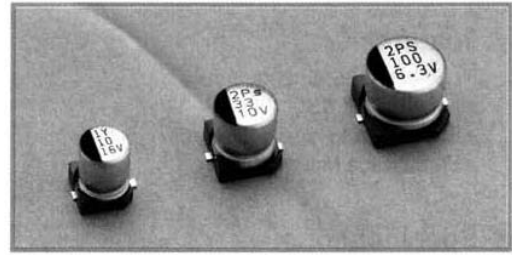




**CS SERIES**

Chip type, For surface mounting

- SMD TYPE. Reflow Soldering is available.
- Life 2000 hours at 85°C
- Available For High Density Mounting

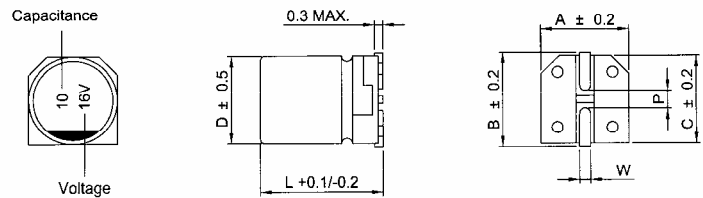


**Characteristics**

<b>Voltage Range</b>	4 to 450 VDC												
<b>Capacitance Range</b>	0.1 to 6800uF												
<b>Temperature Range</b>	-40 to +85°C												
<b>Capacitance Tolerance</b>	+20% -20% (at 20°C, 120Hz)												
<b>Leakage Current</b>	SIZE A~F: I≤0.01CV or 3uA, whichever is greater 2 minutes after Rated Voltage applied SIZE G~I(6.3V~100V): I≤0.03CV whichever is greater 1 minutes after Rated Voltage applied SIZE G~I (160V~450V): I≤0.04CV +100Ua whichever is greater 1 minutes after Rated Voltage applied												
<b>Dissipation Factor (tan δ)Max</b>  (at 20°C, 120Hz)	Voltage (V)	4	6.3	10	16	25	35	50	63	100	160~250	400~450	
	SIZE A1	0.37	0.35	-	0.18	0.16	0.14	0.14	-	-	-	-	
	SIZE A~C	0.4	0.26	0.22	0.18	0.16	0.13	0.12	-	-	-	-	
	SIZE D~F	-	0.35	0.26	0.20	0.16	0.14	0.12	0.12	0.10	-	-	
	SIZE G~I	-	0.38	0.34	0.30	0.26	0.22	0.18	0.14	0.1	0.20	0.25	
<b>Stability at Low Temperature (at 120Hz)</b>	Voltage (V)	4	6.3	10	16	25	35	50	63	100	160~250	400~450	
	Z -25°C	SIZE A~F	7	4	3	3	2	2	2	2	3	-	-
	/Z +20°C	SIZE G~I			5	4	2	3	2	2	2	3	6
	Z -40°C	SIZE A~F	17	17	10	4	3	2	2	3	4		
	/Z 20°C	SIZE G~I			12	10	5	4	3	3	3	6	10
<b>Load Life</b>	After the rated voltage has been applied for 2000 hours at 85°C	Capacitance change	Within ±25% of initial value										
		D.F. tanδ	200% or less of initial specified value										
		Leakage current	Less than Initial specified value										
<b>Shelf Life</b>	After storage for 1000 hours at 85°C, with no voltage applied and being stabilized at +20°C, Capacitor shall meet the limit specified in load life.												

**Diagram of dimensions**

SIZE	Dφ	L	A	C	B	W	P
A1	3	5.4	3.3	3.3	3.6	0.45~0.65	0.6
A	4	5.5	4.3	4.3	5.1	0.5~0.8	1.0
B	5	5.5	5.3	5.3	5.9	0.5~0.8	1.4
C	6.3	5.5	6.6	6.6	7.2	0.5~0.8	2.0
C8	6.3	7.7	6.6	6.6	7.2	0.5~0.8	2.0
C9	6.3	8.0	6.6	6.6	7.2	0.5~0.8	2.0
D	8	6.5	8.3	8.3	9.0	0.5~0.8	2.2
E	8	10.5	8.3	8.3	9.0	0.8~1.1	3.1
F	10	10.5	10.3	10.3	11.0	0.8~1.1	4.5
G	12.5	13.5	12.8	12.8	14.4	1.1~1.4	4.6
H	12.5	16.0	12.8	12.8	14.4	1.1~1.4	4.6
I	16	16.5	16.3	16.3	17.6	1.8~2.2	6.0





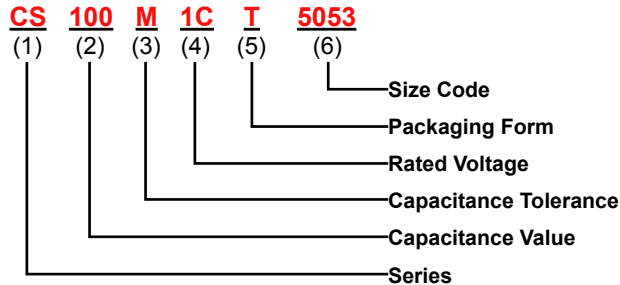
# ORDERING INFORMATION (SMD)



Daewoo Components Corp.

## Surface Mount Part Numbering System Example:

**CS** = SMD Series, **100** = 10 $\mu$ F, **M** =20% Tolerance, **1C** = W.V = 16 Volts, **TR** = Tape & Reel, **5053** = Case size (Dia x H) = 5.0 x 5.3mm



### (1) Series

See quick guide on website.  
 Surface mount (CS, CU, CZ, CZH, CN, CK)  
 Example: CS = 2000hrs @ 85°C  
 CU = 1000hrs @ 105°C

### (5) Packaging Form Code

Surface Mount	T	Tape & Reel for Surface Mount
	XX	Tape & Reel SMD 13" Reels (330mm)

### (2) Capacitance Value Code

Capacitance expressed in micro Farads ( $\mu$ F)  
 First two digits are significant figures  
 Third digit denotes the number of zeros  
 Use R for decimal point for values less than 10 $\mu$ F

#### Examples:

CODE	Capacitance
R10	0.1 $\mu$ F
R68	0.68 $\mu$ F
1R0	1.0 $\mu$ F
100	10 $\mu$ F
680	68 $\mu$ F
471	470 $\mu$ F
102	1000 $\mu$ F
103	10000 $\mu$ F

### (6) Size Code

Size Code	Dimensions (mm)	
	Diameter	Length
3054	3.0	5.4
4053	4.0	5.3
4055	4.0	5.5
5053	5.0	5.3
5055	5.0	5.5
6353	6.3	5.3
6355	6.3	5.5
6357	6.3	5.7
6377	6.3	7.7
8069	8.0	6.3
8010	8.0	10.0
1010	10.0	10.0
1213	12.5	13.5
1216	12.5	16.0

### (3) Capacitance Tolerance Code

CODE	Cap. Tol.
M	$\pm$ 20%

### (4) Rated Voltage Code

CODE	Voltage	CODE	Voltage
	4.0V	2A	100V
0J	6.3V	2C	160V
1A	10V	2D	200V
1C	16V	2E	250V
1E	25V	2V	350V
1V	35V	2G	400V
1H	50V	2W	450V