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Process Change Notification

This is to inform you that a design and/or process change will be implemented to the affected product(s) and this notification is for your information and concurrence. This change is planned to take effect in 90 calendar days from the date of this notification.

Please work with your local Taiwan Semiconductor Sales Representative to manage your inventory of unchanged product if your evaluation of this change will require more than 90 calendar days.

Please contact your local Taiwan Semiconductor Field Quality Service or Customer Quality Engineer within 45 days of receipt of this notification if you require any additional data or samples.

PCN No: PCN21008
Title: Additional wafer supplier for BZX79B2V4~BZX79B51 and Datasheet Revision
Issue Date: 2021/5/13

If you have any questions concerning this change, please contact:

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PCN Type:
Additional wafer supplier and Datasheet Revision

Effectivity:
Expected 1st device shipment date: 2021/8/11

Product Category (Description):

Part Number BZX79B2V4~BZX79B75 assembled in package DO-35 provided by Taiwan Semiconductor Co. Ltd. The full lists of products affected are listed in the "List of Affected Devices" section.

Description of Change:

Taiwan Semiconductor Company supplier for device BZX79B2V4~BZX79B51qualified a second wafer supplier to ensure the robust wafer supply and business contingency. This will secure the production delivery requirement with the similar or comparable wafer supplier performance. There will be no changes on the product BOM except for the new wafer supplier.

In line with this change, the product datasheet will also be revised to remove the erroneous description of molding compound since there is no molding compound used in DO-35 production. No change of any parameter on datasheet.

1. Additional wafer supplier

Item	From	To
Wafer Supplier	Supplier A	Supplier A + Supplier B

2. Product Datasheet Revisions

Item	From	To
Datasheet	With the description “packing code with suffix G means green compound”	Delete the molding compound description

Qualification and Reliability Result:

1. Electrical test comparison

PN: BZX79B47	**ITEM**	**VF(mV)**	**VZ (V)**	**IR(uA)**	**ZZT(ohm)**	**ZZK(ohm)**
	TEST Condition	**IF=100mA**	**IZ=2mA**	**VR=32.9V**	**IZT=2mA**	**IZK=0.5mA**
	SPEC.	**<1500mV**	**46.06<VZ<47.94V**	**<0.05uA**	**<170ohm**	**<375ohm**
Supplier A	MIN	898.814	46.664	0.0001	23.800	27.960
	MAX	911.632	47.618	0.001	38.190	82.820
	AVG.	904.521	47.100	0.0004	28.103	46.977
Supplier B	MIN	884.469	46.359	0.0001	52.360	63.300
	MAX	898.509	47.587	0.0005	69.130	93.170
	AVG.	891.866	46.839	0.0002	60.918	76.770

Conclusion: Additional wafer supplier has a similar electrical performance compared with existing supplier.

2. Device/Package Qualification

NO.	Test	Test Conditions	No. of Lots	Sample Size	Result
1	Steady State Operation (SSOP)	Ta=25℃, Ptot max. rated power,1000hrs	3	3*77	PASS
2	Temperature Cycling (TC)	JESD22-A104 -55(-10/+0)°C/15min to 150(+15/-0) °C/15min, 1000cycles	3	3*77	PASS
3	Intermittent Operational Life (IOL)	Ta=25℃ ; Tj≥100℃ 6000 cycles (2min ,Off/Nonrated 2min)	3	3*77	PASS
4	Unbiased Highly Accelerated Stress Test (UHAST)	Ta=130°C, 85%RH, 96hrs	3	3*77	PASS
5	High Humidity High Temp. Reverse Bias (H3TRB)	85℃, 85%RH, 80%VR ,1000hrs	3	3*77	PASS
6	ESD Characterization	HBM JS-001 10pcs for each ESD level, (C=100pf R=1500Ω)	3	3*30	Cap.:8KV
	ESD Characterization	CDM JS-002 10pcs for each ESD level allowed.	3	3*30	Cap.:2KV
7	Resist. to Solder Heat (RSH)	Pb free: 270(+5/-0)°C,7+2-0 sec	1	1*30	PASS
8	Destruct. Phy. Analysis (DPA)	JESD22-A104,JESD22-B116 TC passed choose 2pcs of the 1 lot HAST or H3TRB passed choose 2 pcs of the 1 lot: Visual inspection, SAM, X-ray, decapsulation than Visual inspection	1	1*4	PASS

Conclusion: The additional wafer supplier can satisfy the product reliability requirement.

Effect of Change:
There is no impact in product electrical specification, functionality, quality and reliability. This change will guarantee Taiwan Semiconductor commitment on customer service and satisfaction through continuous improvement.

List of Affected Devices:

Family	Package	Part Number
ZENER Diodes	DO-35	BZX79B2V4
ZENER Diodes	DO-35	BZX79B2V7
ZENER Diodes	DO-35	BZX79B3V0
ZENER Diodes	DO-35	BZX79B3V3
ZENER Diodes	DO-35	BZX79B3V6
ZENER Diodes	DO-35	BZX79B3V9
ZENER Diodes	DO-35	BZX79B4V3
ZENER Diodes	DO-35	BZX79B4V7

ZENER Diodes	DO-35	BZX79B5V1
ZENER Diodes	DO-35	BZX79B5V6
ZENER Diodes	DO-35	BZX79B6V2
ZENER Diodes	DO-35	BZX79B6V8
ZENER Diodes	DO-35	BZX79B7V5
ZENER Diodes	DO-35	BZX79B8V2
ZENER Diodes	DO-35	BZX79B9V1
ZENER Diodes	DO-35	BZX79B10
ZENER Diodes	DO-35	BZX79B11
ZENER Diodes	DO-35	BZX79B12
ZENER Diodes	DO-35	BZX79B13
ZENER Diodes	DO-35	BZX79B15
ZENER Diodes	DO-35	BZX79B16
ZENER Diodes	DO-35	BZX79B18
ZENER Diodes	DO-35	BZX79B20
ZENER Diodes	DO-35	BZX79B22
ZENER Diodes	DO-35	BZX79B24
ZENER Diodes	DO-35	BZX79B27
ZENER Diodes	DO-35	BZX79B30
ZENER Diodes	DO-35	BZX79B33
ZENER Diodes	DO-35	BZX79B36
ZENER Diodes	DO-35	BZX79B39
ZENER Diodes	DO-35	BZX79B43
ZENER Diodes	DO-35	BZX79B47
ZENER Diodes	DO-35	BZX79B51
ZENER Diodes	DO-35	BZX79B56
ZENER Diodes	DO-35	BZX79B62
ZENER Diodes	DO-35	BZX79B68
ZENER Diodes	DO-35	BZX79B75