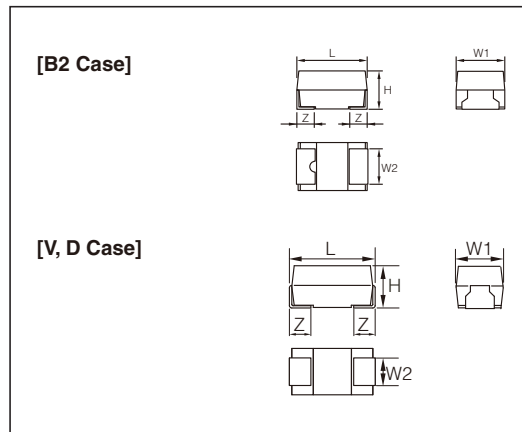


■ FEATURE

- Lead-free type. RoHS Compliant.
- Extreme low ESR (7mohm) and excellent noise absorption performance.
- High capacitance and ultra low ESR based upon on our original Conductive Polymer technology.
- Same outer dimension an conventional PS/L series.

■ DIMENSIONS



(Unit: mm)

Case Code	L	W1	W2	H	Z
B2	3.5 ± 0.2	2.8 ± 0.2	2.2 ± 0.1	1.9 ± 0.2	0.8 ± 0.2
V	7.3 ± 0.2	4.3 ± 0.2	2.4 ± 0.2	1.9 ± 0.1	1.3 ± 0.2
D	7.3 ± 0.2	4.3 ± 0.2	2.4 ± 0.2	2.8 ± 0.2	1.3 ± 0.2

■ STANDARD C-V VALUE REFERENCE BY CASE CODE

μF		UR :Rated Voltage		
		2.5	4	
		0E	0G	
220	227	V 9, 7	V 9	
330	337	B2 9	V 9, 6	D 9, 7
470	477	V 9	D 9, 7, 6	
680	687	D 9, 7, 6		

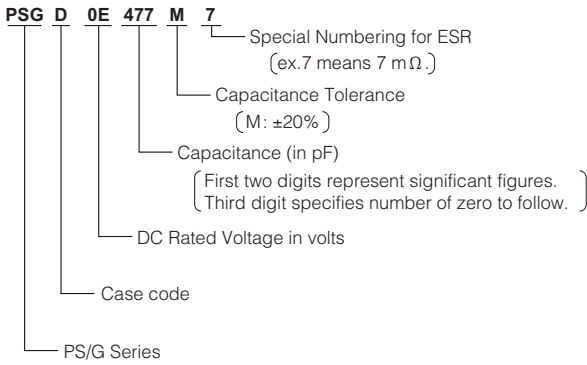
Numeral: ESR(mΩ)



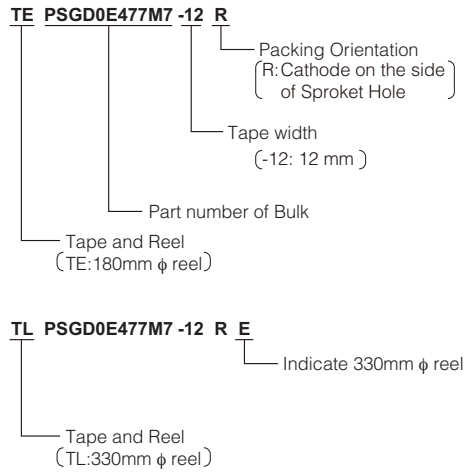
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■ PART NUMBER SYSTEM

[Bulk]

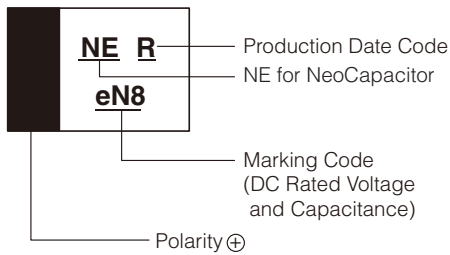


[Tape and Reel]



■ MARKINGS

[B2 case]



[Rated voltage and capacitance]

UR :Rated Voltage

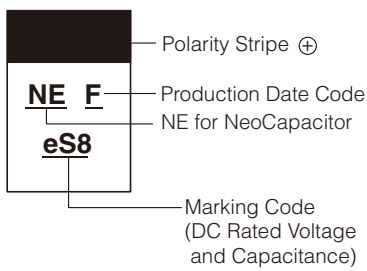
μF	UR		2.5	4
			0E	0G
220	227		eJ8	gJ8
330	337		eN8	
470	477		eS8	
680	687		eW8	

[Production date code]

y	M	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2007		a	b	c	d	e	f	g	h	j	k	l	m
2008		n	p	q	r	s	t	u	v	w	x	y	z
2009		A	B	C	D	E	F	G	H	J	K	L	M
2010		N	P	Q	R	S	T	U	V	W	X	Y	Z

NOTE:Production date code will resume beginning in 2011.

[V, D case]



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■ PERFORMANCE CHARACTERISTICS

Test Conditions : Conform to IEC 60384-1

ITEM		PERFORMANCE		TEST CONDITION
Operating temperature		-55 to +105		Derate voltage at 85 at more
Rated voltage (V.dc)		2.5V	4V	at 85
Derated voltage (V.dc)		2V	3.3V	at 105
Surge voltage (V.dc)		3.3V	5.2V	at 85
Capacitance		220 μF to 680 μF		at 120 Hz
Capacitance tolerance		±20%		
DC Leakage Current (L.C)		0.1C • V(μA) or 3μA, whichever is greater		Voltage: Rated voltage for 5min.
Dissipation Factor		Refer to Standard Ratings		at 120 Hz
Equivalent Series Resistance		Refer to Standard Ratings		at 100 kHz *1
		Capacitance change	DF(%)	L.C
Surge voltage test		Refer to Standard Ratings	Lower than initial specification	Lower than initial specification Temperature : 85±2 Applied voltage : Surge voltage Series resistance : 33 ohm Duration of surge : 30±5 sec Time between surge : 5.5min. Number of cycle : 1000
Characteristic at high and low temperature	-55	from 0 to -20%	Lower than initial specification	Step 1: 25±2 Step 2: -55 ₀ Step 3: 25±2 Step 4: 105 ₀
	+105	from 0 to +50%	Lower than 1.5 times initial specification	
Rapid change of temperature		Refer to Standard Ratings	Lower than initial specification	Lower than initial specification Parts shall be temperature cycled over a temperature range of -55 to +105 , five times continuously as follow. Step 1: -55 ₀ , 30±3min. Step 2: room temp. , 10 to 15min. Step 3: 105 ₀ , 30±3min. Step 4: room temp, 10 to 15min.
Resistance to Soldering heat		Refer to Standard Ratings	Lower than 1.3 times initial specification	Lower than initial specification Reflow soldering method 240 , 10 sec.Max. *2
Damp heat		from +30% to -20%	Lower than 1.5 times initial specification	Lower than initial specification at 40 at 90 to 95% RH 500 hour
Endurance I		Refer to Standard Ratings	Lower than 1.5 times initial specification	Lower than initial specification at 85 at rated voltage 1000 hour
Endurance II		Refer to Standard Ratings	Lower than 3 times initial specification	Lower than initial specification at 105 at Derated voltage 1000 hour
Failure Rate		λ ₀ = 1% / 1000 hour		at 85 : rated voltage at 105 : derated voltage
Terminal Strength		Visual: There shall be no evidence of mechanical damage		Strength : 4.9N Time : 10±0.5sec. (two directions)
Permissible ripple current		Refer to Ratings Table		at 100 kHz
Other		Conform to IEC60384-1		Conform to IEC60384-1

*1: 0E rating product at 300 kHz

*2: Refer to the page 47 "NOTES ON USING NeoCapacitor/2. Mounting/(1) Reflow soldering/(b) Temperature and time"

Reference : Derated voltage (85 to 105°C)

$$[U_T] = [U_R] - \frac{[U_R] - [U_C]}{20} (T-85)$$

[U_T] : Derated voltage at operating temperature

[U_R] : Rated voltage

[U_C] : Derated voltage at 105°C

T : Ambient temperature



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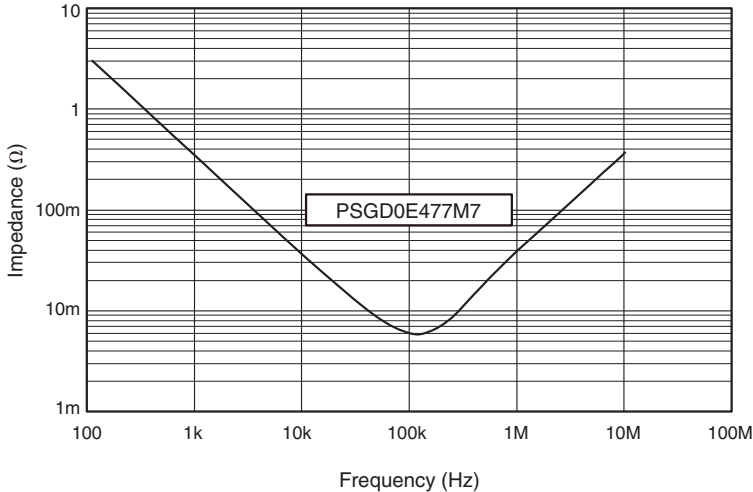
STANDARD RATINGS

Rated Voltage (V)	Capacitance (μF)	Case Code	Part Number (Bulk)	Leakage Current (μA) Max	DF (%) Max	ESR (mΩ) Max	Permissible Ripple Current (mA rms.) Max	DF (%) Max		Capacitance Change	
								-55°C	+105°C	at Surge Voltage at Resistance to Soldering Heat	at Endurance
2.5	330	B2	PSGB20E337M9	82.5	8	9	3073	8	12	±20%	±20%
	220	V	PSGV0E227M9	55	10	9	3726	10	15	±20%	±20%
	220	V	PSGV0E227M7	55	10	7	4226	10	15	±20%	±20%
	330	V	PSGV0E337M9	82.5	10	9	3726	10	15	±20%	±20%
	330	V	PSGV0E337M6	82.5	10	6	4564	10	15	±20%	±20%
	330	D	PSGD0E337M9	82.5	10	9	4082	10	15	±20%	±20%
	330	D	PSGD0E337M7	82.5	10	7	4629	10	15	±20%	±20%
	470	V	PSGV0E477M9	117.5	10	9	3726	10	15	±20%	±20%
	470	D	PSGD0E477M9	117.5	10	9	4082	10	15	±20%	±20%
	470	D	PSGD0E477M7	117.5	10	7	4629	10	15	±20%	±20%
	470	D	PSGD0E477M6	117.5	10	6	5000	10	15	±20%	±20%
	680	D	PSGD0E687M9	170	10	9	4082	10	15	±20%	±20%
680	D	PSGD0E687M7	170	10	7	4629	10	15	±20%	±20%	
680	D	PSGD0E687M6	170	10	6	5000	10	15	±20%	±20%	
4	220	V	PSGV0G227M9	88	10	9	3726	10	15	±20%	±20%

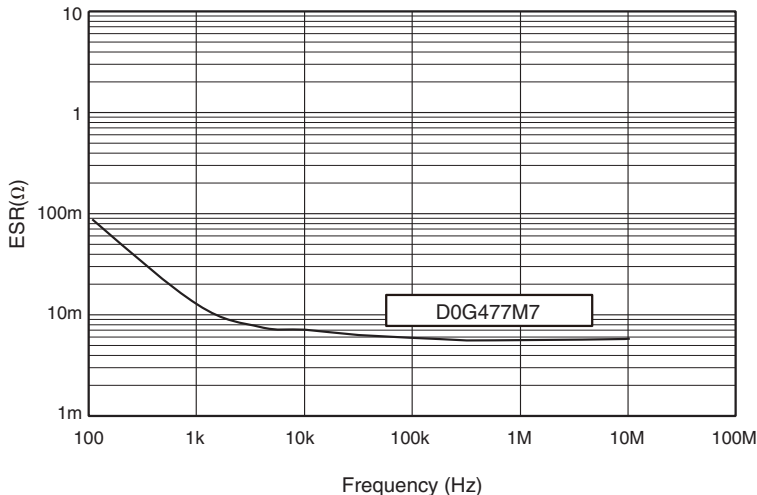
Conductive Polymer type

FREQUENCY CHARACTERISTICS (reference)

Impedance-frequency characteristics



ESR-frequency characteristics



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