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SUB: Updated Documentation of Component Qualification; Reliability / Environmental / Physical, Mechanical & Process Tests

NTP Series - Surface Mount Polymer Cathode Low ESR Tantalum Chip Capacitors

- The following test data report covers NTP series family component qualification test data
- Product specification: <http://www.niccomp.com/catalog/ntp.pdf>
- NTP107M6.3TRA(25)F = 100uF / 6.3VDC / A case 3216 size / Lot #: 1302S701Z
- NTP157M10TRD(40)F = 150uF / 10VDC / D case 7343 size / Lot #: 1304S591Z

Reliability / Environmental Tests (*test conditions, see page 2*)

- High Temperature Life / n = 77
- Storage Life / n = 77
- Load Humidity / n = 77
- Temperature Cycle / n = 77
- Thermal Shock / n = 30
- Moisture Resistance / n = 77

Physical, Mechanical & Process Tests (*test conditions, see page 2*)

- Physical Dimensions / n = 30
- Terminal Strength / n = 30
- Resistance to Solvents / n = 5
- Solderability & Leaching / n = 60 (steam aged = 15 / dual temp reflow = 30 / leaching = 15)
- Resistance to Soldering Heat / n = 30

Results:

- All samples pass all Reliability / Environmental / Physical, Mechanical & Process Tests
- Components are qualified

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			Part Number -->		NTP107M6.3TRA(25)F		NTP157M10TRD(40)F	
Test Name	Method Reference	Test Conditions	Sample Size (per lot)	Failure Count	Sample Size (per lot)	Failure Count	Sample Size (per lot)	Failure Count
Reliability and Environmental Tests								
High Temperature Life	MIL-STD-202, Method 108	105°C, Rated Voltage, 2000 Hours.	77	0	77	0	77	0
Storage Life	MIL-STD-202, Method 108	105°C, 0 Volts, 2000 Hours.	77	0	77	0	77	0
Load Humidity	MIL-STD-202, Method 103	60°C, 90% RH, Rated Voltage, 1000 Hours.	77	0	77	0	77	0
Temperature Cycle	JESD22, Method JA-104	-55°C to +105°C, 1000 Cycles.	77	0	77	0	77	0
Thermal Shock	MIL-STD-202, Method 107	-55°C to +105°C, 1000 Cycles.	30	0	30	0	30	0
Moisture Resistance	MIL-STD-202, Method 106	Cycled Temperature / RH, 0 Volts DC, 10 Cycles of 24 Hours.	77	0	77	0	77	0
Physical, Mechanical, and Process Tests								
Physical Dimensions	Per Specifications	Length, width, and thickness.	30	0	30	0	30	0
Terminal Strength	JIS-C-6429	Force of 1.8 kg for 60 seconds.	30	0	30	0	30	0
Resistance to Solvents	MIL-STD-202, Method 215	Include aqueous wash chemical, OKEM Clean or equivalent.	5	0	5	0	5	0
Solderability	ANSI / J-STD-002	8 hr steam age @ 215°C	15	0	15	0	15	0
		4 hr dry age 155°C followed by 235 and 260°C dips	30	0	30	0	30	0
		Leaching @ 260°C dip	15	0	15	0	15	0
Resistance to Soldering Heat	MIL-STD-202, Method 210	Condition B, single wave solder, procedure 2, no pre-heat.	30	0	30	0	30	0

Results:

- All samples pass all Reliability / Environmental / Physical, Mechanical & Process Tests
- Component is qualified

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