

#### 4.2.4 Deviations from Qualification Tests (Chart IV)

- (a) Para. 9.9, Mounting: Capacitance and Capacitance Change shall be measured in accordance with Table 6 herein. Capacitance Change shall be related to the initial measurement.
- (b) Para. 9.19, Solderability: The solderable area is the termination pad and up to 1/3 the height of the tab.

#### 4.2.5 Deviations from Lot Acceptance Tests (Chart V)

- (a) Para. 9.9, Mounting: Capacitance and Capacitance Change shall be measured in accordance with Table 6 herein. Capacitance Change shall be related to the initial measurement.
- (b) Para. 9.19, Solderability: The solderable area is the termination pad and up to 1/3 the height of the tab.

**TABLE 6 - MEASUREMENTS AND INSPECTIONS ON COMPLETION OF ENVIRONMENTAL TESTS AND AT INTERMEDIATE POINTS AND ON COMPLETION OF ENDURANCE TESTING**

No.	ESCC Generic Spec. No. 3012		Measurements and Inspections		Symbols	Limits		Units
	Environmental and Endurance Tests (Note 1)	Test Methods and Conditions	Identification	Conditions		Min	Max	
01	Mounting	Para. 9.9	<b>Initial Measurements</b>					
			<b>Capacitance</b>	<b>Table 2</b>	<b>C</b>	<b>Table 2</b>		<b>μF</b>
			<b>Final Examination</b>					
			Terminals	Good tinning	-	-	-	
			<b>Final Measurements</b>					
			Capacitance	Table 2 Item 1	C	<b>Table 2-Record Value</b>		<b>μF</b>
			Capacitance Change	Table 2 Item 1	ΔC/C	-5	+5	%
			DC Leakage Current	Table 2 Item 2	I <sub>L</sub>	-	Table 2	μA
02	Rapid Change of Temperature	Para. 9.3.2	<b>Initial Measurements</b>					
			<b>Capacitance</b>	<del>Value recorded after</del> <b>Mounting</b>	<b>C</b>	<b>Table 2</b>		<b>μF</b>
			<b>Final Measurements</b>					
			Recovery period of 4 hours min.					
			Visual Examination	No corrosion, no damage or obliteration of marking	-	-	-	
			Capacitance Change	Table 2 Item 1	ΔC/C	-5	+5	% <b>(2)</b>
			DC Leakage Current	Table 2 Item 2	I <sub>L</sub>	-	Table 2	μA
			Dissipation Factor	Table 2 Item 3	DF	-	Table 2	%
			Equivalent Series Resistance	Table 2 Item 4	ESR	-	1.25 x Table 2	mΩ

Propose additional modifications to DCR1014 on 3012/004 (highlighted in blue)

No.	ESCC Generic Spec. No. 3012		Measurements and Inspections		Symbols	Limits		Units
	Environmental and Endurance Tests (Note 1)	Test Methods and Conditions	Identification	Conditions		Min	Max	
03	External Visual Inspection	Para. 9.5	<b>Final Inspection</b> External Visual Inspection	ESCC No. 20500	-	-	-	
04	Adhesion	Para. 9.10	<b>Initial Measurements</b> Capacitance	<del>Value recorded</del> after Mounting	C	Table 2		μF
			<b>Final Measurements</b> Visual Examination	No damage or loosening from the substrate	-	-	-	
			Capacitance Change	Table 2 Item 1	ΔC/C	-5	+5	% (2)
05	Vibration	Para. 9.11	<b>Measurements during test</b>	During Last Cycle No intermittent Contact > 0.5ms, arcing or open or shorts	-	-	-	
			<b>Final Examination</b> Visual Examination	No damage	-	-	-	
06	Shock or Bump	Para. 9.12	<b>Final Examination</b> Visual Examination	No damage	-	-	-	
07	Climatic Sequence	Para. 9.13	<b>Initial Measurements</b> Capacitance	<del>Value recorded</del> after Mounting	C	Table 2		μF
			<b>Intermediate Measurements</b> DC Leakage Current	After Dry Heat Table 3 Item 2 (Note 2 3)	I <sub>L</sub>	-	Table 3	μA
			<b>Final Measurements</b> External Visual Inspection	After recovery of 1 to 24 hours ESCC No. 20500	-	-	-	
			Capacitance Change	Table 2 Item 1	ΔC/C	-5	+5	% (2)
			DC Leakage Current	Table 2 Item 2	I <sub>L</sub>	-	Table 2	μA
			Dissipation Factor	Table 2 Item 3	DF	-	1.25 x Table 2	%
			Equivalent Series Resistance	Table 2 Item 4	ESR	-	1.25 x Table 2	mΩ
08	High and Low Temperature Stability	Para. 9.14	<b>Measurements during test</b> Electrical Measurements	Tables 2 & 3		Tables 2 & 3		

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No.	ESCC Generic Spec. No. 3012		Measurements and Inspections		Symbols	Limits		Units
	Environmental and Endurance Tests (Note 1)	Test Methods and Conditions	Identification	Conditions		Min	Max	
09	Surge Voltage	Para. 9.15	<b>Final Measurements</b> Capacitance- <b>Change</b> DC Leakage Current Dissipation Factor Equivalent Series Resistance	Table 2 Item 1 Table 2 Item 2 Table 2 Item 3 Table 2 Item 4	C I <sub>L</sub> DF ESR	-	Table 2	μF μA % mΩ
10	Damp Heat Steady State	Para. 9.16	<b>Initial Measurements</b> <b>Capacitance</b> <b>Final Measurements</b> Visual Examination Capacitance Change DC Leakage Current Dissipation Factor Equivalent Series Resistance	<b>Value recorded after Mounting</b> After recovery of 1 to 2 hours No damage Table 2 Item 1 Table 2 Item 2 Table 2 Item 3 Table 2 Item 4	<b>C</b> - ΔC/C I <sub>L</sub> DF ESR	-	Table 2	<b>μF</b> % <b>(2)</b> μA % mΩ
11	Operating Life	Para. 9.17	<b>Initial Measurements</b> <b>Capacitance</b> <b>Intermediate Measurements</b> DC Leakage Current <b>Final Measurements</b> Capacitance Change DC Leakage Current Dissipation Factor Equivalent Series Resistance Visual Examination	<b>Value recorded after Mounting</b> At 250 and 1000 hrs Table 3 Item 2 (Note <b>2 3</b> ) At 1000 and 2000 hrs and after recovery <b>of</b> 1 to 2 hours Table 2 Item 1 Table 2 Item 2 Table 2 Item 3 Table 2 Item 4 No damage	<b>C</b> I <sub>L</sub> ΔC/C I <sub>L</sub> DF ESR -	-	Table 2	<b>μF</b> μA % <b>(2)</b> μA % mΩ
12	Permanence of Marking	Para. 9.18	<b>Final Examination</b> Visual Examination	ESCC No. 24800	-	-	-	
13	Solderability	Para. 9.19, 4.2.4 and 4.2.5 of this spec	<b>Final Examination</b> Visual Examination	ESCC No. 3012 Para. 9.13.3 and no damage	-	-	-	

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**NOTES:**

1. The tests in this Table refer to either Chart IV or V and shall be used as applicable.
2. **Referred to the initial measurement recorded during the final measurements during Mounting.**
3. While still at the high temperature.