General Purpose, High Stability and AC Line EMI Suppression

JSN Series Unencapsulated Stacked Chip with Flat Terminations, 63 – 250 VDC, for DC Link

Overview

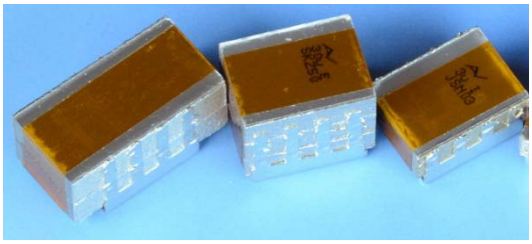
Jumbo stacked naked metallized polyester capacitor with flat terminations.

Applications

JSN Series capacitors are designed especially for automotive power electronics applications that require high reliability, long life and severe working conditions such as high operating temperature and significant mechanical and vibration requirements.

Benefits

- Rated voltage: 63 – 250 VDC
- Rated voltage: 40 – 160 VAC
- Capacitance range: 1.8 – 82 µF
- Capacitance tolerance: ±10%, ±20%
- Climatic category: 55/125/56
- RoHS Compliant and lead-free terminations
- Operating temperature range of -55˚C to +125˚C



Part Number System

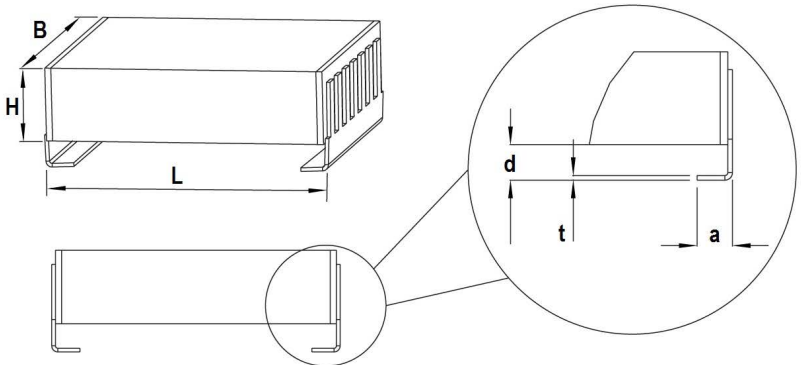
JSN	E	K	5100	M	B	6	M	0
Series	Rated Voltage (VDC)	Size Code	Capacitance Code (pF)	Capacitance Tolerance	Dielectric	Terminal Width (mm)	Packaging	Internal Use
JSN = Jumbo Stacked Naked	D = 63 E = 100 I = 250	See Dimension Table	Digits 2-4 indicate the first three digits of the capacitance value. First digit indicates the number of zeros to be added.	K = ±10% M = ±20%	B = Metallized PET	6 = 20	See Ordering Options Table	0 (Standard)

Ordering Options Table

Packaging Type	Packaging Code
Standard Packaging Options	
Bulk (Bag)	M
Bulk (Tray)	L
Tape & Reel (Standard Reel)*	N

**Available on Request*

Dimensions – Millimeters

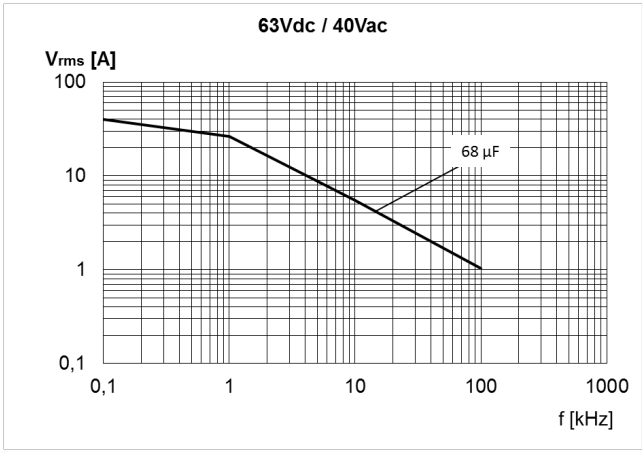


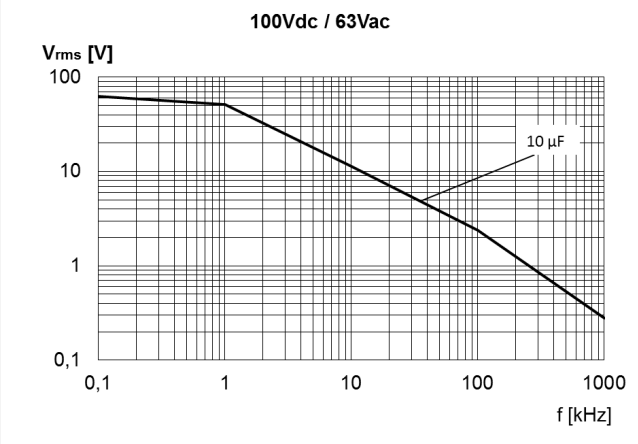
Size Code	B		H	L		d		a		t	
	Nominal	Tolerance		Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance
K	21.5	Maximum	See Part Number Table	17.0	Maximum	2	+/-1.0	2	+/-1.0	0.3	+/-0.1
J	30.0	Maximum		17.0	Maximum	2	+/-1.0	2	+/-1.0	0.3	+/-0.1

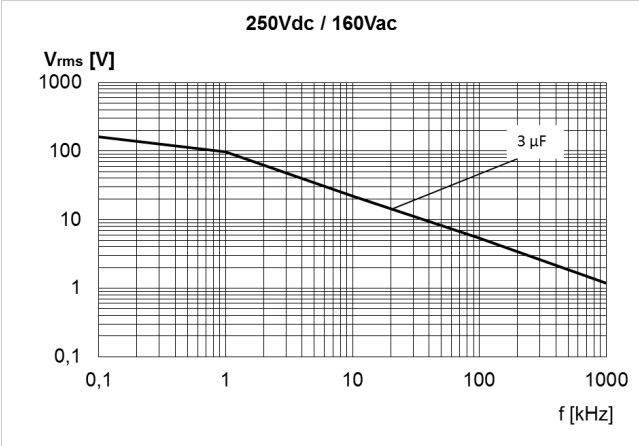
Performance Characteristics

Voltage Range (VDC)	63	100	250
Voltage Range (VAC)	40	63	160
Capacitance Range (µF)	15 – 82	6.8 – 47	1.8 – 10
Capacitance Values	E6 series (IEC 60063)		
Capacitance Tolerance	±10%, ±20%		
Category Temperature Range	-55°C to +125°C		
Rated Temperature	+105 °C		
Voltage Derating	The rated voltage is decreased by 1.25%/°C from +105°C to +125°C		
Climatic Category	55/125/56 IEC 60068-1		
Test Voltage	1.4 x V_R applied for 2 seconds at +25°C ±5		
Insulation Resistance	Measured at +25°C ±5°C		
	V_R (VDC)	Minimum Values Between Terminals	
	63	≥ 100 MΩ • µF	
	100	≥ 250 MΩ • µF	
	250	≥ 800 MΩ • µF	
Dissipation Factor	Maximum Values at 25°C ±5°C		
	1 kHz	1.0%	

Maximum V_{rms} vs. Frequency (Sinusoidal Waveform/Th ≤ +40ºC)







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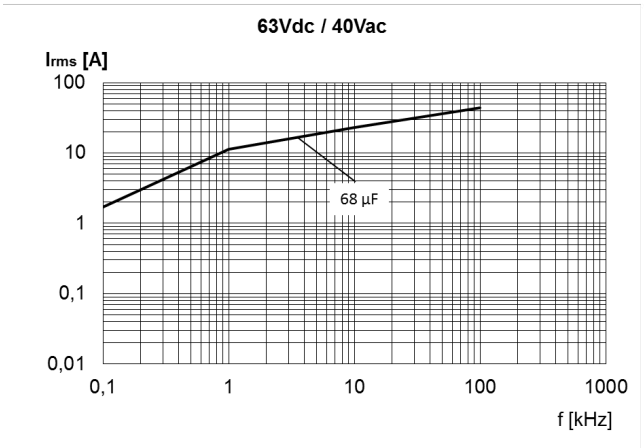
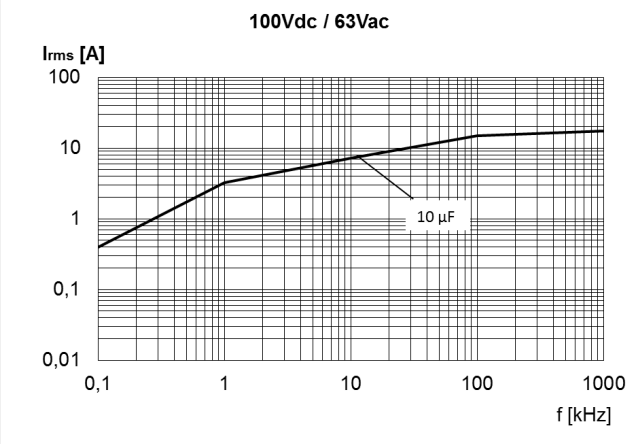
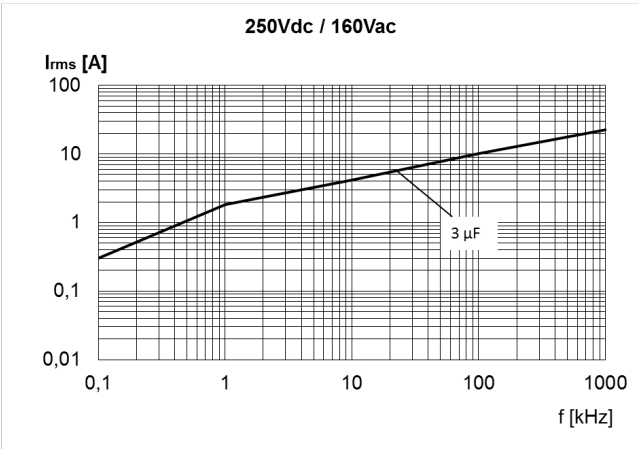






Environmental Test Data

Damp Heat, Steady State	
Test Conditions	
Temperature	+40°C ±2°C
Relative Humidity (RH)	93% ±2%
Test Duration	56 days
Performance	
Capacitance Change Δ C/C	≤ 7%
DF Change (Δtgδ)	≤ 50 x 10^{-4} at 1 kHz
Insulation Resistance	≥ 50% of limit value
Endurance	
Test Conditions	
Temperature	125°C ±2°C
Test Duration	2,000 hours
Voltage Applied	1.25 x V_C
Performance	
Capacitance Change Δ C/C	≤ 5%
DF Change (Δtgδ)	≤ 50 x 10^{-4} at 1 kHz
Insulation Resistance	≥ 50% of limit value
Rapid Change of Temperature	
Test Conditions	
Temperature	1 hour at -55°C, 1 hour at +125°C
Number of Cycles	1,000
Performance	
Capacitance Change Δ C/C	≤ 3%
DF Change (Δtgδ)	≤ 50 x 10^{-4} at 1 kHz
Insulation Resistance	≥ limit value
No Mechanical Damage	

Environmental Compliance

All KEMET surface mount capacitors are RoHS Compliant.

Table 1 – Ratings & Part Number Reference

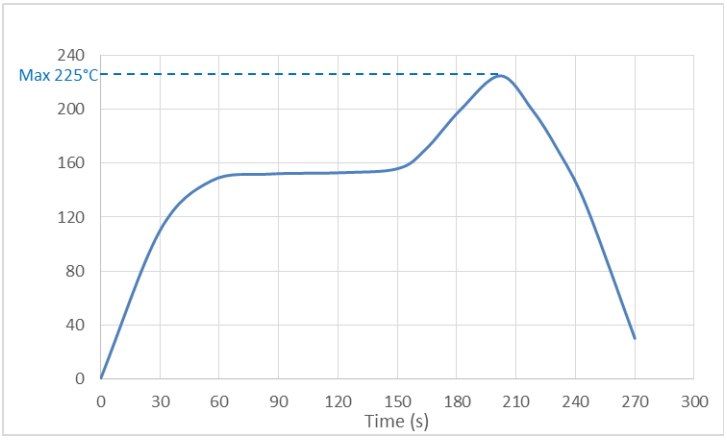
VDC	VAC	Capacitance Value (µF)	Dimensions in mm			dV/dt (V/µs)	New KEMET Part Number	Legacy Part Number
			B	H	L			
63	40	15	21.5	6.8	17	25	SNDK5150(1)B6(2)0	JSNDK5150(1)B6(2)0
63	40	22	21.5	8.6	17	25	SNDK5220(1)B6(2)0	JSNDK5220(1)B6(2)0
63	40	33	21.5	11.5	17	25	SNDK5330(1)B6(2)0	JSNDK5330(1)B6(2)0
63	40	47	30	11.5	17	25	SNDJ5470(1)B6(2)0	JSNDJ5470(1)B6(2)0
63	40	68	30	15.3	17	25	SNDJ5680(1)B6(2)0	JSNDJ5680(1)B6(2)0
63	40	82	30	17.8	17	25	SNDJ5820(1)B6(2)0	JSNDJ5820(1)B6(2)0
100	63	6.8	21.5	6.5	17	27	SNEK4680(1)B6(2)0	JSNEK4680(1)B6(2)0
100	63	8.2	21.5	6.9	17	27	SNEK4820(1)B6(2)0	JSNEK4820(1)B6(2)0
100	63	10	21.5	7.8	17	27	SNEK5100(1)B6(2)0	JSNEK5100(1)B6(2)0
100	63	15	30	8	17	27	SNEJ5150(1)B6(2)0	JSNEJ5150(1)B6(2)0
100	63	22	21.5	13.9	17	27	SNEK5220(1)B6(2)0	JSNEK5220(1)B6(2)0
100	63	33	30	14.2	17	27	SNEJ5330(1)B6(2)0	JSNEJ5330(1)B6(2)0
100	**63**	**47**	**30**	**17.3**	**17**	**27**	**SNEJ5470MB6(2)0**	**JSNEJ5470MB6(2)0**
250	160	1.8	21.5	6.7	17	40	SNIK4180(1)B6(2)0	JSNIK4180(1)B6(2)0
250	160	2.2	21.5	7.5	17	40	SNIK4220(1)B6(2)0	JSNIK4220(1)B6(2)0
250	160	3.3	21.5	9.7	17	40	SNIK4330(1)B6(2)0	JSNIK4330(1)B6(2)0
250	160	4.7	21.5	12.6	17	40	SNIK4470(1)B6(2)0	JSNIK4470(1)B6(2)0
250	160	6.8	21.5	17	17	40	SNIK4680(1)B6(2)0	JSNIK4680(1)B6(2)0
250	160	8.2	30	14.9	17	40	SNIJ4820(1)B6(2)0	JSNIJ4820(1)B6(2)0
250	160	10	30	17.5	17	40	SNIJ5100(1)B6(2)0	JSNIJ5100(1)B6(2)0
VDC	**VAC**	**Capacitance Value (µF)**	**B (mm)**	**H (mm)**	**L (mm)**	**dV/dt (V/µs)**	**New KEMET Part Number**	**Legacy Part Number**

(1) K = ±10%, M = ±20%.
(2) Insert packaging code. See Ordering Options Table for available options.
Bold denotes available only tolerance M (±20%)

Soldering Process

JSN Series capacitors are to be mounted with reflow process (see thermal profile) or gluing.

Reflow soldering temperature measured on the top body surface of the component: Preheating temperature should be less than 160°C. The peak temperature must not exceed 225°C.



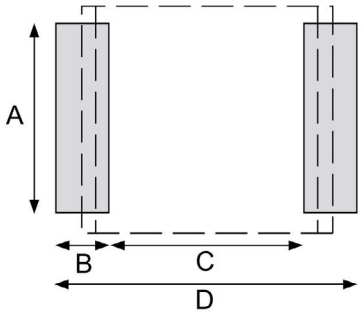
Marking

- KEMET
- Capacitance
- Capacitance tolerance code
- Rated voltage
- Manufacturing batch

Packaging Quantities

Chip Size (EIA)	Height (mm)	Bulk (Tray)
6080	All	308
60115	All	252

Landing



Size	Dimensions in mm			
	A	B	C	D
K	21.9	5	10.2	20.4
J	30.4	5	10.2	20.4

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