708A1G	10 x 3	104776	245°C	10 secs	0 failure
ESD	MCR708A1G	30 x 1	104776	HBM 30KV, MM 8KV		0 failure

Test Item	Sample P/N	Sample QTY	Littelfuse test Ref#	Contents/Conditions	Duration	Result Summary
HTRB	MCR12DSN-1G	77	110867	T <sub>A</sub> =85°C, DC Reverse biased at 80%V <sub>DRM</sub>	1,008hrs	0 failure
H3TRB	MCR12DSN-1G	77	110867	T <sub>A</sub> =85°C, RH=85%, Reverse biased at 100V <sub>DC</sub>	1,008hrs	0 failure
TC	MCR12DSN-1G	77	110867	-55°C & 150°C (air to air), Dwell time 15mins	1,000 cycles	0 failure
UFAST	MCR12DSN-1G	77	110867	T <sub>A</sub> =130°C, RH=85%	96hrs	0 failure
RSH	MCR12DSN-1G	30	110867	260°C	10 secs	0 failure
Solderability	MCR12DSN-1G	10	110867	245°C	10 secs	0 failure
ESD	MCR12DSN-1G	30	110867	HBM 30KV, MM 8KV		0 failure



5.5 Package TO-252 Reliability test result summary

Test Item	Sample P/N	Sample QTY	Littelfuse test Ref#	Contents/Conditions	Duration	Result Summary
ACBV (HTRB)	MCR718T4G	77 x 3	106610	At T <sub>J</sub> max, Reverse biased at 100%V <sub>DRM</sub>	1,008hrs	0 failure
Pre-conditioning	MCR718T4G	77 x 12	106610	24hrs 125°C bake, 168hrs 85°C/85% humidity storage, 3 x IR reflow		0 failure
H3TRB	MCR718T4G	77 x 3	106610	T <sub>A</sub> =85°C, RH=85%, Reverse biased at 100V <sub>DC</sub>	1,008hrs	0 failure
TC	MCR718T4G	77 x 3	106610	-55°C&150°C (air to air), Dwell time 15mins	1,000 cycles	0 failure
UFAST	MCR718T4G	77 x 3	106610	T <sub>A</sub> =130°C, RH=85%	96hrs	0 failure
RSH	MCR718T4G	30 x 3	106610	260°C	10 secs	0 failure
Solderability	MCR718T4G	10 x 3	106610	245°C	10 secs	0 failure
ESD	MCR718T4G	30 x 1	106610	HBM 30KV, MM 8KV		0 failure

Test Item	Sample P/N	Sample QTY	Littelfuse test Ref#	Contents/Conditions	Duration	Result Summary
HTRB	MCR12DSNT4G	77	111369	T <sub>A</sub> =85°C, DC Reverse biased at 80%V <sub>DRM</sub>	1,008hrs	0 failure
Pre-conditioning	MCR12DSNT4G	77	110871	24hrs 125°C bake, 168hrs 85°C/85% humidity storage, 3 x IR reflow		0 failure
H3TRB	MCR12DSNT4G	77	110871	T <sub>A</sub> =85°C, RH=85%, Reverse biased at 100V <sub>DC</sub>	1,008hrs	0 failure
TC	MCR12DSNT4G	77	110871	-55°C&150°C (air to air), Dwell time 15mins	1,000 cycles	0 failure
UFAST	MCR12DSNT4G	77	110871	T <sub>A</sub> =130°C, RH=85%	96hrs	0 failure
RSH	MCR12DSNT4G	30	110871	260°C	10 secs	0 failure
Solderability	MCR12DSNT4G	10	110871	245°C	10 secs	0 failure
ESD	MCR12DSNT4G	30	110871	HBM 30KV, MM 8KV		0 failure

Test Item	Sample P/N	Sample QTY	Littelfuse test Ref#	Contents/Conditions	Duration	Result Summary
ACBV (HTRB)	MAC4DSNT4G	77 x 3	110159	At T <sub>J</sub> max, Reverse biased at 100%V <sub>DRM</sub>	1,008hrs	0 failure
Pre-conditioning	MAC4DSNT4G	77 x 12	110159	24hrs 125°C bake, 168hrs 85°C/85% humidity storage, 3 x IR reflow		0 failure
H3TRB	MAC4DSNT4G	77 x 3	110159	T <sub>A</sub> =85°C, RH=85%, Reverse biased at 100V <sub>DC</sub>	1,008hrs	0 failure
TC	MAC4DSNT4G	77 x 3	110159	-55°C&150°C (air to air), Dwell time 15mins	1,000 cycles	0 failure
UHAST	MAC4DSNT4G	77 x 3	110159	T <sub>A</sub> =130°C, RH=85%	96hrs	0 failure
RSH	MAC4DSNT4G	30 x 3	110159	260°C	10 secs	0 failure
Solderability	MAC4DSNT4G	10 x 3	110159	245°C	10 secs	0 failure
ESD	MAC4DSNT4G	30 x 1	110159	HBM 30KV, MM 8KV		0 failure



5.6 Package TO-220 Isolated Reliability test result summary

Test Item	Sample P/N	Sample QTY	Littelfuse test Ref#	Contents/Conditions	Duration	Result Summary
ACBV (HTRB)	BTA25H-600CW3G	77 x 1	104863	At T <sub>J</sub> max, Reverse biased at 100%V <sub>DRM</sub>	1,008hrs	0 failure
	BTA08-800CW3G	77 x 1	104863			
	BTA30-600CW3G	77 x 3	104829			
H3TRB	BTA25H-600CW3G	77 x 1	104863	T <sub>A</sub> =85°C, RH=85%, Reverse biased at 100V <sub>DC</sub>	1,008hrs	0 failure
	BTA08-800CW3G	77 x 1	104863			
	BTA30-600CW3G	77 x 3	104829			
TC	BTA25H-600CW3G	77 x 1	104863	-55°C&150°C (air to air), Dwell time 15mins	1,000 cycles	0 failure
	BTA08-800CW3G	77 x 1	104863			
	BTA30-600CW3G	77 x 3	104829			
UHAST	BTA25H-600CW3G	77 x 1	104863	T <sub>A</sub> =130°C, RH=85%	96hrs	0 failure
	BTA08-800CW3G	77 x 1	104863			
	BTA30-600CW3G	77 x 3	104829			
IOL	BTA30-600CW3G	77 x 3	104831	T <sub>A</sub> =25°C, T <sub>J</sub> (ΔT <sub>J</sub> ≥100°C)	15,000 cycles	0 failure
RSH	BTA25H-600CW3G	30 x 1	104863	260°C	10 secs	0 failure
	BTA08-800CW3G	30 x 1	104863			
	BTA30-600CW3G	30 x 3	104829			
Solderability	BTA25H-600CW3G	10 x 1	104863	245°C	10 secs	0 failure
	BTA08-800CW3G	10 x 1	104863			
	BTA30-600CW3G	10 x 3	104829			
ESD	BTA25H-600CW3G	30 x 1	104863	HBM 30KV, MM 8KV		0 failure
	BTA08-800CW3G	30 x 1	104863			
	BTA30-600CW3G	30 x 1	104829			



5.7 Package TO-220AB Reliability test result summary

Test Item	Sample P/N	Sample QTY	Littelfuse test Ref#	Contents/Conditions	Duration	Result Summary
ACBV (HTRB)	2N6509TG	77 x 3	102005	At T <sub>J</sub> max, Reverse biased at 100%V <sub>DRM</sub>	1,008hrs	0 failure
	MCR310-010	77 x 1	99809			
H3TRB	2N6509TG	77 x 3	102005	T <sub>A</sub> =85°C, RH=85%, Reverse biased at 100V <sub>DC</sub>	1,008hrs	0 failure
	MCR310-010	77 x 1	99809			
TC	2N6509TG	77 x 3	102005	-55°C & 150°C (air to air), Dwell time 15mins	1,000 cycles	0 failure
	MCR310-010	77 x 1	99809			
UHAST	2N6509TG	77 x 3	102005	T <sub>A</sub> =130°C, RH=85%	96hrss	0 failure
	MCR310-010	77 x 1	99809			
IOL	2N6509TG	77 x 3	99809	T <sub>A</sub> =25°C, T <sub>J</sub> (ΔT <sub>J</sub> >=100°C)	15,000 cycles	0 failure
RSH	2N6509TG	30 x 3	102005	260°C, 10 seconds	10 secs	0 failure
	MCR310-010	30 x 1	99809			
Solderability	2N6509TG	10 x 3	102005	245°C, 10 seconds	10 secs	0 failure
	MCR310-010	10 x 1	99809			
ESD	2N6509TG	30	102005	HBM 30KV, MM 8KV		0 failure
	MCR310-010	30	99809			



### 5.8 Parametric Test

There is no change in absolute ratings and parametric specifications

Test Item	Sample P/N	Sample Qty	Littelfuse test Ref#	Contents/Conditions	Result Summary
Electrical Parameters	NYC0102BLT1G	10 x 3	106730	IGT/VGT/IH/VT>IDRM/IRRM	
	MCR08MT1G	10 x 3	101034		
	NYC228STT1G	10 x 1	101035		
	Z0103MNT1G	10 x 3	101036		
	C106M1G	10 x 3	102811		
	2N6075AG	10 x 3	109894		
	MCR708A1G	10 x 3	104778		
	MCR12DSN-1G	10 x 1	110141		
	MCR718T4G	10 x 3	106613		
	2N6509TG	10 x 3	102006		
	MCR124DSNT4G	10 x 1	110161		
	MAC4DSNT4G	10 x 3	110141		
	MCR310-010	10 x 1	102678		
	BTA25H-600CW3G	10 x 1	104864		
	BTA08-800CW3G	10 x 1	104864		
	BTA30-600CW3G	10 x 3	104838		
ITSM	NYC0102BLT1G	5 x 3	106730	f = 50Hz; T <sub>J</sub> (initial) = 25°C	Meet datasheet spec
	MCR08MT1G	5 x 3	101034		
	NYC228STT1G	5 x 1	101035		
	Z0103MNT1G	5 x 3	101036		
	C106M1G	5 x 3	102811		
	2N6075AG	5 x 3	109894		
	MCR708A1G	5 x 3	104778		
	MCR12DSN-1G	5 x 1	110141		
	MCR718T4G	5 x 3	106613		
	2N6509TG	5 x 3	102006		
	MAC4DSNT4G	5 x 3	110161		
	MCR12DSNT4G	5 x 1	110141		
	MCR310-010	5 x 1	102678		
	BTA25H-600CW3G	5 x 1	104864		
	BTA08-800CW3G	5 x 1	104864		
	BTA30-600CW3G	5 x 3	104838		
Thermal Resistance	NYC0102BLT1G	5 x 3	103940	Junction-to-Case R <sub>θJC</sub>	
	MCR08MT1G	5 x 3	102680		
	NYC228STT1G	5 x 1	102682		
	Z0103MNT1G	5 x 3	102683		
	C106M1G	5 x 3	102812		
	2N6075AG	5 x 3	109895		
	MCR708A1G	5 x 3	104779		
	MCR12DSN-1G	5 x 1	110146		
	MCR718T4G	5 x 3	106614		



	MAC4DSNT4G	5 x 3	110162		
	MCR12DSNT4G	5 x 1	110146		
	2N6509TG	5 x 3	102007		
	MCR310-010	10 x 1	102679		
	BTA25H-600CW3G	10 x 1	104839		
	BTA08-800CW3G	10 x 1	104865		
	BTA30-600CW3G (*)	5 x 3	104839		

Note:

\* BTA30-600CW3G manufactured by Littelfuse has typical RthJ-C value 20% higher than the original.

### 6.0 Recommendations & Conclusions:

Base on the above qualification test results, Littelfuse judged that manufacturing site transfer activities have been successfully completed and results were verified by qualification tests.

Littelfuse released new manufacturing sites to production.

### 7.0 Approvals:

**Maggie Xu**  
Thyristor Product Engineer  
Littelfuse, Inc.

**Sewall Wang**  
Product Engineer Manager  
Littelfuse, Inc.





### 8.0 Appendix I – Affected part number list

2N6344AG	MCR16NG	BTA08-800CW3G	MAC12SNG	Z0109MNT1G
2N6344G	MCR218-2G	BTA08-800CW3LFG	MAC15-10G	SAC187G
2N6348AG	MCR218-4G	BTA12-600BW3G	MAC15-8G	SAC319MTG
2N6349AG	MCR218-6G	BTA12-600CW3G	MAC15A10G	SAC320MTG
2N6394G	MCR25DG	BTA12-800BW3G	MAC15A6G	SAC396-7G
2N6394TG	MCR25MG	BTA12-800CW3G	MAC15A8G	SAC847-8LFBJG
2N6395G	MCR25NG	BTA16-600BW3G	MAC15MG	MAC8NG-LFAJ
2N6397G	MCR310-10G	BTA16-600CW3G	MAC15NG	MAC8NG-LFAD-WR
2N6397TG	MCR68-2G	BTA16-600SW3G	MAC16CMG	2N6071AG
2N6399G	MCR69-2G	BTA16-800BW3G	MAC16CNG	2N6071ATG
2N6399TG	MCR69-3G	BTA16-800CW3G	MAC16DG	2N6071BG
2N6400G	MCR703AT4G	BTA16-800SW3G	MAC16HCDG	2N6071BTG
2N6401G	MCR706AT4G	BTA25-600CW3G	MAC16HCMG	2N6073AG
2N6402G	MCR708A1G	BTA25-800CW3G	MAC16HCNG	2N6073BG
2N6403G	MCR708AG	BTA25H-600CW3G	MAC16MG	2N6075AG
2N6403TG	MCR708AT4G	BTA30-600CW3G	MAC16NG	2N6075BG
2N6404G	MCR716T4G	BTB08-600BW3G	MAC210A10G	MCR12DCMT4G
2N6405G	MCR718T4G	BTB08-600CW3G	MAC210A8G	MCR12DCNT4G
2N6504G	MCR72-3G	BTB08-800BW3G	MAC212A10G	MCR12DSMT4G
2N6505G	MCR72-6G	BTB08-800CW3G	MAC212A8G	MCR12DSMT4H
2N6505TG	MCR72-6TG	BTB12-600BW3G	MAC228A10G	MCR12DSN-1G
2N6507G	MCR72-8G	BTB12-600CW3G	MAC228A4G	MCR12DSNT4G
2N6507TG	MCR72-8TG	BTB12-600TW3G	MAC228A6G	MCR8DCMT4G
2N6508G	MCR8NG	BTB12-800BW3G	MAC228A6TG	MCR8DCNT4G
2N6508TG	MCR8SDG	BTB12-800CW3G	MAC228A8G	MCR8DSMT4G
2N6509G	MCR8SMG	BTB12H-600CW3G	MAC228A8TG	MCR8DSNT4G
2N6509TG	MCR8SNG	BTB16-600BW3G	MAC3030-8G	SCR12DCMT4G
C106BG	NYC0102BLT1G	BTB16-600CW3G	MAC8DG	MAC4DCM-1G
C106D1G	NYC222STT1G	BTB16-800BW3G	MAC8MG	MAC4DCMT4G
C106DG	NYC226STT1G	BTB16-800CW3G	MAC8NG	MAC4DCN-1G
C106M1G	NYC228STT1G	BTB16H-600BW3G	MAC8SDG	MAC4DCNT4G
C106MG	SCR1666G	MAC08BT1G	MAC8SMG	MAC4DHM-1G
C122F1G	SCR888LFDZG	MAC08MT1G	MAC8SNG	MAC4DHMT4G
MCR08BT1G	SYC0102BLT1G	MAC12DG	MAC9DG	MAC4DLM-1G
MCR08MT1G	SYC17143LFBPG	MAC12HCDG	MAC9MG	MAC4DLMT4G
MCR106-6G	TPA0233G	MAC12HCMG	MAC9NG	MAC4DSM-1G
MCR106-8G	TPA0234G	MAC12HCNG	T2500DG	MAC4DSMT4G
MCR12DG	BTA08-600BW3G	MAC12MG	T2800DG	MAC4DSN-1G
MCR12MG	BTA08-600CW3G	MAC12NG	Z0103MNT1G	MAC4DSNT4G
MCR12NG	BTA08-800BW3G	MAC12SMG	Z0107MNT1G	T2322BG