

# TQC Series High Voltage Products

## Feature

TQC series is perfect for high voltage, low ESR and low profile applications. It is the most suitable for pass-con of the motor driver by 12V, the input of the DCDC converter.

Peak temperature 250°C lead free reflow soldering products. (See P17)

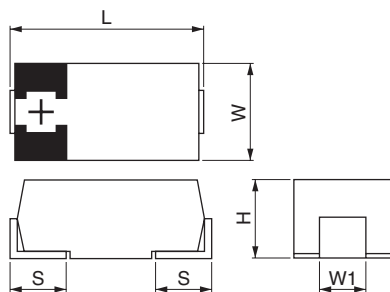
★Please contact us, if your reflow condition exceeds this condition.



## Specifications

Items	Condition	Characteristics	
Operating Temperature range	—	-55 to +105 (°C)	
Rated capacitance range	120Hz/20°C	5.6 to 68 (μF)	
Capacitance tolerance	120Hz/20°C	M:±20%	
Rated voltage	—	16 to 25 (V.DC)	
Dissipation Factor (D.F.)	120Hz/20°C	≤ 10.0 (%)	
Leakage current (μA)	Rated voltage applied, after 5 minutes	≤ 0.1CV ★B2size: ≤ 0.3CV	
Equivalent series resistance (E.S.R. mΩmax.)	100kHz/20°C	Please see the attached characteristics list	
Temperature characteristics of Impedance ratio	100kHz/+20°C	-55°C Z/Z20°C	1.0 to 2.0
		+105°C Z/Z20°C	0.6 to 1.0
Endurance	105°C, 2000h	ΔC/C	Within±20% of the initial value
	→25TQC15M, 25TQC22M (category voltage applied), 20TQC22M, 16TQC33M, 16TQC47M (rated voltage applied)	tanδ	≤ 1.5 times the initial limit
	105°C, 1000h	L.C.	≤ The initial limit
	→25TQC5R6M, 25TQC33M, 25TQC22MV, 25TQC15MV, 25TQC10M (category voltage applied), 20TQC8R2M, 20TQC47M, 16TQC10M, 16TQC68M, 20TQC15M, 16TQC22M, 20TQC22MV, 20TQC33MV, 16TQC33MV, 16TQC47MV (rated voltage applied)	ΔC/C	Within+40%, -20% of the initial value
Damp heat (Steady state)	60°C, 90to95%RH, 500h, No voltage applied	tanδ	≤ 1.5 times the initial limit
		L.C.	≤ 3 times the initial limit
		ΔC/C	Within±5% of the initial value
Surge	15to35°C, 1000 times, 1kΩdischarge resistance, surge voltage applied	tanδ	≤ The initial limit
		L.C.	≤ 3 times the initial limit
		ΔC/C	Within±5% of the initial value

## Dimensions



(unit: mm)

Size code	L*1 (±0.2)	W (±0.2)	H*2 (±0.1)	S (±0.2)	W1 (±0.1)
B2	3.5	2.8	1.9	0.8	2.2
C	6.0	3.2	2.8	1.3	1.8
D2	7.3	4.3	1.9	1.3	2.4
D3L	7.3	4.3	2.8	1.3	2.4

★1 ±0.3:D3L ★2 ±0.2:C,D3L

## Size List

μF	RV (SV)	16 (20)	20 (23)	25 (29)
5.6				B2
8.2			B2	
10	B2			C
15			C	D2
22	C		D2	D2
33			D2	D3L
47	D2		D3L	
68			D3L	

## Characteristics List

Size code	SANYO Part number	Rated Voltage (V)	Rated Temperature (°C)	Rated Capacitance (μF)	Category Voltage (V)	Category Temperature (°C)	D.F. (%max.)	L.C. (μA) max./5min.	E.S.R. (mΩmax.) 100kHz/20°C	Maximum allowable ripple current (mA)rms 100kHz*3	MSL	
											Reflow Temp. ≤ 260°C	Reflow Temp. ≤ 250°C
B2	25TQC5R6M	25*4	85	5.6	20	105	10.0	42.0	100	800	Under evaluation	3
	20TQC8R2M	20	105	8.2	-	-	10.0	49.2	100	800		
	16TQC10M	16	105	10	-	-	10.0	48.0	100	800		
C	25TQC10M	25*4	85	10	20	105	10.0	25.0	95	900		
	20TQC15M	20	105	15	-	-	10.0	30.0	80	1000		
	16TQC22M	16	105	22	-	-	10.0	35.2	80	1000		
D2	25TQC22M	25*4	85	22	20	105	10.0	44.0	90	1000		
	25TQC22MV	25*4	85	22	20	105	10.0	55.0	45	1500		
	25TQC15M	25*4	85	15	20	105	10.0	38.0	90	1000		
	25TQC15MV	25*4	85	15	20	105	10.0	38.0	45	1500		
	20TQC22M	20	105	22	-	-	10.0	44.0	80	1300		
	16TQC33M	16	105	33	-	-	10.0	52.8	70	1400		
	16TQC47M	16	105	47	-	-	10.0	75.2	70	1400		
D3L	25TQC33M	25*4	85	33	20	105	10.0	82.5	60	1400		
	20TQC47M	20	105	47	-	-	10.0	94.0	55	1450		
	16TQC68M	16	105	68	-	-	10.0	108.8	50	1500		

★3 100k to 500kHz, 105°C ★4 Please reduce 0.25V per 1°C from over 85°C for 25V products