PANJIT International Inc.
NO.24 Gangshan N. Rd., Gangshan Dist., Kaohsiung City 82063, Taiwan.
TEL:886-7-621-3121 FAX:886-7-621-3129 Website: www.panjit.com.tw

PRODUCT / PROCESS CHANGE NOTIFICATION

Generic Copy

PCN#2303003 • DATE: 28th March, 2023

PCN Subject: Additional Assembly Site for Package SOT-23

- **PCN Change Category:**

  ■ **Material** ■ **Process** ☐ **Datasheet/Specification**

  ☐ **Reliability**

  ■ **Others (Additional assembly site)**

- **Description of Change Purpose or Reason:**

This PCN is being issued to announce the qualification of PANJIT Semiconductor (Xuzhou) Co., Ltd (located in Jiangsu Province, China) as an alternate assembly and test site for SOT-23 selected products. The products that will be manufactured from this new assembly/test site are form, fit, and function compatible with the current qualified manufacturing sites. The qualification incorporates new bill of material (BOM) sets including the utilization of High-Density Leadframe with Alloy material, the change of wire type and wire diameter. For more detail, please check below change information.

We recommend that you acknowledge receipt of this notification within 30 days of this PCN date. If you require samples for further evaluation, please feel free to contact your local sales representative and make a request. We are always pleased to serve you at any time.

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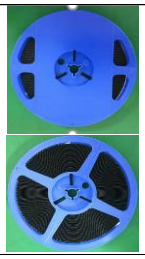
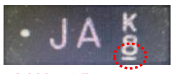
- **Change Information:**

Comparison			Table 1			
			Current			Add
Assembly Site			PANJIT International Inc.	Jiangsu Poppula SemiConductor Co.,Ltd.	Guangdong Fenghua Semiconductor Technology Co., Ltd.	PANJIT Semiconductor (Xuzhou) Co., Ltd.
Location			Kaohsiung, Taiwan	Jiangsu, China	Guangdong, China	Xuzhou, China
Material	Wafer	Supplier	Phenitec Semiconductor Corp.	Phenitec Semiconductor Corp.	Phenitec Semiconductor Corp.	Yangzhou Genesis Microelectronics Co., Ltd
		Diameter (inch)	5"	5"	5"	5"
		Die Size(um)	BAV99: 260 X 260 BAV70: 260 X 260 MMBD7000: 280 X 280	BAV99: 260 X 260 BAV70: 260 X 260 MMBD7000: 280 X 280	BAV99: 260 X 260 BAV70: 260 X 260 MMBD7000: 280 X 280	BAV99: 260 X 260 BAV70: 260 X 260 MMBD7000: 260 X 260
		Thickness (um)	230 ± 15	230 ± 15	230 ± 15	165 ± 15
	Lead Frame	Material	Alloy 42	Copper	Copper	Alloy 42
	Wire	Material / Diameter (mil)	Cu / 1.0	Cu / 1.0	Cu / 1.0	Cu / 0.8
	Epoxy Molding Compound	Product Name	ELER-8-500C	EME-E500DJ ELER-8-500C	EK-3600KH	GR640HV-L1 B18
	Carrier Tape	Material	Polycarbonate (PC)	Polycarbonate (PC) + Acrylonitrile Butadiene Styrene (ABS) + Polycarbonate (PC)	Polycarbonate (PC) + Polystyrene (PS)	Polystyrene (PS)
	Ending Tape	Material	Polyester	Paper	Paper	Paper
		Color	Black	White	Cream	Yellow
	Blue Anti-Static Plastic Reel					
Method	Process	De-Flash	Electrolytic De-flash	Chemical De-flash	Chemical De-flash	Chemical De-flash
Form	Marking Format					 Add bar "-" for new assembly site

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- **Change Information:**

Comparison			Table 2	
			Current	Add
Assembly Site			PANJIT International Inc.	PANJIT Semiconductor (Xuzhou) Co., Ltd.
Location			Kaohsiung, Taiwan	Xuzhou, China
Material	Wafer	Supplier	Phenitec Semiconductor Corp.	Yangzhou Genesis Microelectronics Co., Ltd
		Diameter (inch)	5"	5"
		Die Size(um)	MMBT3904: 250 X 270 MMBT3906: 280 X 280 MMBT2907A: 490 X 490	MMBT3904: 260 X 260 MMBT3906: 260 X 260 MMBT2907A: 460 X 460
		Thickness (um)	230 ± 20	165 ± 15
	Lead Frame	Material	Alloy 42	Alloy 42
	Wire	Material / Diameter (mil)	Ag / 1.0	Cu / 0.8
	Epoxy Molding Compound	Product Name	ELER-8-500C	GR640HV-L1 B18
	Carrier Tape	Material	Polycarbonate (PC)	Polystyrene (PS)
	Ending Tape	Material	Polyester	Paper
		Color	Black	Yellow
	Blue Anti-Static Plastic Reel			
Method	Process	De-Flash	Electrolytic De-flash	Chemical De-flash
Form	Marking Format			 Add bar "-" for new assembly

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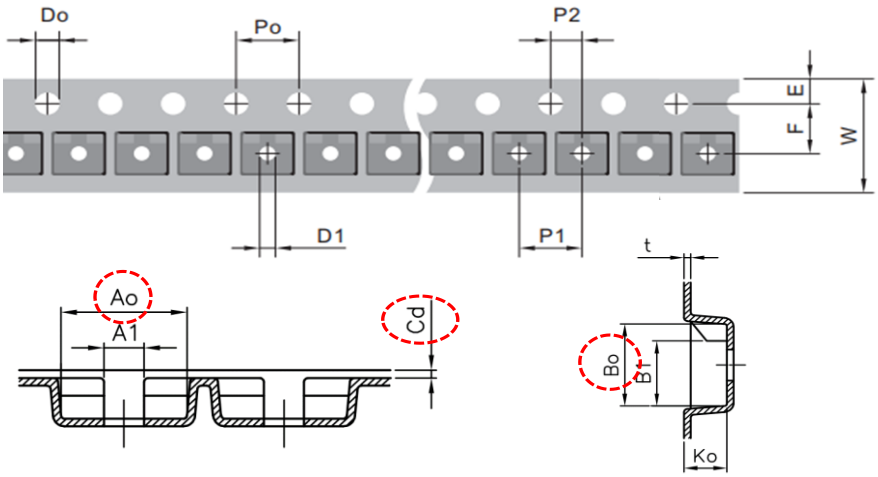
- **Change Information:**

Carrier Tape	Current			Add
Assembly Site	PANJIT International Inc.	Jiangsu Poppula SemiConductor Co.,Ltd.	Guangdong Fenghua Semiconductor Technology Co., Ltd.	PANJIT Semiconductor (Xuzhou) Co., Ltd.
Dimension				
Symbol (mm)	**Dimension**	**Dimension**	**Dimension**	**Dimension**
Ao	3.18 ± 0.10	3.15 ± 0.10	3.25 ± 0.10	3.15 ± 0.10
Bo	2.76 ± 0.10	2.77 ± 0.10	2.80 ± 0.10	2.77 ± 0.10
Cd	0.15 MAX.	-	-	0.20 MAX.

- **Verification /Qualification Data:**

The electrical characterization and high reliability testing have been completed on representative part numbers to ensure there is no change to device functionality or electrical specifications in the datasheet. There will be no change to the Form, Fit, or Function of products affected unless specifically indicated.

- **Affected Product Type:**

Table 1:

Function: Small Signal Switching Diodes		
BAV99	BAV70	MMBD7000

Table 2:

Function: Bipolar Junction Transistors		
MMBT3904	MMBT3906	MMBT2907A

- **Effective Date：28th** June, 2023

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➢ The reliability test results are summarized below:

Product reliability test result: PASS

No.	DESCRIPTION	TEST CONDITION	DURATION	FAILURE RATE	
1	Temperature Cycling (TCT)	Ta = -55℃ ~ +150℃ (2 cycles / Hour)	1000 CYCLES	0/77 PCS	3 LOTS PASS
2	High Temperature Storage Test (HTSL)	Ta = 150℃	1000 HOURS	0/77 PCS	3 LOTS PASS
3	Resistance to Solder Heat (RSH)	Temperature of solder pot = 260 ±5℃ Time for dipping in solder = 10 +2/-0 Sec	1 CYCLE	0/30 PCS	3 LOTS PASS
4	Solder ability (SD)	Temperature of solder pot = 245 ±5℃ Time for dipping in solder = 5 ±0.5 Sec	1 CYCLE	0/10 PCS	3 LOTS PASS
5	Intermittent Forward Operation Life (IFOL)	$\triangle$Tj≧100℃ Power On: 120 sec Power Off: 120 sec	15000 CYCLES	0/77 PCS	3 LOTS PASS
6	High Temperature Reverse Bias (HTRB)	Ta = 140℃ , VR = 80%VB, DC supply	1000 HOURS	0/77 PCS	3 LOTS PASS
7	Autoclave (AC)	Ta = 121℃, P = 29.7psia ,100%RH	96 HOURS	0/77 PCS	3 LOTS PASS
8	Temperature Humidity Storage (THS)	Ta = 85℃ , RH = 85%	1000 HOURS	0/77 PCS	3 LOTS PASS

- **ELECTRICAL CHARACTERISTICS SUMMARY:**

  There is no change to the product electrical specifications.

- **SAMPLES NEED：**

  Contact your local PANJIT sales representative.

- **TECHNICAL CONTACT：**

  E-mail: alanliu@panjit.com.tw

- **FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**

  Contact your local PANJIT sales representative.

- **ADDITIONAL RELIABILITY：**

  Contact your local PANJIT sales representative.

- **CHANGED PART IDENTIFICATION :**

  The tracking of 1st delivery after change can be identified by production lot number. Please contact your local sales for tracking lot number.

  Please refer to below Lot number rule:

  Lot number: **2924XXXXX.**

  1st digit “2” denotes Year 2022.
  2nd digit “9” denotes September.
  3rd and 4th digits denote Day.

  From 5th digits (XXXXX) denotes production serial number.

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Customer Acknowledgement Form

(To be filled out by the customer and returned to HQBU of PANJIT)

The indicated Customer Notification letter was received and acknowledged by the undersigned authority.

Company Name : _____

Customer Name : _____(Signature) Date : _____

PCN Number : PCN#2303003

Approval for the Product/Process change: ☐Yes ☐No

Comments/Additional requests:

_____

_____

_____

Thanks for your attention on this matter. Please return the acknowledgment form to your local PANJIT sales representative.

Please note that no objection within 30 days upon receiving will be deemed as being accepted and agreed with this Process Change Notification.