TANTAMOUNT® Low ESR, Hi-Rel COTS, Built in Fuse Conformal Coated

FEATURES

- High reliability; Weibull failure rate grading available
- Surge current testing per MIL-PRF-55365 options available
- Ultra-low ESR
- Terminations: SnPb, standard. 100 % tin available
- Circuit protection for mission or safety critcal systems
- Fuse characteristics: Guaranteed fuse protection at 9 A, 100 ms
- Compliant to RoHS directive 2002/95/EC

Pb-free Available

RoHS* COMPLIANT

PERFORMANCE CHARACTERISTICS

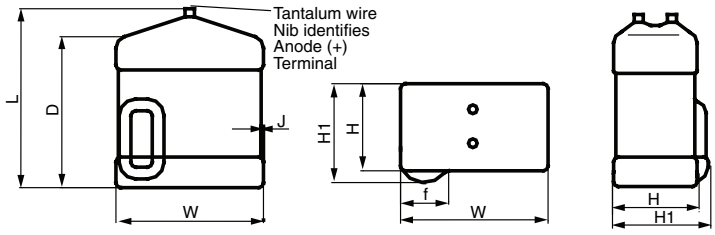
Operating Temperature: - 55 °C to + 85 °C
(To + 125 °C with voltage derating)
Capacitance Range: 15 µF to 1500 µF

Capacitance Tolerance: ± 10 %, ± 20 % standard
Voltage Rating: 4 WVDC to 63 WVDC

ORDERING INFORMATION

T98	R	227	K	020	E	S	A
TYPE	CASE CODE	CAPACITANCE	CAPACITANCE TOLERANCE	DC VOLTAGE RATING AT + 85 °C	TERMINATION/ PACKAGING (Available options are series dependent)	RELIABILITY LEVEL	SURGE CURRENT
	See Ratings and Case Codes Table.	This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow.	K = ± 10 % M = ± 20 %	This is expressed in volts. To complete the three-digit block, zeros precede the voltage rating. A decimal point is indicated by an "R" (6R3 = 6.3 V).	E = Sn/Pb solder/7" (178 mm) reel L = Sn/Pb solder/7" (178 mm), 1/2 reel C = 100 % tin/7" (178 mm), reel H = 100 % tin/7" (178 mm), 1/2 reel Y = Sn/Pb solder, side mounted, 7" reels	S = 40 h burn-in Z = Non-established reliability	A = 10 cycles at + 25 °C B = 10 cycles at - 55 °C/+ 85 °C S = 3 cycles at 25 °C

DIMENSIONS in inches [millimeters]



CASE CODE	L	W	H1	H	f (REF.)	D (REF.)	J (MAX.)
E	0.299 ± 0.012 [7.6 ± 0.3]	0.181 ± 0.016 [4.6 ± 0.4]	0.177 ± 0.016 [4.5 ± 0.4]	0.165 ± 0.016 [4.2 ± 0.4]	0.079 [2.0]	0.256 [6.5]	0.004 [0.1]
F	0.299 ± 0.012 [7.6 ± 0.3]	0.246 ± 0.016 [6.2 ± 0.4]	0.207 ± 0.016 [5.2 ± 0.4]	0.193 ± 0.016 [4.9 ± 0.4]	0.079 [2.0]	0.248 [6.3]	0.004 [0.1]
R	0.299 ± 0.012 [7.6 ± 0.3]	0.246 ± 0.016/- 0.024 [6.2 ± 0.4/- 0.6]	0.162 ± 0.016 [4.1 ± 0.4]	0.150 ± 0.016 [3.8 ± 0.4]	0.079 [2.0]	0.248 [6.3]	0.004 [0.1]
V	0.299 ± 0.012 [7.6 ± 0.3]	0.181 ± 0.016 [4.6 ± 0.4]	0.099 max. [2.5 max.]	0.087 [2.2] max.	0.079 [2.0]	0.256 [6.5]	0.004 [0.1]
Z	0.299 ± 0.012 [7.6 ± 0.3]	0.246 ± 0.016 [6.2 ± 0.4]	0.258 ± 0.016 [6.5 ± 0.4]	0.244 ± 0.016 [6.2 ± 0.4]	0.079 [2.0]	0.248 [6.3]	0.004 [0.1]
M	0.327 [8.3] max.	0.268 ± 0.016 [6.8 ± 0.4]	0.161 ± 0.016 [4.1 ± 0.4]	0.150 ± 0.016 [3.8 ± 0.4]	0.079 [2.0]	0.248 [6.3]	0.004 [0.1]
H	0.315 ± 0.012 [8.0 ± 0.3]	0.268 ± 0.016 [6.8 ± 0.4]	0.224 ± 0.016 [5.7 ± 0.4]	0.213 ± 0.016 [5.4 ± 0.4]	0.079 [2.0]	0.264 [6.7]	0.004 [0.1]

Note • Only nominal values change. Tolerances remain the same

* Pb containing terminations are not RoHS compliant, exemptions may apply

RATINGS AND CASE CODE

µF	4 V	6.3 V	10 V	16 V	20 V	25 V	35 V	50 V	63 V	75 V
10										
15								E/R		
22								R	F	
33								F		
47							R	Z		
68						R				
100										
150						F				
220				E	R	M				
330		V	E		H					
470	V	E	E							
680	E	E	R							
1000	E/R	R								
1500	R									
2200										

Note
• All ratings are preliminary, contact marketing for availability

STANDARD RATINGS

CAPACITANCE (µF)	CASE CODE	PART NUMBER*	MAX. DCL at + 25 °C (µA)	MAX. DF at + 25 °C 120 Hz (%)	(PRELIMINARY) MAX. ESR at + 25 °C 100 kHz (mΩ)	MAX. RIPPLE 100 kHz I_{RMS} (A)
4 WVDC at + 85 °C, 2.7 WVDC at + 125 °C						
470	V	T98V477(1)004(2)(3)(4)	19	8	130	2.2
680	E	T98E687(1)004(2)(3)(4)	27	6	125	2.9
1000	E	T98E108(1)004(2)(3)(4)	40	8	120	3.3
1000	R	T98R108(1)004(2)(3)(4)	40	8	118	3.7
1500	R	T98R158(1)004(2)(3)(4)	60	8	115	4.1
6.3 WVDC at + 85 °C, 4 WVDC at + 125 °C						
330	V	T98V337(1)6R3(2)(3)(4)	21	8	135	2.0
470	E	T98E477(1)6R3(2)(3)(4)	30	6	130	2.7
680	E	T98E687(1)6R3(2)(3)(4)	43	6	125	2.9
1000	R	T98R108(1)6R3(2)(3)(4)	63	8	120	3.5
10 WVDC at + 85 °C, 7 WVDC at + 125 °C						
330	E	T98E337(1)010(2)(3)(4)	33	6	135	2.5
470	E	T98E477(1)010(2)(3)(4)	47	6	128	2.8
680	R	T98R687(1)010(2)(3)(4)	68	6	128	2.9
16 WVDC at + 85 °C, 10 WVDC at + 125 °C						
220	E	T98E227(1)016(2)(3)(4)	35	8	140	2.3

Notes
• All ratings are preliminary, contact marketing for availability

* Contact factory for availability
(1) Capacitance tolerance: K, M
(2) Termination and packaging: C, E, H, L
(3) Reliability level: S, Z
(4) Surge current: A, B, S

STANDARD RATINGS

CAPACITANCE (µF)	CASE CODE	PART NUMBER*	MAX. DCL at + 25 °C (µA)	MAX. DF at + 25 °C 120 Hz (%)	(PRELIMINARY) MAX. ESR at + 25 °C 100 kHz (mΩ)	MAX. RIPPLE 100 kHz I_{RMS} (A)
20 WVDC at + 85 °C, 13 WVDC at + 125 °C						
220	R	T98R227(1)020(2)(3)(4)	44	8	180	1.8
330	F	T98F337(1)020(2)(3)(4)*	66	10	200	1.4
25 WVDC at + 85 °C, 17 WVDC at + 125 °C						
68	R	T98R686(1)025(2)(3)(4)	17	6	200	1.6
150	F	T98F157(1)025(2)(3)(4)	38	8	180	1.8
220	M	T98M227M025(2)(3)(4)	55	8	200	TBD
35 WVDC at + 85 °C, 23 WVDC at + 125 °C						
47	R	T98R476(1)035(2)(3)(4)	17	6	180	1.8
50 WVDC at + 85 °C, 33 WVDC at + 125 °C						
15	E	T98E156(1)050(2)(3)(4)	8	6	400	0.8
15	R	T98R156(1)050(2)(3)(4)	8	6	350	1.0
22	R	T98R226(1)050(2)(3)(4)	11	6	270	0.8
33	F	T98F336(1)050(2)(3)(4)	17	6	250	0.8
47	Z	T98Z476(1)050(2)(3)(4)*	24	6	245	1.1
63 WVDC at + 85 °C, 42 WVDC at + 125 °C						
22	F	T98F226(1)063(2)(3)(4)*	14	6	300	0.9

Notes

• All ratings are preliminary, contact marketing for availability

* Contact factory for availability
(1) Capacitance tolerance: K, M
(2) Termination and packaging: C, E, H, L
(3) Reliability level: S, Z
(4) Surge current**:** A, B, S

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