

Series CSP

Polymer Solid Electrolytic Tantalum SMD Capacitors

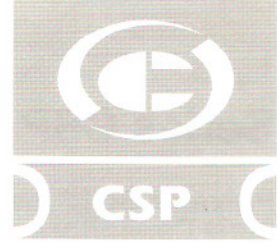
Brief Introduction

CSP Series is molded solid tantalum capacitor with sintered and polymer as the cathode, featuring Low ESR and good frequency response, resistance to high ripple current, small size, small weight, high reliability and long life.
 CSP Series is suitable for SMD electric circuits in telecommunications, computer, mobile phone set, portable digital devices.
 CSP Series is equivalent to KEMET T520 series

SPECIFICATION:

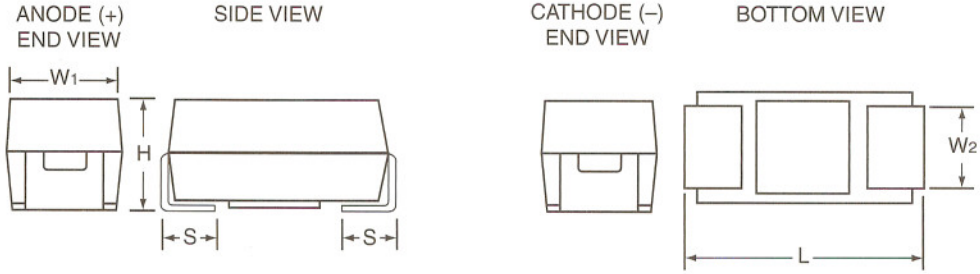
Item	Performance Characteristics			
Operating Temperature Range	-55 to + 125°C (>85°C with rated voltage derating)			
Rated Working Voltage Range	4 to 10 V DC			
Nominal Capacitance Range	100 μF to 220 μF			
Capacitance Tolerance	±20% (120Hz, +20°C)			
Leakage Current	Not more than 0.1cv (μA)			
tan δ (120Hz, +20°C)	See next page			
Characteristics at High and Low Temperature	-55°C	Capacitance change	±12% of initial measured value at +20°C	
	+105°C	Leakage current	≤12.5% of initial measured value	
		Capacitance change	±15% of initial measured value at +20°C	
Moisture Resistance	Test conditions			
	Relative humidity : 90 to 95% without load Ambient temperature : +40°C Duration : 500 hours Post test requirements at + 20°C Leakage current : ≤ Initial specified value Capacitance change : ± 10% of initial measured value tan δ : ≤ Initial specified value			
Endurance	Test conditions			
	Item \ Conditions	Derating	Rating	
	Duration	1000 hours	1000 hours	
	Ambient temperature	+ 105°C	+ 85°C	
	Applied voltage	Derated working voltage	Rated working voltage	
	Source impedance	1Ω/V	1Ω/V	
Derating voltage + 105°C				
Working voltage [V] DC		4	6.3	10
Derating voltage [V] DC		2.5	4	6.3
Post test requirements at +20°C				
Leakage current		: ≤ 125% of initial specified value		
Capacitance change		: ± 10% of initial measured value		
tan δ		: ≤ Initial specified value		
Shelf Life	Test conditions		Post test requirements at +20°C	
	Duration	: 1000 hours	Same limits for "Endurance".	
	Ambient temperature	: +105°C		
	Applied voltage	: (none)		
Solder Heat Resistance	The capacitor shall withstand dipping into solder bath for 5±1 seconds at 260±5°C			

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1. Tantalum Capacitor CHIP TYPE OUTLINE DRAWINGS.



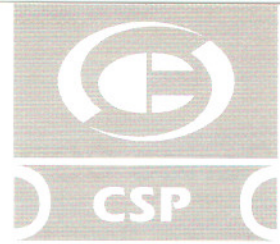
2. Dimensions Millimeters (Inch)

Case Size	$L \pm 0.2$ (0.008)	$W_1 \pm 0.2$ (0.008)	$H \pm 0.2$ (0.008)	$S \pm 0.2$ (0.008)	$W_2 \pm 0.2$ (0.008)
B	3.5 (0.137)	2.8 (0.110)	1.9 (0.075)	0.8 (0.031)	2.2 (0.087)
C	6.0 (0.236)	3.2 (0.126)	2.5 (0.098)	1.3 (0.051)	2.2 (0.087)
D	7.3 (0.287)	4.3 (0.169)	2.8 (0.110)	1.3 (0.051)	2.4 (0.094)
E	7.3 (0.287)	4.3 (0.169)	4.0 (0.157)	1.3 (0.051)	2.4 (0.094)

3. Rated Voltage, Capacitance of Capacitors.

Rated Voltage (V)	4	6.3	10	16	20	25	35	50
Code	0G	0J	1A	1C	1D	1E	1V	1H
Capacitance (μF)	Case Size							
0.10 (104)								
0.15 (154)								
0.22 (224)								
0.33 (334)								
0.47 (474)								
0.68 (684)								
1.0 (105)								
1.5 (155)								
2.2 (225)								
3.3 (335)								
4.7 (475)								
6.8 (685)								
10 (106)			A					
15 (156)			A					
22 (226)		A						
33 (336)	A	B	B					
47 (476)	A	B						
68 (686)	B	C	C					
100 (107)	B	C/D	D					
150 (157)	C/D	C/D	D					
220 (227)	D	D	D					
330 (337)	D	D						
470 (477)	D							

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Ratings Part Number Reference

Part No.	Case Size	Capacitance μF	DCL(μA)Max.	DF(%)Max.	ESR(Ω)Max. @25°C 100kHz	Ripple Current (A rms)@25°C 100kHz
4 Volt.						
CSPA 0G336(#) TR080	A	33	13	8	0.08	1
CSPA 0G476(#) TR080	A	47	19	8	0.08	1
CSPB 0G686(#) TR070	B	68	27	8	0.07	1.1
CSPB 0G107(#) TR070	B	100	40	8	0.07	1.1
CSPC 0G157(#) TR045	C	150	60	8	0.045	1.6
CSPD 0G157(#) TR007	D	150	60	10	0.007	4.6
CSPD 0G227(#) TR065	D	220	88	10	0.065	1.5
CSPD 0G337(#) TR045	D	330	132	10	0.045	1.8
CSPD 0G477(#) TR040	D	470	188	10	0.04	1.9
6.3 Volt.(0J)						
CSPA 0J226(#) TR100	A	22	14	8	0.1	0.9
CSPB 0J336(#) TR070	B	33	21	8	0.07	1.1
CSPB 0J476(#) TR070	B	47	30	8	0.07	1.1
CSPC 0J686(#) TR070	C	68	43	8	0.07	1.1
CSPC 0J107(#) TR045	C	100	63	8	0.045	1.6
CSPD 0J107(#) TR007	D	100	63	10	0.007	4.6
CSPC 0J157(#) TR025	C	150	95	8	0.025	2.1
CSPD 0J157(#) TR055	D	150	95	10	0.055	1.7
CSPD 0J227(#) TR050	D	220	139	10	0.05	1.7
CSPD 0J337(#) TR045	D	330	208	10	0.045	1.8
10 Volt.(1A)						
CSPA 1A106(#) TR080	A	10	10	8	0.08	1
CSPA 1A156(#) TR080	A	15	15	8	0.08	1
CSPB 1A336(#) TR070	B	33	33	8	0.07	1.1
CSPC 1A686(#) TR045	C	68	68	8	0.045	1.6
CSPD 1A107(#) TR080	D	100	100	10	0.08	1.4
CSPD 1A157(#) TR055	D	150	150	10	0.055	1.7
CSPD 1A227(#) TR040	D	220	220	10	0.04	1.9

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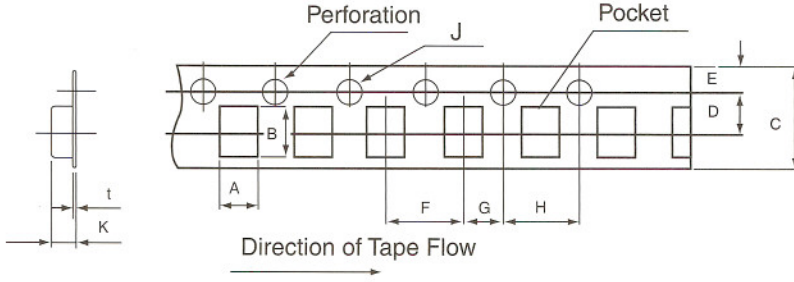
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CARRIER TAPE PACKAGING SPECIFICATIONS EXPLANATION OF PART NUMBERS

C S P D O G 2 2 7 M T R 065
 Series Code Case Size Rated Voltage Nominal Capacitance Capacitance Tolerance Carrier Tape Packaging Polarity Orientation ESR

Dimensions of the carrier tape and standard parts quantity per reel.

Dimensions



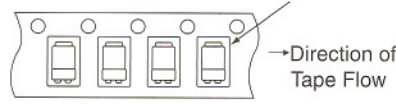
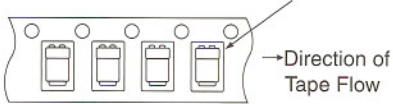
(Unit:mm)

CASE SIZE	A ±0.1	B ±0.1	C ±0.3	D ±0.1	E ±0.1	F ±0.1	G ±0.1	H ±0.1	J +0.1 -0	K MAX	t	Quantity Per Reel
B	3.1	3.8	8.0	3.5	1.75	4.0	2.0	4.0	1.5	2.5	0.2	2000
C	3.6	6.4	12.0	5.5	1.75	8.0	2.0	4.0	1.5	3.0	0.3	500
D	4.7	7.7	12.0	5.5	1.75	8.0	2.0	4.0	1.5	3.4	0.3	500
E	4.6	7.6	12.0	5.5	1.75	8.0	2.0	4.0	1.5	4.6	0.3	500

Inserting Direction (Polarity Orientation)

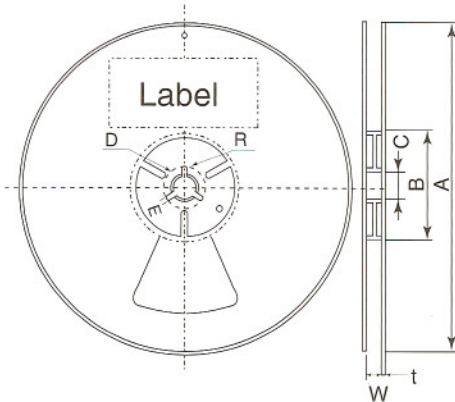
Polarity L: To be inserted with the positive side to the feed hole.

Polarity R: To be inserted with the negative side to the feed hole.



Reel Dimensions

(Unit:mm)



Tape width	8	12
A ₃ ⁰	∅ 180	←
B ₀ ⁺¹	∅ 60	←
C ± 0.2	∅ 13	←
D ± 0.8	∅ 21	←
E ± 0.5	2.0	←
W ± 0.3	9.0	13.0
t ± 0.4	1.3	←
R ± 0.4	10.5	←

Tape Leader and Tailer

