

- Last Revision Date :December.28.2009
- Date :January 05 .2010

- Supplier :Samsung electro-mechanics
- Product : Tantalum capacitor
- Samsung P/N : **TCSCS1C226MBAR**
- User Part No :
- Description : CAP,TANTAL,22 $\mu$ F,16V, $\pm$ 20%,3528-19

## 1. Samsung Part Number

**TC    SCS    1C    226    M    B    A    R**

Tantalum Capacitor	TC			
Series	SCS			
Rated Voltage	16V			
Capacitance	22 $\mu$ F			
Capacitance tolerance	$\pm$ 20%			
Case size code	3528-19	L: 3.5 $\pm$ 0.2 mm	W: 2.8 $\pm$ 0.2 mm	H: 1.9 $\pm$ 0.2 mm
Packing code	7" reel			

## 2. Reliability Test and Judgment Condition 1

Item	Performance	Test condition
Capacitance	Within specified tolerance	120Hz, maximum 1.0Vrms, maximum 1.5Volt D.C, at 25
Tan $\delta$ (DF)	Within specified value	120Hz, maximum 1.0Vrms, maximum 1.5Volt D.C, at 25
Impedance(Z) & ESR	Within specified value	100kHz, maximum 1.0Vrms, maximum 1.5Volt D.C, at 25
Leakage current	Within specified value	The rated DC voltage shall be applied to terminals across the test capacitor charge Time: 5 min.
Temperature Characteristics	"-55 : C/C -10~0% "+85 : C/C 0~10% "+125 : C/C 0~15%	(From -55 to 125 ,
Adhesion Strength	No peeling shall be occur on the terminal electrode	1005mm size : 2N, for 10 $\pm$ 1 sec. 1608~7343mm size : 5N, for 10 $\pm$ 1 sec.
Electrode Strength	Within specified tolerance Tan $\delta$ , LC : initial spec.	Bending to the limit (3mm) with 1.0mm/sec.
Solder ability	More than 95% of terminal surface is to be soldered newly	SnAg3.0Cu0.5 solder :245 $\pm$ 5 , 3 $\pm$ 0.3sec (preheating : 80~120 for 10~30sec.)
Resistance to Soldering heat	Capacitance change : within $\pm$ 15% Tan $\delta$ , LC : initial spec.	Solder pot : 260 $\pm$ 5 , 10 $\pm$ 1sec.
Vibration Test	Capacitance change : within $\pm$ 5% Tan $\delta$ , LC : initial spec.	Amplitude : 1.5mm From 10Hz to 55Hz (return : 1min.) 2hours ' 3 direction (x, y, z)
Moisture Resistance	Capacitance change : within $\pm$ 10% Tan $\delta$ , LC : initial spec.	40 $\pm$ 2 , 90~95%RH, 500+8/-0hrs
High Temperature Resistance	Capacitance change : within $\pm$ 10% Tan : initial spec. LC : 125% or less specified initial value	With the rated voltage Max. operating temperature 2000/-0hrs
Temperature Cycling	Capacitance change : within $\pm$ 5% Tan $\delta$ , LC : initial spec.	1 cycle condition (Min. operating temperature 25 Max. operating temperature 25 ) 5 cycle test

## 3. Recommended Soldering method

Reflow ( Reflow Peak Temperature : 260 $\pm$ 5 , 10sec. Max )

With Pb-free products, if used under 235 ,the quality confirmation must be needed.

## 4. Ratings & Part Number Reference

Part Number	Capacitance	Leakage Current	DF %	ESR
TCSCS1C226MBAR	22 $\mu$ F	3.5 $\mu$ A	8%	2.3 $\Omega$