

Automotive Discrete Group (ADG) Power Transistor Division

Process Change Notification

Package Outline Change on PowerFLAT[™] ribbon version Products

Dear Customer,

We inform you that according to our continuous improvement plan and to improve our service versus customer we have decided to introduce a new frame type for our PowerFLATTM ribbon version products. The change will have a light impact on package outline and no one on all the electrical characteristics both static and dynamic.

In the next page you will find a detailed report of the change.

According to the ZVEI and ST internal rules, we have classified the change as class 2:

	Assessment of impact on Supply Chain regarding following aspects - contractual agreements - technical interface of processability/manufacturability of customer - form, fit, function, quality performance, reliability	Remaining risks on Supply Chain?		
ID	Type of change	No	Yes	
SEM-PA-03	Change in leadframe dimensions	Р	Р	

The qualification will be completed by wk39/2018

Sincerely yours!

Package Outline Change on PowerFLAT [™] ribbon version Products										
ST Part number:	Package: PowerFLAT TM Ribbon Version Back End plant: Shenzhen									
Reason and background of the changes	To enlarge material availability introducing a new frame type to be used for all the ribbon version products in PowerFLAT TM .									
Impact on form, fit, function, or reliability.	No change in terms of electrical behavior and reliability performances. A small change in the package outline will be visible as reported in the comparison below									
renability.	Current Package – Etched Frame	Proposed Package – Stamped Frame								
				2						
	No impact on all the electrical parameters.Both the package outline are within current spec									
		t spec	I				1			
		t spec		1	ATA BOOK	1				
		Dim.	NOM	MIN	MAX	Current	Proposed			
	Both the package outline are within current	Dim.	NOM	MIN 0.80	MAX 1.00	Current 0.92	0.95			
	Both the package outline are within current	Dim. A A1		MIN	MAX	Current 0.92 0.04	0.95			
	• Both the package outline are within current BOTTOM VIEW	Dim. A A1 A2	NOM	MIN 0.80 0.02	MAX 1.00 0.05	Current 0.92 0.04 0.26	0.95 0.03 0.27			
	Both the package outline are within current BOTTOM VIEW	Dim. A A1		MIN 0.80	MAX 1.00	Current 0.92 0.04	0.95			
	Both the package outline are within current BOTTOM VIEW	Dim. A A1 A2 b	0.25	MIN 0.80 0.02 0.30	MAX 1.00 0.05 0.50	Current 0.92 0.04 0.26 0.41	0.95 0.03 0.27 0.41			
	• Both the package outline are within current BOTTOM VIEW	Dim. A A1 A2 b C	0.25	MIN 0.80 0.02 0.30 5.80	MAX 1.00 0.05 0.50 6.20	Current 0.92 0.04 0.26 0.41 5.87	0.95 0.03 0.27 0.41 5.85			
	Both the package outline are within current BOTTOM VIEW	Dim. A A1 A2 b C D	0.25	MIN 0.80 0.02 0.30 5.80 5.000	MAX 1.00 0.05 0.50 6.20 5.40	Current 0.92 0.04 0.26 0.41 5.87 5.20	0.95 0.03 0.27 0.41 5.85 5.13			
Defected	Both the package outline are within current BOTTOM VIEW	Dim. A A1 A2 b C D D2	0.25 6.00 5.20	MIN 0.80 0.02 0.30 5.80 5.000 4.15	MAX 1.00 0.05 0.50 6.20 5.40 4.45	Current 0.92 0.04 0.26 0.41 5.87 5.20 4.29	0.95 0.03 0.27 0.41 5.85 5.13 4.40			
Datasheet	Both the package outline are within current BOTTOM VIEW	Dim. A A1 A2 b C D D2 D3 D4 D5	0.25 6.00 5.20 4.20 5.00 0.40	MIN 0.80 0.02 0.30 5.80 5.000 4.15 4.05 4.80 0.25	MAX 1.00 0.05 0.50 6.20 5.40 4.45 4.35 5.20 0.55	Current 0.92 0.04 0.26 0.41 5.87 5.20 4.29 4.20 4.91 0.35	0.95 0.03 0.27 0.41 5.85 5.13 4.40 4.23 4.89 0.31			
Datasheet	Both the package outline are within current BOTTOM VIEW	Dim. A A1 A2 b C D D2 D3 D4 D5 D6	0.25 6.00 5.20 4.20 5.00 0.40 0.30	MIN 0.80 0.02 0.30 5.80 5.000 4.15 4.05 4.80	MAX 1.00 0.05 0.50 6.20 5.40 4.45 4.35 5.20	Current 0.92 0.04 0.26 0.41 5.87 5.20 4.29 4.20 4.91 0.35 0.32	0.95 0.03 0.27 0.41 5.85 5.13 4.40 4.23 4.89 0.31 0.29			
Datasheet	Both the package outline are within current BOTTOM VIEW	Dim. A A1 A2 b C D D2 D3 D4 D5 D6 e	0.25 6.00 5.20 4.20 5.00 0.40 0.30 1.27	MIN 0.80 0.02 0.30 5.80 5.000 4.15 4.05 4.80 0.25 0.15	MAX 1.00 0.05 0.50 6.20 5.40 4.45 4.35 5.20 0.55 0.45	Current 0.92 0.04 0.26 0.41 5.87 5.20 4.29 4.20 4.91 0.35 0.32 1.26	0.95 0.03 0.27 0.41 5.85 5.13 4.40 4.23 4.89 0.31 0.29 1.27			
Datasheet	Both the package outline are within current BOTTOM VIEW	Dim. A A1 A2 b C D D2 D3 D4 D5 D6 e E	0.25 6.00 5.20 4.20 5.00 0.40 0.30	MIN 0.80 0.02 0.30 5.80 5.000 4.15 4.05 4.80 0.25 0.15 6.20	MAX 1.00 0.05 0.50 6.20 5.40 4.45 4.35 5.20 0.55 0.45 6,60	Current 0.92 0.04 0.26 0.41 5.87 5.20 4.29 4.20 4.91 0.35 0.32 1.26 6.41	0.95 0.03 0.27 0.41 5.85 5.13 4.40 4.23 4.89 0.31 0.29 1.27 6.39			
Datasheet	Both the package outline are within current BOTTOM VIEW	Dim. A A1 A2 b C D D2 D3 D4 D5 D6 e E2	0.25 6.00 5.20 4.20 5.00 0.40 0.30 1.27	MIN 0.80 0.02 0.30 5.80 5.000 4.15 4.05 4.80 0.25 0.15 	MAX 1.00 0.05 0.50 6.20 5.40 4.45 4.35 5.20 0.55 0.45 6,60 3.70	Current 0.92 0.04 0.26 0.41 5.87 5.20 4.29 4.20 4.91 0.35 0.32 1.26 6.41 3.60	0.95 0.03 0.27 0.41 5.85 5.13 4.40 4.23 4.89 0.31 0.29 1.27 6.39 3.61			
Datasheet	Both the package outline are within current BOTTOM VIEW	Dim. A A1 A2 b C D D2 D3 D4 D5 D6 e E	0.25 6.00 5.20 4.20 5.00 0.40 0.30 1.27	MIN 0.80 0.02 0.30 5.80 5.000 4.15 4.05 4.80 0.25 0.15 6.20	MAX 1.00 0.05 0.50 6.20 5.40 4.45 4.35 5.20 0.55 0.45 6,60	Current 0.92 0.04 0.26 0.41 5.87 5.20 4.29 4.20 4.91 0.35 0.32 1.26 6.41	0.95 0.03 0.27 0.41 5.85 5.13 4.40 4.23 4.89 0.31 0.29 1.27 6.39			
Datasheet	Both the package outline are within current BOTTOM VIEW	Dim. A A1 A2 b C D D2 D3 D4 D5 D6 e E2 E3	0.25 6.00 5.20 4.20 5.00 0.40 0.30 1.27	MIN 0.80 0.02 0.30 5.80 5.000 4.15 4.05 4.80 0.25 0.15 6,20 3.50 2.35	MAX 1.00 0.05 0.50 6.20 5.40 4.45 4.35 5.20 0.55 0.45 6,60 3.70 2.55	Current 0.92 0.04 0.26 0.41 5.87 5.20 4.29 4.20 4.91 0.35 0.32 1.26 6.41 3.60 2.46	0.95 0.03 0.27 0.41 5.85 5.13 4.40 4.23 4.89 0.31 0.29 1.27 6.39 3.61 2.44			
Datasheet	Both the package outline are within current BOTTOM VIEW	Dim. A A1 A2 b C D D2 D3 D4 D5 D6 e E2 E3 E4	0.25 6.00 5.20 4.20 5.00 0.40 0.30 1.27	MIN 0.80 0.02 0.30 5.80 5.000 4.15 4.05 4.80 0.25 0.15 6,20 3.50 2.35 0.40	MAX 1.00 0.05 0.50 6.20 5.40 4.45 4.35 5.20 0.55 0.45 6,60 3.70 2.55 0.60	Current 0.92 0.04 0.26 0.41 5.87 5.20 4.29 4.20 4.91 0.35 0.32 1.26 6.41 3.60 2.46 0.48	0.95 0.03 0.27 0.41 5.85 5.13 4.40 4.23 4.89 0.31 0.29 1.27 6.39 3.61 2.44 0.49			
Datasheet	Both the package outline are within current BOTTOM VIEW	Dim. A A1 A2 b C D D2 D3 D4 D5 D6 e E2 E3 E4 E5	0.25 6.00 5.20 4.20 5.00 0.40 0.30 1.27 6.40	MIN 0.80 0.02 0.30 5.80 5.000 4.15 4.05 4.80 0.25 0.15 6.20 3.50 2.35 0.40 0.08	MAX 1.00 0.05 0.50 6.20 5.40 4.45 4.35 5.20 0.55 0.45 6,60 3.70 2.55 0.60 0.28	Current 0.92 0.04 0.26 0.41 5.87 5.20 4.29 4.20 4.91 0.35 0.32 1.26 6.41 3.60 2.46 0.14	0.95 0.03 0.27 0.41 5.85 5.13 4.40 4.23 4.89 0.31 0.29 1.27 6.39 3.61 2.44 0.49 0.17			
Datasheet	Both the package outline are within current BOTTOM VIEW	Dim. A A1 A2 b C D D2 D3 D4 D5 D6 e E2 E3 E4 E5 E6	0.25 6.00 5.20 4.20 5.00 0.40 0.30 1.27 6.40	MIN 0.80 0.02 0.30 5.80 5.000 4.15 4.05 4.80 0.25 0.15 6,20 3.50 2.35 0.40 0.08 0.20	MAX 1.00 0.05 0.50 6.20 5.40 4.45 4.35 5.20 0.55 0.45 6,60 3.70 2.55 0.60 0.28 0.45	Current 0.92 0.04 0.26 0.41 5.87 5.20 4.29 4.20 4.91 0.35 0.32 1.26 6.41 3.60 2.46 0.14 0.36	0.95 0.03 0.27 0.41 5.85 5.13 4.40 4.23 4.89 0.31 0.29 1.27 6.39 3.61 2.44 0.49 0.17 0.43			
Datasheet	Both the package outline are within current BOTTOM VIEW	Dim. A A1 A2 b C D D2 D3 D4 D5 D6 e E2 E3 E4 E5 E6 E7	0.25 6.00 5.20 4.20 5.00 0.40 0.30 1.27 6.40	MIN 0.80 0.02 0.30 5.80 5.000 4.15 4.05 4.80 0.25 0.15 6,20 3.50 2.35 0.40 0.08 0.20 0.75	MAX 1.00 0.05 0.50 6.20 5.40 4.45 4.35 5.20 0.55 0.45 6,60 3.70 2.55 0.60 0.28 0.45	Current 0.92 0.04 0.26 0.41 5.87 5.20 4.29 4.20 4.91 0.35 0.32 1.26 6.41 3.60 2.46 0.48 0.14 0.36 0.91	0.95 0.03 0.27 0.41 5.85 5.13 4.40 4.23 4.89 0.31 0.29 1.27 6.39 3.61 2.44 0.49 0.17 0.43 0.90			
Datasheet	Both the package outline are within current BOTTOM VIEW	Dim. A A1 A2 b C D D2 D3 D4 D5 D6 e E2 E3 E4 E5 E6 E7 K	0.25 6.00 5.20 4.20 5.00 0.40 0.30 1.27 6.40	MIN 0.80 0.02 0.30 5.80 5.000 4.15 4.05 4.80 0.25 0.15 6,20 3.50 2.35 0.40 0.08 0.20 0.75 1.275	MAX 1.00 0.05 0.50 6.20 5.40 4.45 4.35 5.20 0.55 0.45 6,60 3.70 2.55 0.60 0.28 0.45 1.05 1.575	Current 0.92 0.04 0.26 0.41 5.87 5.20 4.29 4.20 4.91 0.35 0.32 1.26 6.41 3.60 2.46 0.48 0.14 0.36 0.91 1.440	0.95 0.03 0.27 0.41 5.85 5.13 4.40 4.23 4.89 0.31 0.29 1.27 6.39 3.61 2.44 0.49 0.17 0.43 0.90 1.370			

	Double frame version availability to improve production throughput / flexibility.										
	Here following the comparison between current frame and proposed one:										
Benefit of the	Item			Current				New			
change	Supplier			SHM				SHM			
0	Туре			Post-Plated Ni/NiP				Pre-Plated Ni/NiP			
	Manufacturing Type				Etch			Stamped			
	Ma	anufacturing Locatio	n		Japa	an		N	Aalays	ia	
Planned											
Implementation	Week 07/2019										
date for change											
Qualification											1
Plan		СР	Rel. Plan	ТС	IOLT	THB	HTS 175°C	Wire Pull & Bond Shear	UIS	Parametric Verification	
		STL40DN3LLH5	1 lot	Х	X			X	Х	Х]
		STL120N4F6AG	1 lot	Х	X	Х	X	Х	Х	Х	
		STL86N3LLH6AG	1 lot	Х	X			Х	Х	Х	
		STL52DN4LF7AG	1 lot	Х	Х			Х	Х	Х	
	Qualification will be completed by week 39/2018										
PPAP	PPAP	will be updated acco	ordingly	/							