



PRODUCT / PROCESS CHANGE NOTIFICATION - FINAL

This is to inform you that a product change will be made to the following devices. This final notification is for your information and concurrence.

Tak Cheong Electronics (Holdings) Co., Ltd. will consider this change approved unless specific conditions of acceptance are provided in writing within 30 days of receipt of this notice. If you require data or samples to qualify this change, please contact our local Tak Cheong Electronics (Holdings) Co., Ltd. sales office within 30 days of receipt of this notification.

For any questions concerning this change, please contact:

Name : Steven Zhao
Email : steven.zhao@takcheong.com
Phone : 86-660-337 5888

SUBJECT : Product Change Notification # PCN-003
TITLE : Relax VF Test Limit To 1.4 Volts
CATEGORY : VF Test Limit Change (Parametric)
PRODUCT AFFECTED : DO35/41 Axial Leaded Glass Zener Diodes (60 Volts and Above)
EFFECTIVITY : September 11, 2003

DESCRIPTION OF CHANGE:

It's been a long period since then Tak Cheong has been producing high voltage zener devices in glass axial-lead package. And we've been in a long period of time on campaign of improving the Forward Voltage of zener devices 60 Volts and above. But due to the nature and structure of wafer that Tak Cheong wish to maintain the unique methodology of sealing process of what we so called 'metallurgical bonding', the interest of improving the VF distribution turns into a difficult decision wherein by changing the wafer recipe and metallization to improve would result to a trade-off on other critical parameters and its uniqueness.

Tak Cheong Electronics provided a substantial effort to develop the wafer performance with the wafer supplier but time was limited to sustain the business. Consequently, we are announcing that a change on Forward Voltage (VF) limit that was published in our databook on devices 60 Volts and above will be change to 1.4 Volts. It was observed that some zener device families published a similar limit even higher to what we announced. Therefore, we believe that this change would not significantly affect the function of the device and/or may not at all.

Summary of Change:

<u>DEVICE FAMILY</u>	<u>PARAMETER</u>	<u>FROM</u>	<u>TO</u>
1N52xxB	VF @ 200mA	<1.1V	<1.4V
1N47xxA	VF @ 200mA	<1.2V	<1.4V
BZX85Cxxx	VF @ 200mA	<1.2V	<1.4V

Note: Please see specific device affected on the list below. This new limit also superseded published limit on data book.



EFFECT OF CHANGE:

The parts covered in these dealings are expected to meet all device parameters specifications and reliability will continue to meet existing standards.

QUALIFICATION PLAN:

The Qualification Plan was designed to meet all our requirements in qualifying new VF limit.

Test	Condition	Duration	Sample Size
HTRB	TA = 150°C VR = 80% of VZ	1000 Hours	77
HTSL	TA = 200°C	1000 Hours	77
DCOL	TA = 25°C IF = 200mA	1000 Hours	77
Temperature Cycle	TA = -65°C to 150°C TDWELL = 15 minutes	1000 Cycles	77
VF Pull	Initial Force = 0 Lbs Final Force = 10 Lbs IF = 200mA •VF = <25mV	---	16

QUALIFICATION PLAN NUMBER:

VF LIMIT CHANGE QUALIFICATION AQP # 03-030

QUALIFICATION RESULTS:

Test	1N5231B		1N5242B		1N4758A	
	Control	Test	Control	Test	Control	Test
HTRB	0/77	0/77	0/77	0/77	0/77	0/77
HTSL	0/77	0/77	0/77	0/77	0/77	0/77
DCOL	0/77	0/77	0/77	0/77	0/77	0/77
Temperature Cycle	0/77	0/77	0/77	0/77	0/77	0/77
VF Pull	Pass	Pass	Pass	Pass	Pass	Pass

RELIABILITY TESTING CONCLUSION:

The qualification of zeners with new VF limit reliability testing has successfully completed and passed on all requirements as outlined above. The devices with VF limit <1.4V (Test Lot) has been found to be as good than the control lots in terms of reliability and quality. Based on the positive reliability test results, the new VF limit is considered qualified.

CHANGE PART IDENTIFICATION:

Customers may receive these products manufactured with new VF limit Date Code 0336 or later.



ADDITIONAL CONTACT INFORMATION:

Contact/s at Tak Cheong Electronics:



SYNSEMI SEMICONDUCTOR

Name	Department	Email address	Direct line
Mr. Karl Williams	Managing Director	synsemi@yahoo.com kawsynsemi@sbcglobal.net	(1)-650-560-0095



Name	Department	Email address	Direct line
Miss. Xiao Chau	Sales & Marketing	swsales@takcheong.com	(86)-660-337-4499



Name	Department	Email address	Direct line
Ms. Jennifer Ng	Sales & Marketing	tcsales@takcheong.com	(852)-2334-1357 Ext 15

AFFECTED DEVICE LIST:

1N5264B	1N5270BRR2;	1N5277BRR1!	1N4763ATA2*
1N5264BRL	1N5271B	1N5277BRR2;	1N4764A
1N5264BRL2*	1N5271BRL	1N5278B	1N4764ARL
1N5264BRA1!	1N5271BRL2*	1N5278BRL	1N4764ARL2*
1N5264BRA2;	1N5271BRA1!	1N5278BRL2*	1N4764ATA
1N5264BTA	1N5271BRA2;	1N5278BRA1!	1N4764ATA2*
1N5264BTA2*	1N5271BTA	1N5278BRA2;	BZX85C62
1N5264BRR1!	1N5271BTA2*	1N5278BTA	BZX85C62RL
1N5264BRR2;	1N5271BRR1!	1N5278BTA2*	BZX85C62RL2*
1N5265B	1N5271BRR2;	1N5278BRR1!	BZX85C62TA
1N5265BRL	1N5272B	1N5278BRR2;	BZX85C62TA2*
1N5265BRL2*	1N5272BRL	1N5279B	BZX85C68
1N5265BRA1!	1N5272BRL2*	1N5279BRL	BZX85C68RL
1N5265BRA2;	1N5272BRA1!	1N5279BRL2*	BZX85C68RL2*
1N5265BTA	1N5272BRA2;	1N5279BRA1!	BZX85C68TA
1N5265BTA2*	1N5272BTA	1N5279BRA2;	BZX85C68TA2*
1N5265BRR1!	1N5272BTA2*	1N5279BTA	BZX85C75
1N5265BRR2;	1N5272BRR1!	1N5279BTA2*	BZX85C75RL
1N5266B	1N5272BRR2;	1N5279BRR1!	BZX85C75RL2*
1N5266BRL	1N5273B	1N5279BRR2;	BZX85C75TA
1N5266BRL2*	1N5273BRL	1N5280B	BZX85C75TA2*
1N5266BRA1!	1N5273BRL2*	1N5280BRL	BZX85C82
1N5266BRA2;	1N5273BRA1!	1N5280BRL2*	BZX85C82RL
1N5266BTA	1N5273BRA2;	1N5280BRA1!	BZX85C82RL2*
1N5266BTA2*	1N5273BTA	1N5280BRA2;	BZX85C82TA
1N5266BRR1!	1N5273BTA2*	1N5280BTA	BZX85C82TA2*
1N5266BRR2;	1N5273BRR1!	1N5280BTA2*	BZX85C91
1N5267B	1N5273BRR2;	1N5280BRR1!	BZX85C91RL
1N5267BRL	1N5274B	1N5280BRR2;	BZX85C91RL2*
1N5267BRL2*	1N5274BRL	1N5281B	BZX85C91TA
1N5267BRA1!	1N5274BRL2*	1N5281BRL	BZX85C91TA2*
1N5267BRA2;	1N5274BRA1!	1N5281BRL2*	BZX85C100
1N5267BTA	1N5274BRA2;	1N5281BRA1!	BZX85C100RL
1N5267BTA2*	1N5274BTA	1N5281BRA2;	BZX85C100RL2*
1N5267BRR1!	1N5274BTA2*	1N5281BTA	BZX85C100TA
1N5267BRR2;	1N5274BRR1!	1N5281BTA2*	BZX85C100TA2*
1N5268B	1N5274BRR2;	1N5281BRR1!	
1N5268BRL	1N5275B	1N5281BRR2;	
1N5268BRL2*	1N5275BRL	1N4759A	
1N5268BRA1!	1N5275BRL2*	1N4759ARL	
1N5268BRA2;	1N5275BRA1!	1N4759ARL2*	
1N5268BTA	1N5275BRA2;	1N4759ATA	
1N5268BTA2*	1N5275BTA	1N4759ATA2*	
1N5268BRR1!	1N5275BTA2*	1N4760A	
1N5268BRR2;	1N5275BRR1!	1N4760ARL	
1N5269B	1N5275BRR2;	1N4760ARL2*	
1N5269BRL	1N5276B	1N4760ATA	
1N5269BRL2*	1N5276BRL	1N4760ATA2*	
1N5269BRA1!	1N5276BRL2*	1N4761A	
1N5269BRA2;	1N5276BRA1!	1N4761ARL	
1N5269BTA	1N5276BRA2;	1N4761ARL2*	
1N5269BTA2*	1N5276BTA	1N4761ATA	
1N5269BRR1!	1N5276BTA2*	1N4761ATA2*	
1N5269BRR2;	1N5276BRR1!	1N4762A	
1N5270B	1N5276BRR2;	1N4762ARL	
1N5270BRL	1N5277B	1N4762ARL2*	
1N5270BRL2*	1N5277BRL	1N4762ATA	
1N5270BRA1!	1N5277BRL2*	1N4762ATA2*	
1N5270BRA2;	1N5277BRA1!	1N4763A	
1N5270BTA	1N5277BRA2;	1N4763ARL	
1N5270BTA2*	1N5277BTA	1N4763ARL2*	
1N5270BRR1!	1N5277BTA2*	1N4763ATA	