

DV Series Chip type



Features

- ◆ Chip type ,Low impedance
- ◆ Chip type with Endurance of 2000~5000 hours at +105°C
- ◆ Designed for surface mounting on high density PC board
- ◆ Applicable to automatic mounting machine using carrier tape
- ◆ Complied to the RoHS directive

Specifications

Item	Performance Characteristics									
Operating Temperature Range	-55~ +105°C									
Rated Voltage Range	6.3~100 VDC									
Capacitance Range	1 to 6800 μF									
Capacitance Tolerance	±20%(120Hz,+20°C)									
Leakage Current (+20°C,max.)	I ≤0.01 CV or 3 (μA)After 2 minutes whichever is greater measured with rated working voltage applied.									
Dissipation Factor (tan δ , at 20°C , 120Hz)	Working voltage(VDC)	6.3	10	16	25	35	50	63	80	100
	D.F.(%)max	24	19	16	14	14	12	10	9	8
Low Temperature Characteristics (at 120Hz)	Impedance ratio max									
	Rated voltage(VDC)	6.3	10	16	25	35	50	63	80	100
	Z-25°C / Z+20°C	2	2	2	2	2	2	2	2	2
	Z-40°C / Z+20°C	8	6	4	4	3	3	3	3	3
Endurance	Test conditions									
	Duration time	:2000 Hrs (φ 12.5~16:5000H)								
	Ambient temperature	:+105°C								
	Applied voltage	:Rated DC working voltage								
	After test requirement at +20°C :									
	Capacitance change	:Within ±30% of initial value								
	Dissipation factor	:Less than 300% of specified value								
	Leakage current	:Less than specified value								
Shelf Life	Test conditions									
	Duration time	:1000 Hrs								
	Ambient temperature	:+105°C								
	Applied voltage	:None								
	After test requirement at +20°C : Same limits as Endurance.									
	Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.									
Resistance to soldering heat	The following specifications shall be satisfied when the capacitors are restored to20°C after exposing them at 250°C for 30 seconds.									
	Leakage current	Less than specified value								
	Capacitance change	Within ±10% of initial value								
	tan δ	Less than specified value								

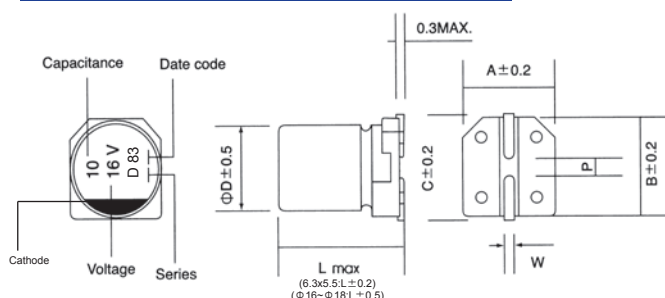
SMD

Multiplier for Ripple Current vs. Frequency

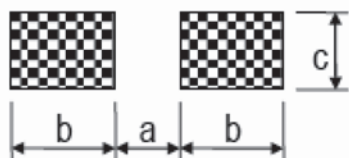
CAP(μF)\Frequency(Hz)	60(50)	120	500	1K	10K	50K-100K
CAP ≤ 10	0.47	0.59	0.76	0.85	0.97	1.0
10 < CAP	0.52	0.65	0.80	0.89	0.97	1.0

φD	L	A	B	C	W	P
4	5.5	4.3	4.3	4.9	0.5~0.8	1.0
5	5.5	5.3	5.3	5.9	0.5~0.8	1.4
6.3	5.5	6.6	6.6	7.2	0.5~0.8	2.2
6.3	6.1	6.6	6.6	7.2	0.5~0.8	2.2
6.3	7.7	6.6	6.6	7.2	0.5~0.8	2.2
8	6.5	8.3	8.3	9.0	0.5~0.8	2.3
8	10.5	8.3	8.3	9.0	0.7~1.1	3.1
10	10.5	10.3	10.3	11.0	0.7~1.1	4.5
12.5	14	13.0	13.0	13.9	1.0~1.4	4.5
16	17	17.0	17.0	18.0	1.0~1.4	6.6
16	21.5	17.0	17.0	18.0	1.0~1.4	6.6
18	16.5	19.0	19.0	20.0	1.0~1.4	6.6
18	21.5	19.0	19.0	20.0	1.0~1.4	6.6

Diagram of Dimensions:(unit:mm)



Recommended land pattern:(unit:mm)



Φ DxL	a	b	c
4xall	1	2.6	1.6
5xall	1.4	3	1.6
6.3xall	2.1	3.5	1.6
8xL(height ≤6.5)	2.1	4.5	1.6
8xL(height >6.5)	2.8	4.2	1.9
10xall	4.3	4.4	1.9
12.5xall	4.3	5.8	2.5
16xall	6	6.5	3.5
18xall	6	7.5	3.5

Case Size

VV (Vdc)	Cap (uF)	Size (mm)	Ripple current (mArms/105°C /100KHz)	Max ESR 20°C 100KHz(Ω)
6.3	22	4x5.5	75	2.20
6.3	27	4x5.5	79	1.98
6.3	33	4x5.5	82	1.90
6.3	33	5x5.5	130	1.30
6.3	47	4x5.5	86	1.88
6.3	47	5x5.5	150	1.10
6.3	56	5x5.5	150	1.10
6.3	68	5x5.5	160	0.90
6.3	68	6.3x5.5	220	0.55
6.3	100	5x5.5	170	0.80
6.3	100	6.3x5.5	230	0.53
6.3	150	6.3x5.5	235	0.51
6.3	150	8x6.5	250	0.48
6.3	220	6.3x7.7	260	0.45
6.3	220	6.3x5.5	240	0.48
6.3	330	6.3x7.7	275	0.36
6.3	330	8x6.5	290	0.34
6.3	470	8x10.5	450	0.28
6.3	680	8x10.5	500	0.25
6.3	1000	8x10.5	530	0.20
6.3	1000	10x10.5	570	0.17
6.3	1200	10x10.5	600	0.16
6.3	1500	10x10.5	650	0.13
6.3	1800	10x10.5	860	0.08
6.3	3300	12.5x14	1100	0.080
6.3	6800	16x17	1250	0.052
10	22	4x5.5	80	2.20
10	27	5x5.5	125	1.90
10	33	4x5.5	90	1.85
10	33	5x5.5	150	1.20
10	47	5x5.5	165	1.10
10	47	6.3x5.5	180	0.59
10	56	6.3x5.5	210	0.57
10	68	6.3x5.5	220	0.55
10	100	5x5.5	210	0.80
10	100	6.3x5.5	240	0.53
10	150	6.3x5.5	250	0.49
10	150	8x6.5	260	0.47
10	220	6.3x7.7	270	0.44
10	220	8x6.5	285	0.40
10	330	8x10.5	500	0.25
10	470	8x10.5	550	0.25
10	680	10x10.5	680	0.20
10	1000	10x10.5	740	0.15
10	2200	12.5x14	1100	0.080
10	4700	16x17	1250	0.052
16	10	4x5.5	80	2.20

VV (Vdc)	Cap (uF)	Size (mm)	Ripple current (mArms/105°C /100KHz)	Max ESR 20°C 100KHz(Ω)
16	15	4x5.5	85	2.00
16	22	4x5.5	90	1.98
16	22	5x5.5	140	1.60
16	27	5x5.5	170	0.74
16	33	6.3x5.5	185	0.60
16	47	5x5.5	195	1.05
16	47	6.3x5.5	210	0.58
16	56	6.3x5.5	220	0.56
16	68	6.3x5.5	230	0.54
16	68	8x6.5	240	0.50
16	100	6.3x5.5	255	0.52
16	150	6.3x7.7	265	0.45
16	150	8x6.5	270	0.44
16	220	6.3x7.7	275	0.43
16	220	8x6.5	285	0.41
16	330	8x10.5	550	0.25
16	470	8x10.5	590	0.22
16	680	10x10.5	720	0.16
16	1500	12.5x14	1100	0.080
16	3300	16x17	1250	0.052
25	6.8	4x5.5	70	2.80
25	10	4x5.5	85	2.10
25	15	5x5.5	125	1.90
25	22	5x5.5	145	1.20
25	22	6.3x5.5	160	1.15
25	27	6.3x5.5	200	0.62
25	33	5x5.5	160	1.05
25	33	6.3x5.5	220	0.58
25	47	6.3x7.7	230	0.54
25	47	6.3x5.5	220	0.56
25	56	6.3x5.5	230	0.54
25	68	6.3x5.5	240	0.48
25	68	8x6.5	260	0.45
25	100	6.3x7.7	290	0.38
25	100	8x6.5	300	0.36
25	150	8x10.5	480	0.25
25	220	8x10.5	530	0.22
25	330	8x10.5	570	0.20
25	470	10x10.5	650	0.15
25	1000	12.5x14	1100	0.080
25	2200	16x17	1250	0.052
35	3.3	4x5.5	80	2.80
35	4.7	4x5.5	85	2.50
35	6.8	4x5.5	88	2.20
35	10	4x5.5	90	2.00
35	10	5x5.5	125	1.40
35	15	5x5.5	140	1.20

WV (Vdc)	Cap (uF)	Size (mm)	Ripple current (mAmps/105°C /100KHz)	Max ESR 20°C 100KHz(Ω)
35	22	5x5.5	155	1.10
35	22	6.3x5.5	170	1.05
35	27	6.3x5.5	210	0.60
35	33	6.3x5.5	230	0.54
35	33	8x6.5	260	0.51
35	47	6.3x5.5	240	0.53
35	47	8x6.5	250	0.49
35	56	6.3x7.7	250	0.49
35	68	6.3x7.7	265	0.40
35	100	6.3x7.7	300	0.38
35	100	8x10.5	420	0.28
35	150	8x10.5	510	0.24
35	220	8x10.5	570	0.21
35	330	10x10.5	650	0.15
35	470	12.5x14	1100	0.08
35	680	12.5x14	1100	0.080
35	1500	16x17	1250	0.052
50	1	4x5.5	55	4.50
50	2.2	4x5.5	55	4.50
50	3.3	4x5.5	55	4.50
50	4.7	4x5.5	55	4.50
50	6.8	5x5.5	75	3.80
50	10	5x5.5	95	2.80
50	10	6.3x5.5	130	2.20
50	15	6.3x5.5	140	1.60
50	22	6.3x5.5	150	1.30
50	27	6.3x7.7	180	1.20
50	33	6.3x7.7	190	0.71
50	33	8x6.5	200	0.70
50	47	6.3x7.7	230	0.70
50	47	8x6.5	240	0.69
50	56	8x10.5	300	0.52
50	68	8x10.5	320	0.50

WV (Vdc)	Cap (uF)	Size (mm)	Ripple current (mAmps/105°C /100KHz)	Max ESR 20°C 100KHz(Ω)
50	100	8x10.5	350	0.46
50	150	10x10.5	600	0.25
50	220	10x10.5	650	0.23
50	330	12.5x14	800	0.210
50	1000	16x17	1000	0.078
63	4.7	5x5.5	45	2.80
63	10	6.3x5.5	80	1.60
63	22	6.3x7.7	150	1.10
63	33	8x10.5	230	0.80
63	47	8x10.5	260	0.55
63	68	10x10.5	380	0.40
63	100	10x10.5	400	0.28
63	100	12.5x14	520	0.26
63	150	12.5x14	780	0.20
63	220	12.5x14	810	0.18
63	470	16x17	1390	0.085
80	4.7	6.3x5.5	50	3.80
80	10	6.3x7.7	70	3.0
80	22	6.3x7.7	110	1.70
80	33	8x10.5	200	1.10
80	47	10x10.5	320	0.90
80	68	10x10.5	490	0.65
80	100	12.5x14	580	0.42
80	220	16x17	930	0.26
100	10	6.3x7.7	65	4.00
100	22	8x10.5	110	2.00
100	33	10x10.5	180	1.30
100	47	10x10.5	370	1.00
100	47	12.5x14	480	0.95
100	68	12.5x14	580	0.60
100	100	12.5x14	620	0.50
100	220	16x17	1050	0.28