

Surface Mount Type

Series: TES

Japan



- Features Low profile
Height: H=1.2mm max.

■ Specifications

Category temp. range	-55 to +125°C	
Rated W.V. Range	4 to 20 V .DC	
Nominal Cap. Range	0.1 to 22 μF	
Capacitance Tolerance	±20 % (120Hz/+20°C)	
DC Leakage Current	I ≤ 0.01CV or 0.5 (μA) after 2 minutes application of rated working voltage at +20°C (Whichever is greater)	
Dissipation Factor	Please see the attached standard products list	
Resistance to Soldering Heat	The capacitor shall withstand dipping into solder for 5±1 seconds at +260±5°C	
Moisture Resistance	After 500 hours exposure at +40 °C and 90 to 95 % R.H. without load, the capacitor shall meet the following limits.	
	Capacitance change	±10% of initial measured value
	D.F.	≤ initial specified value, miniaturized size : ≤ 150% of initial specified value.
Endurance	After 2000 hours application of rated DC working voltage at +85°C or derated voltage at +125°C, the capacitor shall meet the following limits.	
	Capacitance change	±10% of initial measured value
	D.F.	≤ initial specified value
	DC leakage current	≤ 125 % of initial specified value

■ Marking

● Size Z

W.V. code

W.V. (V)	4	6.3	10	16
code	G	J	A	C

Capacitance code

Capacitance(μF)	1	1.5	2.2	3.3	4.7	6.8
1st code	A	E	J	N	S	W

(Ex.) JE : 6.3V 1.5μF

● Size P

W.V. code

W.V. (V)	4	6.3	10	16	20
code	G	J	A	C	D

Capacitance code

Capacitance(μF)	1	1.5	2.2	3.3	4.7	6.8
1st code	A	E	J	N	S	W

Multiplier

	10 ⁵	10 ⁶	10 ⁷
2nd code	5	6	7

(Ex) A6 : 1.0 x 10⁶ pF(1.0μF)

■ Dimensions in mm (not to scale)

EIA code	Size code	L±0.2	W1±0.2	W2±0.1	H max.	P
2012	Z	2.0	1.25	0.9	1.2	0.5±0.2
3216L	P	3.2	1.60	1.2	1.2	0.8±0.3

■ Case size

W.V.(V.DC) Cap(μF)	4(0G)		6.3(0J)		10(1A)		16(1C)		20(1D)
	Standard	Miniature	Standard	Miniature	Standard	Miniature	Standard	Miniature	Standard
0.10 (104)									P
0.15 (154)									P
0.22 (224)									P
0.33 (334)									P
0.47 (474)							Z		P
0.68 (684)							P, Z		P
1.0 (105)					P, Z		P	Z	P
1.5 (155)			P, Z		P	Z			
2.2 (225)	P, Z		P, Z			Z	P		
3.3 (335)	P, Z				P	Z			
4.7 (475)			P	Z	P	Z			
6.8 (685)	P	Z		Z					
10 (106)		Z		Z					
15 (156)		Z							
22 (226)		Z							

Note : 1. () shows W.V. and capacitance code.

- We would like to recommend current sizes in above table for new design, but conventional case size is available on request.
- Other rating upon request (voltage, capacitance, tolerance, size).

■ Standard Products

W.V.	Cap. (±20%) (μF)	Case Size		Specification		Part No.	Min.PackagingQ'ty
		L x W x H (mm)	Size Code	D.F. (120Hz) (+20°C)	L.C (μA)		Taping (pcs)
4	2.2	2.0x1.25x1.2	Z	0.10	0.5	ECST0GZ225R	3000
		3.2x1.6x1.2	P	0.04	0.5	ECST0GP225R	3000
	3.3	2.0x1.25x1.2	Z	0.15	0.5	ECST0GZ335R	3000
		3.2x1.6x1.2	P	0.04	0.5	ECST0GP335R	3000
	6.8	2.0x1.25x1.2	Z	0.20	0.5	ECST0GZ685R	3000
		3.2x1.6x1.2	P	0.08	0.5	ECST0GP685R	3000
	10	2.0x1.25x1.2	Z	0.20	0.5	ECST0GZ106R	3000
15	2.0x1.25x1.2	Z	0.20	0.6	ECST0GZ156R	3000	
22	2.0x1.25x1.2	Z	0.20	0.9	ECST0GZ226R	3000	
6.3	1.5	2.0x1.25x1.2	Z	0.10	0.5	ECST0JZ155R	3000
		3.2x1.6x1.2	P	0.04	0.5	ECST0JP155R	3000
	2.2	2.0x1.25x1.2	Z	0.12	0.5	ECST0JZ225R	3000
		3.2x1.6x1.2	P	0.04	0.5	ECST0JP225R	3000
	4.7	2.0x1.25x1.2	Z	0.08	0.5	ECST0JZ475R	3000
		3.2x1.6x1.2	P	0.08	0.5	ECST0JP475R	3000
	6.8	2.0x1.25x1.2	Z	0.20	0.5	ECST0JZ685R	3000
10	2.0x1.25x1.2	Z	0.20	0.7	ECST0JZ106R	3000	
10	1	2.0x1.25x1.2	Z	0.10	0.5	ECST1AZ105R	3000
		3.2x1.6x1.2	P	0.04	0.5	ECST1AP105R	3000
	1.5	2.0x1.25x1.2	Z	0.12	0.5	ECST1AZ155R	3000
		3.2x1.6x1.2	P	0.04	0.5	ECST1AP155R	3000
	2.2	2.0x1.25x1.2	Z	0.20	0.5	ECST1AZ225R	3000
	3.3	2.0x1.25x1.2	Z	0.20	0.5	ECST1AZ335R	3000
		3.2x1.6x1.2	P	0.08	0.5	ECST1AP335R	3000
4.7	2.0x1.25x1.2	Z	0.20	0.5	ECST1AZ475R	3000	
	3.2x1.6x1.2	P	0.08	0.5	ECST1AP475R	3000	
16	0.47	2.0x1.25x1.2	Z	0.10	0.5	ECST1CZ474R	3000
	0.68	2.0x1.25x1.2	Z	0.10	0.5	ECST1CZ684R	3000
		3.2x1.6x1.2	P	0.04	0.5	ECST1CP684R	3000
	1	2.0x1.25x1.2	Z	0.20	0.5	ECST1CZ105R	3000
		3.2x1.6x1.2	P	0.04	0.5	ECST1CP105R	3000
2.2	3.2x1.6x1.2	P	0.06	0.5	ECST1CP225R	3000	
20	0.1	3.2x1.6x1.2	P	0.04	0.5	ECST1DP104R	3000
	0.15	3.2x1.6x1.2	P	0.04	0.5	ECST1DP154R	3000
	0.22	3.2x1.6x1.2	P	0.04	0.5	ECST1DP224R	3000
	0.33	3.2x1.6x1.2	P	0.04	0.5	ECST1DP334R	3000
	0.47	3.2x1.6x1.2	P	0.04	0.5	ECST1DP474R	3000
	0.68	3.2x1.6x1.2	P	0.04	0.5	ECST1DP684R	3000
	1	3.2x1.6x1.2	P	0.04	0.5	ECST1DP105R	3000