

Edge Protection Technology (EPT) Performance Summary

June 2, 2023

▶ Test

- LFCSP 9x9xmm body size with Edge Protection Technology (EPT), 22 units
- Solder Heat Resistance Test (SHRT): MSL3 condition: 30C/60%RH 192 hours, 3x solder reflow
- Open/Short test

▶ Result

- Passed visual inspection and no delamination noted post MSL3
- No open/short failures post SHR
- Samples with Edge Protection Technology passed MSL3 SHRT

- ▶ **Devices:** MAX16993AGJC/VY+GA and ADDR9501
 - Control (standard LFCSP) and Qual (LFCSP with Edge Protection Technology) lots
- ▶ **Test**
 - Solder Heat Resistance Test (MSL3: 30C, 60%RH, 192 hours)
 - Temperature Cycle (-65C/150C, 500 and 1000 cycle readpoints)
- ▶ **Result**
 - No delamination after MSL3 SHR
 - Passed visual inspection and no open/short failures up to 1000 cycles
 - Time zero full electrical test done on ADDR9501 lots with EPT with comparable performance with same device in standard LFCSP format

Device	Package	Lot	Sample Size	MSL3 SHRT	Temp Cycle (500x)	Temp Cycle (1000x)	Result
MAX16993AGJC/VY+GA	LFCSP 32L 5x5x0.85mm	Control	77 units	No delamination	<ul style="list-style-type: none"> • Passed visual inspection • All units passed open/short test 	<ul style="list-style-type: none"> • Passed visual inspection • All units passed open/short test 	Passed
		Qual Lot 1	77 units	No delamination	<ul style="list-style-type: none"> • Passed visual inspection • All units passed open/short test 	<ul style="list-style-type: none"> • Passed visual inspection • All units passed open/short test 	Passed
		Qual Lot 1	77 units	No delamination	<ul style="list-style-type: none"> • Passed visual inspection • All units passed open/short test 	<ul style="list-style-type: none"> • Passed visual inspection • All units passed open/short test 	Passed
		Qual Lot 1	77 units	No delamination	<ul style="list-style-type: none"> • Passed visual inspection • All units passed open/short test 	<ul style="list-style-type: none"> • Passed visual inspection • All units passed open/short test 	Passed
ADDR9501	LFCSP 48L 7x7x0.85mm	Qual Lot 1	30 units	No delamination	---	---	Passed
		Qual Lot 2	30 units	No delamination	---	---	Passed
		Qual Lot 3	30 units	No delamination	---	---	Passed

ADI Reliability Test Results

- ▶ Both qual and control lots passed visual inspection after reliability tests
- ▶ EPT passed up to SHR (MSL3) and up to 1000 temperature cycles with no open/short failures
- ▶ No delamination post MSL3 SHR