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To: Distribution

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Reliability Qualification Report for New Devices PVG612A/S

Three qualification lots of PVG612 (2 lots in 6L-GW and 1 lot in 6L-PDIP packages) completed Autoclave, Temp-Cycling, THB and HTRB reliability tests without the occurrence of any reliability failure. Based on these reliability test results, the PVG612AS in 6L-GW and PVG612A in 6L-PDIP packages are qualified and released to production. The level of the qualification is industrial level.

Each of the test conditions is described below and is accompanied by the summary of test results.

Rel Test #1 - Autoclave Humidity Test

Test Condition: 16 Hours of Autoclave @ +121°C, 100%RH and 15 PSIG.
Bias Condition: None, Preconditioning: Not required

Results

Device	Lot Number	Lot Description	Package	Hour	SS	Reject	Remarks
PVG612AS	732510-C	Qual Lot1	6L-GW	16	77	0	
PVG612AS	732534-B	Qual Lot2	6L-GW	16	77	0	
PVG612A	P112850	Qual Lot3	6L-PDIP	16	77	0	

Rel Test #2 - Temperature Cycling:

Test Condition: 1000 cycles between -40°C to 125°C ($\Delta T=165^\circ\text{C}$, Dry-Air to Dry-Air)
Bias Condition: None, Preconditioning: None

Results

Device	Lot Number	Lot Description	Package	Hour	SS	Reject	Remarks
PVG612AS	732510-C	Qual Lot1	6L-GW	1000	77	0	
PVG612AS	732534-B	Qual Lot2	6L-GW	1000	77	0	
PVG612A	P112850	Qual Lot3	6L-PDIP	1000	77	0	

International IOR Rectifier

Rel Test #3 - Temperature Humidity Bias (THB) Test:

Test Condition: 1008 Hours @ +85°C and 85%RH
 Bias Condition: Vin = 0 Volts, Vout (Vds) = 10Volts, Preconditioning: Not required
 Note: the THB samples were mounted by reflow, 1 pass with the PRT=225C.

Results

Device	Lot Number	Lot Description	Package	Hour	SS	Reject	Remarks
PVG612AS	732510-C	Qual Lot1	6L-GW	1008	77	0	
PVG612AS	732534-B	Qual Lot2	6L-GW	1008	77	0	
PVG612A	P112850	Qual Lot3	6L-PDIP	1008	77	0	

Rel Test #4 - High Temperature Reverse Bias (HTRB) Test:

Test Condition: 1008 Hours @ +110°C
 Bias Condition: Vin = 0 Volts, Vout (Vds) = 48 Volts, Preconditioning: Not required
 Note: the HTRB samples were mounted by reflow, 1 pass with the PRT=225C.

Results

Device	Lot Number	Lot Description	Package	Hour	SS	Reject	Remarks
PVG612AS	732510-C	Qual Lot1	6L-GW	1008	77	0	
PVG612AS	732534-B	Qual Lot2	6L-GW	1008	77	0	
PVG612A	P112850	Qual Lot3	6L-PDIP	1008	77	0	

PVG612's DEVICE/LOT INFORMATION

PACKAGES	TYPE	6 LEAD GW 6 LEAD PDIP
	MC MATERIAL	Toshiba KE-95
SILICON TECHNOLOGY/FAB		FET DIE: Gen3 LQ Cells/Fab2 PVG DIE: Gen2/Fab3 LED DIE: PT112C/Fairchild
ASSEMBLY		Cirtek, Philippines
FT TEST		Cirtek, Philippines
RELIABILITY		IR REL Lab, CA USA
REMARKS:		