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B 45 196, B 45 197
B 45 198



Specifications and characteristics in brief

Series	B 45 196-E Standard	B 45 196-H HighCap	B 45 196-P Performance	B 45 197 SpeedPower (Low ESR)
Overview of available types	Page 22		Page 23	
Rated voltage V_R (up to 85 °C)	4 ... 50 Vdc	4 ... 50 Vdc	4 ... 50 Vdc	6.3 ... 50 Vdc
Rated capacitance C_R	0.10 ... 100 μ F	0.15 ... 470 μ F	0.10 ... 150 μ F	3.3 ... 330 μ F
Tolerance	$\pm 10\%$, $\pm 20\%$ $\pm 5\%$ (on request)	$\pm 10\%$, $\pm 20\%$ $\pm 5\%$ (on request)	$\pm 10\%$, $\pm 20\%$ $\pm 5\%$ (on request)	$\pm 10\%$, $\pm 20\%$ $\pm 5\%$ (on request)
Failure rate	at 40 °C; $\leq V_R$, $R_S \geq 3\Omega/V$ (1 fit = $1 \cdot 10^{-9}$ failures/h)			
C_R : $V_R \leq 330 \mu F \cdot V$	≤ 3 fit	≤ 8 fit	≤ 0.8 fit	≤ 8 fit
C_R : $V_R > 330 \mu F \cdot V$	≤ 10 fit	≤ 24 fit	≤ 2.5 fit	≤ 12 fit
Service life	> 500 000 h	> 500 000 h	> 500 000 h	> 500 000 h
Leakage current (V_R , 5 min, 20 °C)	10 nA/ μ C	10 nA/ μ C	10 nA/ μ C	10 nA/ μ C
ESR	—	—	—	100 ... 600 m
Detail specification (binned terminals)	IEC-QC300801/ US0001 CECC30801-801	CECC30801-802	IEC-QC300801/ US0001 CECC30801-801	CECC30801-805
Quality approval	IECQ CECC		IECQ CECC	
IEC climatic category	in accordance with IEC 68-1 55/125/56 (-55/+125 °C; 56 days damp heat test)			

For types B 45 196-P, additional tests are carried out under more extreme conditions, supplementary to the tests specified by CECC.

Examples:

- Damp heat: 85 (+2) °C, 85% RH, relative humidity
- Rapid temperature change: 100 cycles, -55 °C to 125 °C, 30 min
- Shock voltage: 100 charge cycles
- Impulse test: 100 cycles

Types B 45 196-P can be operated at temperatures up to 100 °C.

Details for this operating condition must be agreed upon between supplier and customer.



Technical data and ordering codes

For characteristic curves see page 37/40 ff

V_R up to 85°C (up to 125°C) Vdc	C_R μF	Case size	$\tan \delta_{max}$ (20°C, 120 Hz)	$I_{fk, max}$ (20°C, V_R , 5 min) μA	ESR_{max} (20°C, 100 kHz) m Ω	I_{ac} (20°C, 100 kHz) A	Ordering code ¹⁾ Tinned terminals
6,3 (4)	22	C	0,06	1,4	375	0,54	B45197-A1226-+30*
	33	C	0,06	2,1	350	0,56	B45197-A1336-+30*
	68	D	0,06	4,3	175	0,93	B45197-A1686-+40*
	100	D	0,08	6,3	125	1,10	B45197-A1107-+40*
	150	E	0,08	9,5	100	1,28	B45197-A1157-+50*
	220	E	0,08	13,9	100	1,28	B45197-A1227-+50*
	330	E	0,08	20,8	100	1,28	B45197-A1337-+50*
10 (6,3)	15	C	0,06	1,5	400	0,52	B45197-A2156-+30*
	22	C	0,06	2,2	375	0,54	B45197-A2226-+30*
	47	D	0,06	4,7	200	0,87	B45197-A2476-+40*
	68	D	0,06	6,8	150	1,00	B45197-A2686-+40*
	100	D	0,08	10	100	1,22	B45197-A2107-+40*
	100	E	0,08	10	100	1,28	B45197-A2107-+50*
	150	E	0,08	15	100	1,28	B45197-A2157-+50*
	220	E	0,08	22	100	1,28	B45197-A2227-+50*
330	E	0,08	33	100	1,28	B45197-A2337-+50*	
16 (10)	10	C	0,06	1,6	450	0,49	B45197-A3106-+30*
	15	C	0,06	2,4	400	0,52	B45197-A3156-+30*
	33	D	0,06	5,3	200	0,87	B45197-A3336-+40*
	47	D	0,06	7,5	175	0,93	B45197-A3476-+40*
	68	E	0,06	10,9	150	1,05	B45197-A3686-+50*
	100	E	0,08	16	100	1,28	B45197-A3107-+50*
20 (13)	6,8	C	0,06	1,4	475	0,48	B45197-A4685-+30*
	10	C	0,06	2,0	450	0,49	B45197-A4106-+30*
	22	D	0,06	4,4	200	0,87	B45197-A4226-+40*
	33	D	0,06	6,6	200	0,87	B45197-A4336-+40*
	33	E	0,06	6,6	200	0,91	B45197-A4336-+50*
	47	E	0,06	9,4	150	1,05	B45197-A4476-+50*
	68	E	0,06	13,6	150	1,05	B45197-A4686-+50*

1) Replace 197-A by 198-R for gold-plated terminals

+ Insert code letter for required capacitance tolerance: M = $\pm 20\%$, K = $\pm 10\%$ (J = $\pm 5\%$ upon request)

* Insert code number for required reel diameter: 9 = 180 mm, 6 = 330 mm



B 45 197-A

V_R up to 85°C (up to 125°C) Vdc	C_R μF	Case size	$\tan \delta_{max}$ (20°C, 120 Hz)	$I_{k, max}$ (20°C, V_R , 5 min) μA	ESR_{max} (20°C, 100 kHz) m Ω	f_{ac} (20°C, 100 kHz) A	Ordering code ¹⁾ Tinned terminals
25 (16)	4,7	C	0,06	1,2	525	0,46	B45197-A5475-+30*
	15	D	0,06	3,8	230	0,81	B45197-A5156-+40*
	22	D	0,06	5,5	230	0,81	B45197-A5226-+40*
	22	E	0,06	5,5	230	0,85	B45197-A5226-+50*
	33	E	0,06	8,3	200	0,91	B45197-A5336-+50*
35 (23)	3,3	C	0,06	1,2	550	0,45	B45197-A6335-+30*
	4,7	D	0,06	1,6	300	0,71	B45197-A6475-+40*
	6,8	D	0,06	2,4	300	0,71	B45197-A6685-+40*
	6,8	E	0,06	2,4	300	0,74	B45197-A6685-+50*
	10	D	0,06	3,5	260	0,76	B45197-A6106-+40*
	10	E	0,06	3,5	260	0,80	B45197-A6106-+50*
	15	D	0,06	5,3	260	0,76	B45197-A6156-+40*
	15	E	0,06	5,3	260	0,80	B45197-A6156-+50*
50 (33)	4,7	D	0,06	2,4	300	0,71	B45197-A7475-+40*
	6,8	E	0,06	3,4	300	0,74	B45197-A7685-+50*

1) Replace 197-A by 198-R for gold-plated terminals

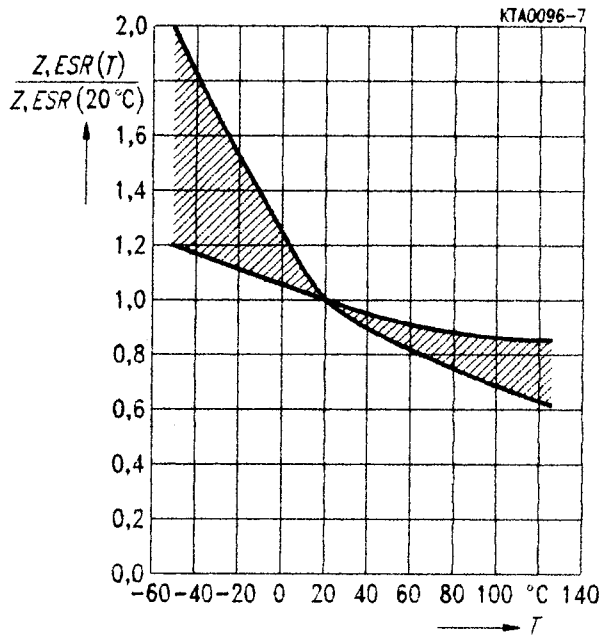
+ Insert code letter for required capacitance tolerance: M = $\pm 20\%$, K = $\pm 10\%$ (J = $\pm 5\%$ upon request)

* Insert code number for required reel diameter: 9 = 180 mm, 6 = 330 mm



Impedance Z and equivalent series resistance ESR versus temperature T
Typical behavior

Case sizes A to E

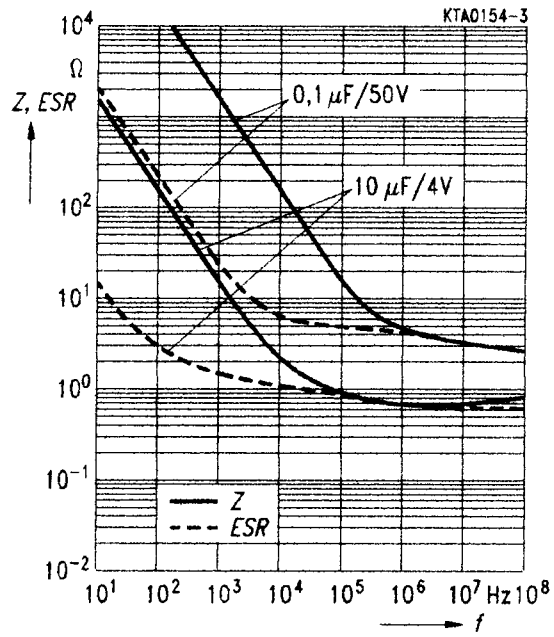




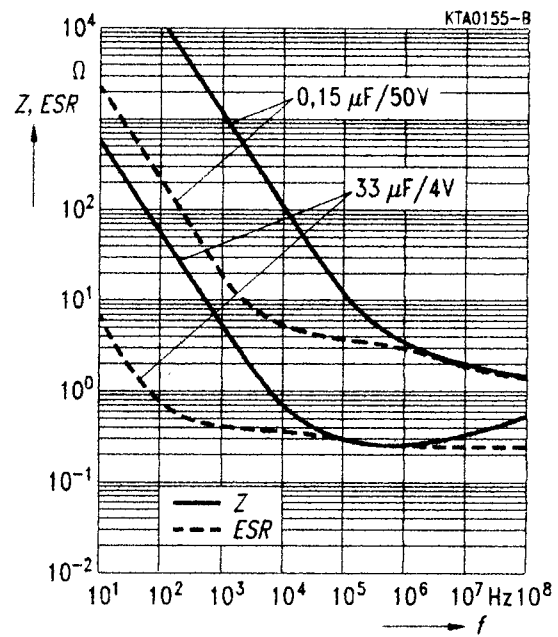
B 45 196
B 45 198

Impedance Z and equivalent series resistance ESR versus frequency f
Typical behavior

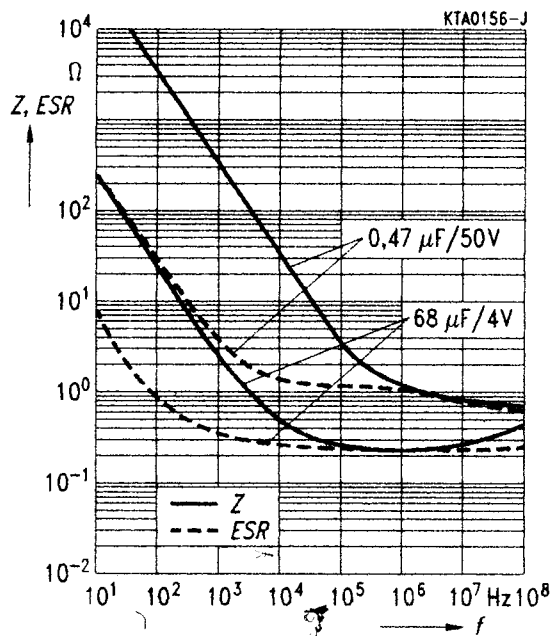
Case size A



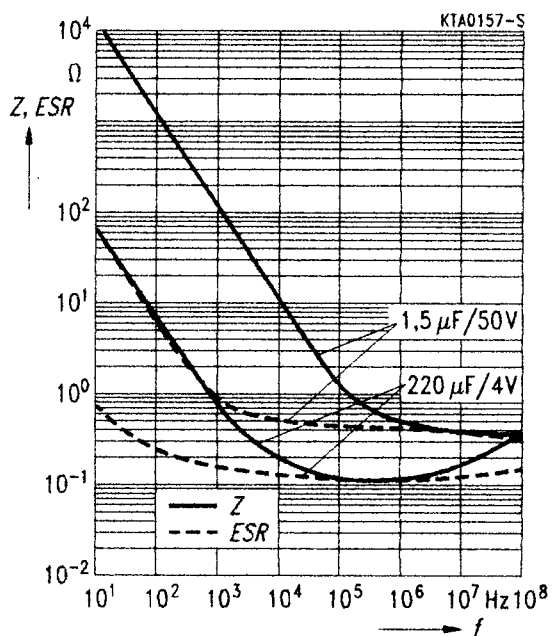
Case size B



Case size C



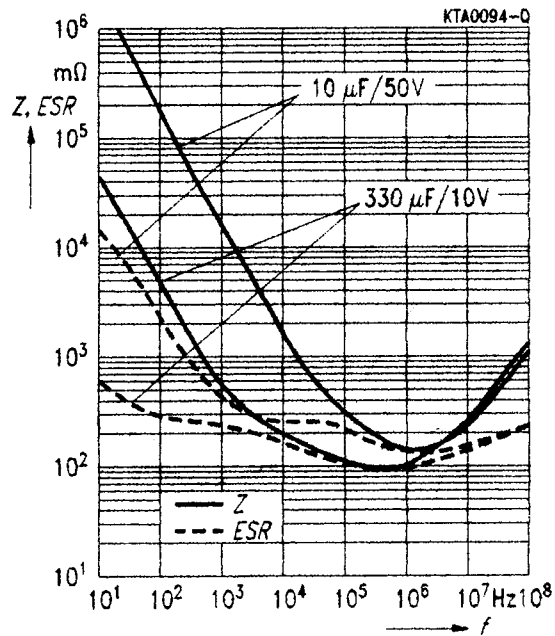
Case size D





Impedance Z and equivalent series resistance ESR versus frequency f
Typical behavior

Case size E

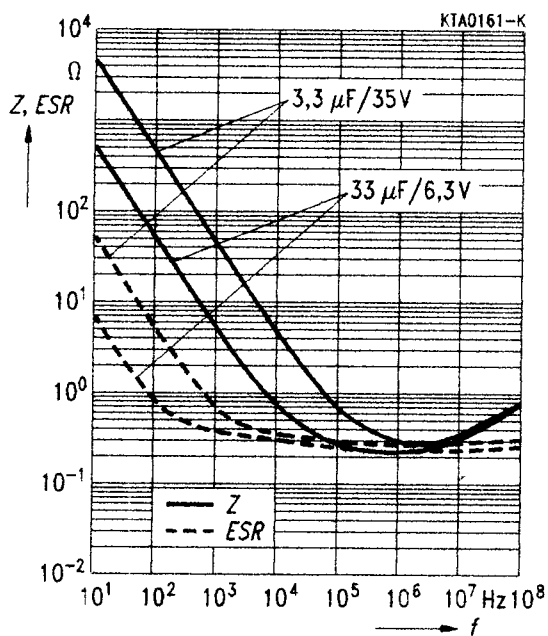




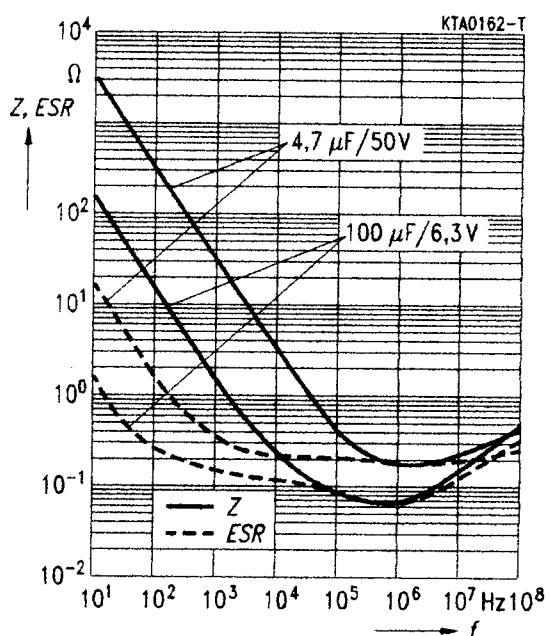
B 45 197-A
B 45 198-R

Impedance Z and equivalent series resistance ESR versus frequency f
Typical behavior

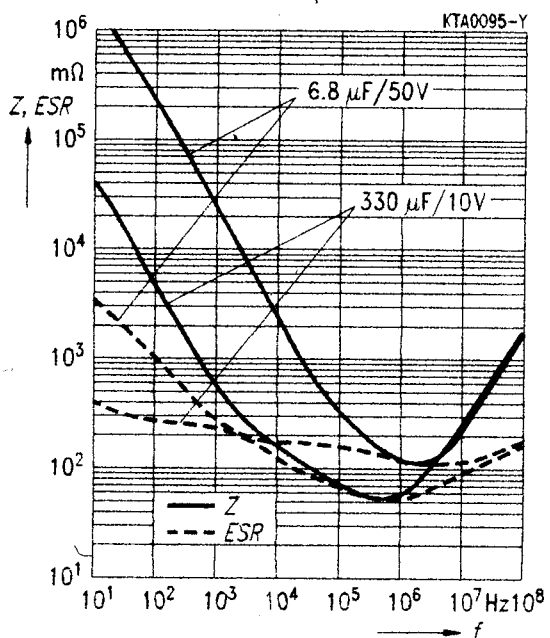
Case size C



Case size D

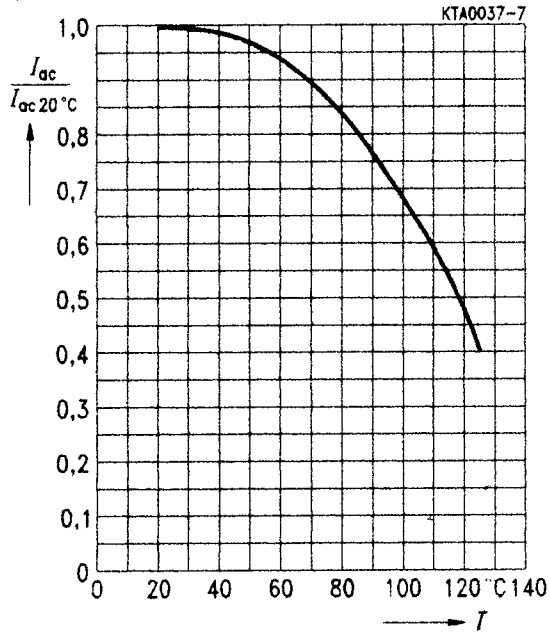


Case size E





Permissible ripple current
versus temperature T
Typical behavior



Permissible ripple current
versus frequency f
Typical behavior

